

Sustainable development in education

**Implementation of Baltic 21E -programme and Finnish strategy
for the Decade of Education for Sustainable Development (2005–2014)**

Reports of the Ministry of Education, Finland 2006:7

Opetusministeriön työryhmämuistioita ja selvityksiä

Undervisningsministeriets arbetsgruppspromemorior och utredningar

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OPETUSMINISTERIÖ

Undervisningsministeriet

MINISTRY OF EDUCATION

Ministère de l'Éducation

Ministry of Education
Department for Education and Science Policy
P.O. Box 29
FIN-00023 Government
Finland
<http://www.minedu.fi>

Translation: Laura Murto
Printed by Helsinki University Press, 2006

ISBN 952-485-096-6 (pbk.)
ISBN 952-485-097-4 (PDF)
ISSN 1458-8110

Publications of the Ministry of Education, Finland 2006:7

Description

Publisher Ministry of Education		Date of publication 13.11.2006	
Authors (If a committee: name of organ, chair, secretary) Committee on education for sustainable development Chair: Monica Mélen-Paaso, Ministry of Education Secretaries: Jukka Haapamäki and Sanna Halinen, Ministry of Education		Type of publication Reports of the Ministry of Education, Finland	
		Contracted by Ministry of Education	
		Committee appointed on 12.3.2002	Dnro 18/043/2002
Name of publication Sustainable development in education; Implementation of Baltic 21E -programme and Finnish strategy for the Decade of Education for Sustainable Development (2005–2014)			
Parts Memorandum + appendice			
Abstract <p>The plan for piloting the Baltic 21E -programme in Finland, devised by a Ministry of Education committee (Opetusministeriön työryhmien muistioita 36:2002), was implemented from 2002 to 2005.</p> <p>This second report of the committee (2006) combines (1) the Finnish Baltic 21E action plan and the plan for implementation of sustainable development in education and research according to the national Development Plan for Education and Research with (2) the Finnish strategy for the Decade of Education for Sustainable Development (DESD). The report begins with a description of the pilot phase 2002–2005, drawing on the experiences and tacit knowledge gained. Chapters 1–8 report and assess the pilot implementation of the national Baltic 21E -programme and Chapter 9 presents the vision and strategic lines for ESD in the education system, which were informed by national education policy documents and policy, Baltic 21E, the ESD Strategy of the United Nations Economic Commission for Europe (UNECE), and the University Charter for Sustainable Development (Copernicus Charter). The committee puts forward proposals for the implementation of the strategy and action lines in general, liberal adult, vocational, polytechnic and university education and in R&D.</p> <p>The committee members were representatives of the Ministry of Education and the ESD coordinators of the different education sectors. As sectoral experts, the coordinators were responsible for the planning and coordination of the national pilot and the conclusions drawn from it. Thus the sector coordinators of this report have largely influenced its content.</p> <p>The vision for the Finnish education system is that all individuals can contribute to sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The promotion of ESD is founded in a holistic view of development which addresses the ecologic, economic, social and cultural dimensions. Finnish DESD policy comprises the following elements: (1) the promotion of SD (incl. sustainable consumption and production) in education at all levels; (2) institutional commitment at policy, steering and practical levels; (3) ethical and integrated approach: all activities address the ecologic, economic, social and cultural considerations as mutually supporting dimensions; (4) permeability: the SD outlook is included in all activities; (5) staff training; (6) interdisciplinarity; (7) dissemination of information; (8) increased networking and other cooperation; (9) participation: empowerment of citizens; (10) research, postgraduate and continuing education programmes; and (11) the utilisation of innovation.</p> <p>The committee proposes that a follow-up group be set up to monitor and assess the implementation and organise national reporting. The mode of reporting proposed by the Committee (Chapter 10) can also be used to monitor the national implementation of the international Baltic 21E -programme and the UNECE ESD strategy. The promotion of ESD is taken into account in the core funding of the different education sectors. The promotion of SD is also considered in the Ministry's performance management procedure.</p>			
Other information			
Name and number of series Reports of the Ministry of Education, Finland 2006:7		ISSN 1458-8102	ISBN 952-485-096-6 (pbk.) 952-485-097-4 (PDF)
Number of pages 80	Language English	Price	Degree of confidentiality public
Distributed by Helsinki University Press		Published by Ministry of Education	

Kuvailulehti

Julkaisija
Opetusministeriö

Julkaisun päivämäärä
13.11.2006

<p>Teikijät (toimielimestä: toimielimen nimi, puheenjohtaja, sihteeri)</p> <p>Kestävää kehitystä edistävän koulutuksen työryhmä</p> <p>Puheenjohtaja: Monica Mélen-Paaso, opetusministeriö</p> <p>Sihteerit: Jukka Haapamäki ja Sanna Halinen, opetusministeriö</p>	<p>Julkaisun laji Opetusministeriön työryhmämuistioita ja selvityksiä</p> <p>Toimeksiantaja Opetusministeriö</p> <table border="1" data-bbox="798 398 1391 470"> <tr> <td>Toimielimen asettamispv 12.3.2002</td> <td>Dnro 18/043/2002</td> </tr> </table>	Toimielimen asettamispv 12.3.2002	Dnro 18/043/2002	
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<p>Julkaisun nimi (myös ruotsinkielinen) Kestävän kehityksen edistäminen koulutuksessa; Baltic 21E -ohjelman toimeenpano sekä kansallinen strategia YK:n kestävästä kehityksestä edistävän koulutuksen vuosikymmentä (2005–2014) varten. (Utbildning för hållbar utveckling; Genomförande av programmet Baltic 21E samt en nationell strategi för det av FN utlysta årtiondet för utbildning för hållbar utveckling (2005–2014).</p>				
<p>Julkaisun osat Muistio + liite</p>				
<p>Tiivistelmä</p> <p>Opetusministeriön keväällä 2002 asettama työryhmä laati Baltic 21 E -ohjelmalle kansallisen käynnistysuunnitelman (Opetusministeriön työryhmien muistioita 36:2002), jota toteutettiin vuosina 2002–2005.</p> <p>Tässä työryhmän toisessa muistiossa (2006) yhdistyvät 1) Baltic 21E -ohjelman Suomen toimitasuunnitelma ja toimenpiteet kestävästä kehityksestä edistämiseksi koulutuksessa (ESD) ja tutkimuksessa opetusministeriön koulutuksen ja tutkimuksen kehittämissuunnitelman mukaisesti ja 2) YK:n UNECE:n kestävästä kehityksestä edistävän koulutuksen vuosikymmenen (DESD, Decade of Education for Sustainable Development) Suomen strategia. Työryhmämuistiossa työryhmä on ensin kuvannut vuosien 2002–2005 kokeiluvaiheen ja pyrkinyt hyödyntämään siitä saatuja kokemuksia ja hiljaista tietoa. Luvuissa 1–8 raportoidaan ja arvioidaan Suomen kansallista Baltic 21E -ohjelman kokeiluluontoista toimeenpanoa ja luvussa 9 esitetään koulutusjärjestelmän kestävä kehityksen visio ja strategiset linjaukset. Vision ja strategisten linjausten muodostamisessa on otettu huomioon kansalliset koulutuspoliittiset asiakirjat ja linjaukset, Baltic 21E -ohjelma, UNECE:n (United Nations Economic Commission for Europe) ESD-strategia ja yliopistojen kestävä kehityksen Copernicus-peruskirja. Työryhmä esittää ehdotukset strategian ja toimintalinjausten toimeenpanoksi yleissivistävässä koulutuksessa, vapaassa sivistystyössä, ammatillisessa koulutuksessa, ammattikorkeakouluissa, yliopistoissa sekä tutkimuksessa ja kehitystyössä.</p> <p>Työryhmä koostui opetusministeriön edustajista ja koulutussektoreiden vastuualueiden koordinaattoreista. Koordinaattorit ovat sektoreidensa asiantuntijoina vastanneet ohjelman kansallisen kokeiluvaiheen suunnittelusta, koordinoinnista, sekä kokeiluvaiheesta vedettävistä johtopäätöksistä. Tämän työryhmämuistion allekirjoittaneet koordinaattorit ovat näin ollen suurelta osin vaikuttaneet muistion sisältöön.</p> <p>Suomen koulutusjärjestelmän visio on, että kaikki yksilöt kykenevät tukemaan kestävästä kehityksestä, joka tyydyttää nykyaikaisen väestön tarpeet vaarantamatta tulevien sukupolvien mahdollisuutta tyydyttää omat tarpeensa. Kestävän kehityksen edistäminen koulutuksessa perustuu kokonaisvaltaiseen näkemykseen ekologisen, taloudellisen ja sosiaalis-kulttuurisen ulottuvuuden huomioon ottavasta kehityksestä. Suomen kestävästä kehityksestä edistävän koulutuksen vuosikymmenstrategian linjaukset kohdistuvat seuraavasti: 1. Kestävän kehityksen edistäminen (ml. kestävä kulutus ja tuotanto) kasvatuksessa ja koulutuksessa, yleissivistävässä ja ammatillisessa koulutuksessa, ammattikorkeakouluissa, yliopistoissa ja vapaassa sivistystyössä. 2. Institutionaalinen sitoutuminen politiikka-, ohjaus- ja käytännön tasoilla. 3. Eettinen ja integroitu lähestymistapa: kaikessa toiminnassa huomioidaan ekologinen, taloudellinen sekä sosiaalis-kulttuurinen ulottuvuus tasapainoisesti toisiaan tukevana ulottuvuuksina. 4. Läpäisevyys: Kestävyyden näkökulma on sisällytettävä kaikkeen toimintaan. 5. Henkilökunnan koulutus. 6. Poikkitieteellisyys. 7. Tiedon levittäminen. 8. Verkostoituminen ja yhteistyön lisääminen. 9. Osallistuminen: kansalaisvaikuttamisen edistäminen. 10. Tutkimus, jatko- ja täydennyskoulutusohjelmat ja 11. Innovaatioiden hyödyntäminen.</p> <p>Työryhmä ehdottaa asetettavaksi strategian toimeenpanon seuranta ja arviointia varten seurantar ryhmän, joka myös organisoisi kansallisen raportoinnin. Työryhmän esittämää raportointimallia (luvussa 10) voidaan käyttää myös kansainväliseen Baltic 21E -ohjelman toimeenpanon ja UNECE:n ESD-strategian toteutumisen seurantaan. Kestävän kehityksen edistäminen koulutuksessa sisältyy koulutussektoreiden perusrahoitukseen. Opetusministeriön tavoite- ja tulosohtauksessa otetaan huomioon kestävä kehityksen edistäminen.</p>				
<p>Avainsanat kestävä kehitys, Baltic 21E, koulutus, yleissivistävä koulutus, ammatillinen koulutus, aikuiskoulutus, vapaa sivistystyö, ammattikorkeakoulut, yliopistot, DESD, ESD.</p>				
<p>Muut tiedot</p>				
<p>Sarjan nimi ja numero Opetusministeriön työryhmämuistioita ja selvityksiä 2006:7</p>	<table border="1"> <tr> <td>ISSN 1458-8102</td> <td>ISBN 952-485-096-6 (nid.) 952-485-097-4 (PDF)</td> </tr> </table>	ISSN 1458-8102	ISBN 952-485-096-6 (nid.) 952-485-097-4 (PDF)	
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<p>Kokonaissivumäärä 80</p>	<table border="1"> <tr> <td>Kieli englanti</td> <td>Hinta</td> <td>Luottamuksellisuus julkinen</td> </tr> </table>	Kieli englanti	Hinta	Luottamuksellisuus julkinen
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<p>Jakaja Yliopistopaino</p>	<p>Kustantaja Opetusministeriö</p>			

Presentationsblad

Utgivare
Undervisningsministeriet

Utgivningsdatum
13.11.2006

Författare (uppgifter om organets namn, ordförande, sekreterare) Arbetsgruppen för utbildning för hållbar utbildning Ordförande: Monica Mélen-Paaso, Undervisningsministeriet Sekreterare: Jukka Haapamäki och Sanna Halinen, Undervisningsministeriet	Typ av publication Undervisningsministeriets arbetsgruppspromemorior och utredningar	
	Uppdragsgivare Undervisningsministeriet	
	Datum för tillsättande av 12.3.2002	Dnro 18/043/2002
Publikation (även den finska titeln) Utbildning för hållbar utveckling; Genomförande av programmet Baltic 21E samt en nationell strategi för det av FN utlysta årtiondet för utbildning för hållbar utveckling (2005–2014). (Kestävän kehityksen edistäminen koulutuksessa; Baltic 21E -ohjelman toimeenpano sekä kansallinen strategia YK:n kestävää kehitystä edistävän koulutuksen vuosikymmentä (2005–2014) varten.		
Publikationens delar Promemoria + bilaga		
Sammandrag Arbetsgruppen, som tillsattes av undervisningsministeriet våren 2002, gjorde samma år upp ett nationell startplan för programmet Baltic 21E (Promemorior av undervisningsministeriets arbetsgrupper 36:2002). Planen genomfördes 2002–2005. I denna andra promemoria (2006) av arbetsgruppen förenas 1) Finlands verksamhetsplan för Baltic 21E och åtgärder för utbildning och forskning för en hållbar utveckling (ESD) i enlighet med undervisningsministeriets utvecklingsplan för utbildning och forskning samt 2) Finlands strategi gällande det av FN:s UNECE-organisation utlysta årtiondet för utbildning för hållbar utveckling (DESD, Decade of Education for Sustainable Development). Arbetsgruppen beskriver i sin promemoria först försöksskedet 2002–2005 och har försökt dra nytta av erfarenheterna från försöket och av den tysta kunskapen. I kapitel 1–8 rapporteras och bedöms det i försökssyfte utförda genomförandet av Finlands nationella Baltic 21E och i kapitel 9 presenteras utbildningssystemets vision och strategiska linjer för en hållbar utveckling. Visionerna och strategin har utformats med hänsyn till nationella utbildningspolitiska dokument och riktlinjer, programmet Baltic 21E, UNECE:s (United Nations Economic Commission for Europe) ESD-strategi och universitetens Copernicus-stadga för en hållbar utveckling. Arbetsgruppen lägger fram förslag till genomförande av strategin och policyn i den allmänbildande utbildningen, det fria bildningsarbetet, yrkesutbildningen, yrkeshögskolorna och universiteten samt i forskningen och utvecklingsarbetet. Arbetsgruppen bestod av företrädare för undervisningsministeriet och samordnare av ansvarsområden i utbildningssektorerna. Samordnarna har som sakkunniga inom sin sektor svarat för planeringen och samordningen av den nationella försöksfasen samt för de slutledningar som kan dras av försöksfasen. De samordnare som undertecknat detta dokument har alltså till stor del påverkat innehållet i promemorian. Visionen för det finländska utbildningssystemet är att alla individer har kompetens som bidrar till en utveckling som möter behoven hos den nuvarande generationen utan att äventyra kommande generationers möjligheter att tillgodose sina behov. Utbildning för hållbar utveckling bygger på en helhetsinriktad utvecklingssyn som tar hänsyn till den ekologiska, ekonomiska och socialkulturella dimensionen. Riktlinjerna i Finlands strategi för ett årtionde för utbildning för hållbar utveckling gäller: 1. Åtgärder för hur hållbar utveckling (inklusive en hållbar konsumtion och produktion) ska främjas genom fostran och utbildning, allmänbildande utbildning, yrkesutbildning, yrkeshögskolor, universitet och fritt bildningsarbete. 2. Institutionella åtaganden på politisk, normativ och praktisk nivå. 3. Etisk och integrationsinriktad infallsvinkel: i all verksamhet tas balanserad hänsyn till de ekologiska, ekonomiska och socialkulturella dimensionerna, sedda så att de förstärker varandra. 4. Integrering: Hållbarhetsaspekten ska integreras i all verksamhet. 5. Utbildning av personalen. 6. Tvärvetenskaplighet. 7. Informationsspridning. 8. Nätverksbildning och ökat samarbete. 9. Deltagande: åtgärder för medborgarinflytande. 10. Forskning och doktorand- och fortbildningsprogram, och 11. Exploatering av innovationer. För uppföljningen och utvärderingen av genomförandet av strategin föreslår arbetsgruppen att det tillsätts en uppföljningsgrupp, som också ska organisera den nationella rapporteringen. Den rapporteringsmodell som arbetsgruppen föreslår i kapitel 10 kan också användas för uppföljningen av genomförandet av det internationella Baltic 21E-programmet och förverkligandet av UNECE:s ESD-strategi. Utbildning för hållbar utveckling ingår i basfinansieringen för de olika utbildningssektorerna. Undervisningsministeriets mål- och resultatstyrning beaktar främjandet av en hållbar utveckling.		
Nyckelord hållbar utveckling, Baltic 21E, utbildning, allmänbildande utbildning, yrkesutbildning, vuxenutbildning, fritt bildningsarbetet, yrkeshögskolor, universitet, DESD, ESD		
Övriga uppgifter		
Seriens namn och nummer Undervisningsministeriets arbetsgruppspromemorior och utredningar 2006:7	ISSN 1458-8102	ISBN 952-485-096-6 (htf.) 952-485-097-4 (PDF)
Sidoantal 80	Språk engelska	Pris
Distribution Universitetstrycket		Förlag Undervisningsministeriet

To the Ministry of Education

On 12 March 2002, the Ministry of Education set up a working group called the Ministry of Education's Committee for Education for Sustainable Development (Kestävän kehityksen edistäminen koulutuksessa). The working group was

- 1 to coordinate the implementation of the Baltic countries' sustainable development programme Baltic 21's Baltic 21E education programme, and in particular it was
 - to present the Ministry of Education with a national plan for implementation of the Baltic 21E -programme and a strategy intended for cooperation between the Baltic states,
 - to coordinate the implementation of the approved national plan for implementation,
 - to prepare Finland's official position to the follow-up system proposed by the countries in charge of co-ordinating the implementation of the Baltic 21E -programme,
 - to prepare the national follow-up reports referred to in the Baltic 21E -programme for the countries in charge of co-ordinating the programme's implementation,
 - to take care of other matters related to the Baltic 21E -programme,
 - to make a proposal on the co-ordination of the implementation of the Baltic 21E -programme after the committee will have been dismissed.
- 2 To make a contribution to the Ministry of Education's other White Papers and reports on education and research that have to do with promoting sustainable development (the Johannesburg summit being one).

The Ministry of Education called on Counsellor of Education Monica Melén-Paaso to be the chair of the committee and the national coordinator of the Baltic 21E -programme. The following were called on to become members of the committee: Counsellor of Education Mirja Arajärvi from the Science Policy Unit, Counsellor of Education Anja Arstila-Paasilinna from the Polytechnics Unit, Counsellor of Education Seppo Niinivaara from the Vocational Education Unit, Counsellor of Education Eero Nurminen from the General Education Unit, Counsellor of Education Jorma Ahola from the Adult Education Unit and Special Advisor Satu Heikkinen from the Secretariat of International Affairs. Counsellor of Education Kaija Salmio from the National Board of Education was nominated secretary of the committee.

The following were appointed as coordinators for the various areas of responsibility within the Baltic 21E -programme: Counsellor of Education of Education Marjo-Leena Loukola from the National Board of Education (pre-school, elementary education, upper-

secondary education and vocational education), Senior Teacher Vesa Koivunen from the Laurea University of Applied Sciences (polytechnics), later Kaija Sarmia (18 December 2004 to 14 October 2005) and PhD (Econ) Liisa Rohweder (14 October 2005), Senior Lecturer Isoaho from the Technical University of Tampere (universities) and Head of Studies Anneli Bauters from the Finnish Adult Education Association (liberal adult education). The coordinators were invited into the Committee as permanent experts.

When the committee had finished its Promoting Sustainable Development in Education / Finland's plan for implementation for the Baltic21E, it formally handed over its first report to the Ministry of Education on 30 September 2002.

On 18 December 2003, the Ministry of Education made some changes in the composition of the committee. As Counsellor of Education Eero Nurminen retired, Counsellor of Education Jussi Pihkala from the ministry's General Education Unit was invited to replace him. The secretary of the committee, Counsellor of Education Kaija Salmio, was assigned to a different post within the National Board of Education, at which point the ministry appointed Planner Erja Vitikka from the National Board of Education as her successor. Counsellor of Education Raija Meriläinen from the ministry's Adult Education Unit was appointed as a new member of the committee. She also worked as an expert secretary. Senior Teacher Vesa Koivunen could no longer continue with the committee, and so the ministry appointed Kaija Sarmia from the Laurea University of Applied Sciences' Hyvinkää Institute as the new polytechnics coordinator. She was also designated as a permanent expert of the committee.

Following a formal request from the committee itself, the Ministry of Education decided on 11 October 2004 that the committee was to draw up a national strategy for the UN's Decade of Education for Sustainable Development.

In addition, the committee's name was changed to committee on education for sustainable development. The committee also had its mandate extended to 31 January 2006.

Upon the National Board of Education's request, the Ministry of Education accepted Planner Erja Vitikka's resignation from the committee. Departmental Secretary Tarja Kurki was appointed as her successor. Ms Kurki worked as the administrative secretary of the committee. Ms Kurki had already worked in the committee previously as an auxiliary secretary (since 27 June 2002).

The committee elected Satu Heikkinen as the deputy chair of the committee in a meeting on 10 October 2005. Following the Ministry of Education's decision on 14 October 2005, Special Advisor Satu Heikkinen replaced Counsellor of Education Jussi Pihkala from the ministry's General Education Unit. Planner Hannu Vainonen in turn replaced Satu Heikkinen in the Secretariat of International Affairs. Mr Vainonen had deputized Satu Heikkinen in the committee from summer 2004 to summer 2005 while she was on leave. Counsellor of Education Susanna Tauriainen from the National Board of Education was appointed a permanent expert of the committee. PhD (Econ) Liisa Rohweder from the Helia University of Business and Applied Sciences took over from Kaija Sarmia and was named polytechnics coordinator and permanent expert.

The committee has heard the following experts: Head Planner Erkka Laininen and Director Kimmo Harra, OKKA-Foundation (Teaching, Education and Schooling Foundation), Principle Eeva Hämeenoja, SYKLI the Environmental School of Finland, Doctor of Education Taina Kaivola, University of Helsinki's Faculty of Behavioural Science, Director Paula Lindroos from the Centre for Continuing Education at Åbo Akademi University, BUP network and project manager Arja Sinkko from Kymenlaakso University of Applied Sciences.

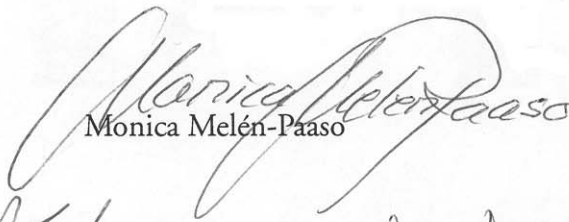
As Expert Secretary Raija Meriläinen was on study leave during autumn 2005, Planner Talvikki Koskinen was appointed Expert Secretary on 15 August 2005. Talvikki Koskinen did not stay in the committee after December 2005, and her functions were taken on by

Planners Jukka Haapamäki and Sanna Halinen.

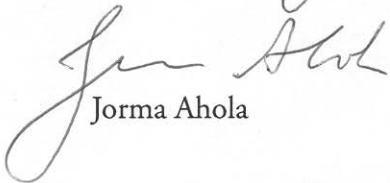
As sectoral experts, the ESD coordinators of the Baltic 21E -programme were responsible for the planning and coordination of the national pilot and the conclusions drawn from it. Thus the signatories of this report have largely influenced its content.

This second report of the committee combines the Finnish Baltic 21E action plan and the plan for implementation of sustainable development in education and research according to the national Development Plan for Education and Research with the Finnish strategy for the UN's Decade of Education for Sustainable Development. The committee thus humbly submits this second report to the Ministry of Education.

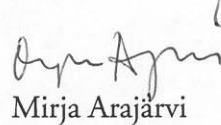
Helsinki, 30 January 2006



Monica Melén-Paaso



Jorma Ahola



Mirja Arajarvi



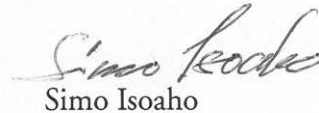
Anja Arstila-Paasilinna



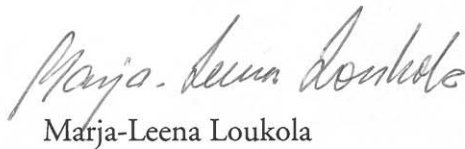
Anneli Bauters



Satu Heikkinen



Simo Isoaho



Marja-Leena Loukola



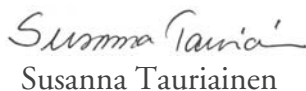
Raija Meriläinen



Seppo Niinivaara



Liisa Rohweder



Susanna Tauriainen



Hannu Vainonen



Jukka Haapamäki



Sanna Halinen



Tarja Kurki

Contents

1	<u>Introduction</u>	13
2	<u>The international and national preparation process</u>	15
	2.1 The Hague Declaration and the Baltic 21E -programme	17
	2.2 Finland's Baltic 21E -programme pilot phase	18
	2.3 UN DESD	19
	2.4 UNECE ESD	19
	2.5 National processes	20
3	<u>The preparation process of compulsory and vocational education 2002–2005</u>	22
	3.1 The societal steering of schools	22
	3.2 Principles and strategies	23
	3.3 Taking know-how and continuing education forward	24
	3.4 Developing teaching and study material	25
	3.5 Research and Development	26
	3.6 Pilot projects and experiences drawn from them	27
	3.7 Evaluating the results	28
4	<u>The preparation process of higher education 2002–2005</u>	29
	4.1 National steering of higher education policy	29
	4.2 Going ahead with the plan for implementation: experiences	30
	4.3 Developing teaching and study materials	31
	4.4 Developing international cooperation	33
5	<u>The preparation process of polytechnics 2002–2005</u>	34
	5.1 Developing action strategies	34
	5.2 Developing know-how	35
	5.3 Continuing education and teacher training	36
	5.4 Research and Development	36
	5.5 Evaluating the results	37

6	<u>The preparation process of universities 2002–2005</u>	39
6.1	Developing action strategies	39
6.2	Developing know-how	40
6.3	Continuing education and teacher training	42
6.4	Research and development	44
6.5	Evaluating the results	44
7	<u>The preparation process of liberal adult education 2002–2005</u>	48
7.1	The societal steering of liberal adult education	48
7.2	Carrying out the plan for implementation	49
	7.2.1 <i>Principles and strategy</i>	49
	7.2.2 <i>Development of know-how and continuing education</i>	51
	7.2.3 <i>Developing teaching and study material</i>	55
	7.2.4 <i>The continuing education of teachers, advisers and peer instructors</i>	56
7.3	Developing research	57
8	<u>A review of the research policy for sustainable development</u>	58
9	<u>Finland's ten year strategy and guidelines 2006–2014 for education for sustainable development</u>	62
9.1	The education system's vision and strategic guidelines for sustainable development	63
9.2	Proposals on how to implement the strategy and guidelines, education sector by education sector	65
	9.2.1 <i>Basic and secondary education</i>	65
	9.2.3 <i>Polytechnics</i>	69
	9.2.4 <i>Universities</i>	70
	9.2.5 <i>Liberal adult education</i>	71
	9.2.6 <i>Research and development</i>	72
10	<u>Further measures and follow-up</u>	73
11	<u>Financing education for sustainable development</u>	75
	<u>Annex. A framework for reporting as proposed by the committee</u>	76

*"Life can only be understood backward, but it must be lived forwards."
– Søren Kierkegaard*

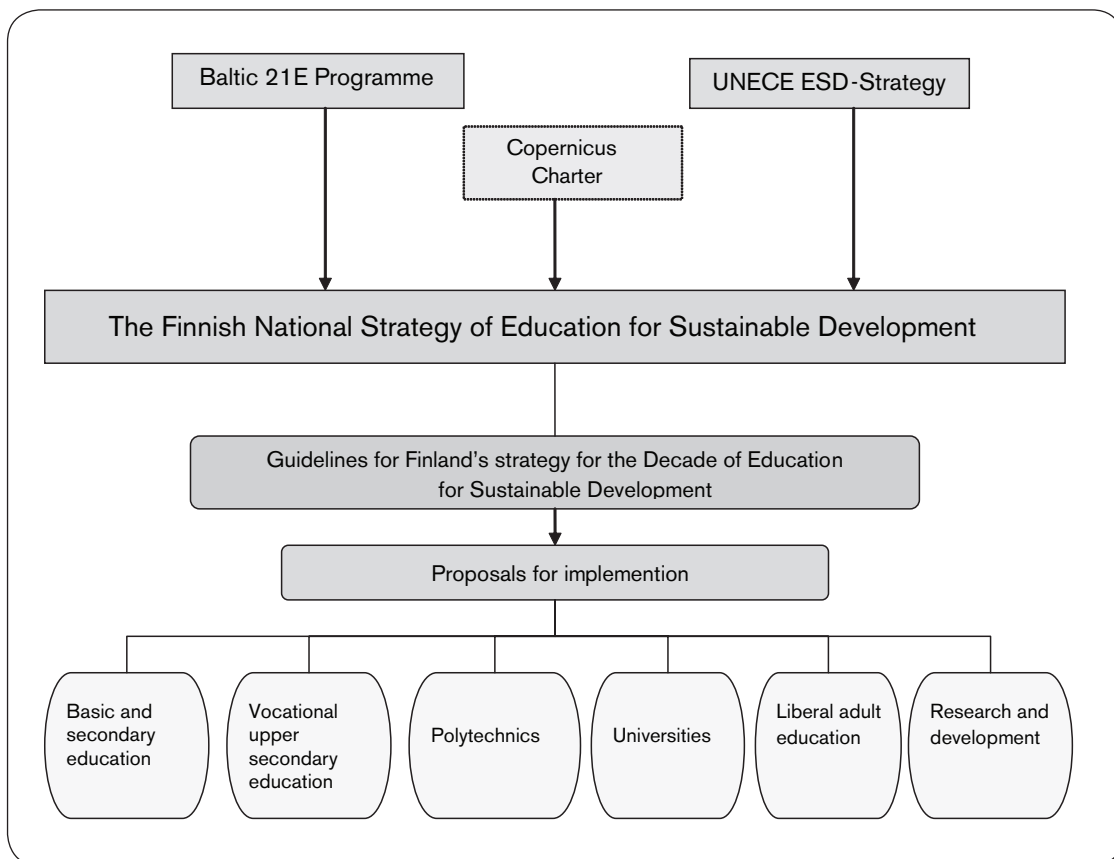


Diagram of the Finnish National Strategy of Education for Sustainable Development

1 Introduction

The state of Finland has committed itself to the promotion of sustainable development on a national level as well as through the European Union, the United Nations, and the cooperation between Nordic and Baltic states. Furthermore, the development plan for education and research 2003–2008, which has been approved by the Council of State, states that sustainable development is to be promoted through education and research.

The Ministry of Education set up a working group called the Committee for Education for Sustainable Development (*Kestävän kehityksen edistäminen koulutuksessa*) on 12 March 2002. The main function of the committee is to advance and coordinate the implementation of the Baltic states' Baltic 21 -programme's subprogramme, Baltic 21E, on education, to formulate a proposal for the Ministry of Education on the Baltic 21E -programme's national implementation plan, and, in relation to that, to devise a strategy on the cooperation between different Baltic states. It should also make a proposal concerning the co-ordination of the Baltic 21E -programme once the working group will have ceased its activities 31 December 2004. The aim of the programme, which was signed and approved by the Baltic ministers of education in January 2002, is that aspects of sustainable development become a natural and permanent part of their countries' education systems. The programme also includes goals and measures related to research.

Having completed the Promoting Sustainable Development in Education / Finland's plan for implementation for the Baltic 21E -programme, the committee handed its first report to the Ministry of Education on 30 September 2002. The aim of the committee has been that discussion on the Baltic 21E -programme be based on the committee's plan for implementation, which was published on UN day in 2002. Moreover, the committee hoped to gain experiences on the implementation of pilot projects and development projects.

The aim when implementing the Baltic 21E -programme was that states with the Baltic Sea Region gain national experiences through mutual cooperation, and that these experiences then serve as foundations for regional cooperation. The implementation of the Baltic 21E -programme has not been synchronized, though. That is why the committee has been unable to make full use of such experiences when drawing up this memorandum.

In several sectors, pilot projects financed by the Ministry of Education based on the Promoting Sustainable Development in Education / Finland's plan for implementation for the Baltic 21E only drew to an end in 2005. That is why there was no point in reporting on the national, pilot implementation of the programme by the original deadline, which was the end of 2004.

The UN has declared the decade 2005–2014 as the Education for Sustainable Development Decade. Following the committee's proposal, the Ministry of Education decided that the Promotion of Sustainable Development in Education committee also be in charge of devising a national strategy for the UN's Decade of Education for Sustainable Development and that the committee's name be changed to Education for Sustainable Development committee (Kestävää kehitystä edistävän koulutuksen työryhmä). The committee's mandate was also extended to 31 January 2006.

This report brings together Finland's action plan and measures for implementing sustainable development in education and research as expressed in the Baltic 21E -programme and as laid out in the Ministry of Education's Development Plan for Education and Research and as per Finland's strategy for the UN DESD.

There is no one universal definition of sustainable development. In 1995, Finland's Committee on Sustainable Development defined sustainable development as being a form of continuous and steered societal change on a global, regional and local level, and that the aim of sustainable development is to ensure that today's and tomorrow's generations are given the opportunity to a good life.

According to the committee, sustainable development encompasses three dimensions: the ecological, the social and the cultural.

The committee's definition of sustainable development says that the prerequisites of an ecologically sustainable development are the preservation of nature's biodiversity and the adaptation of mankind's economic and material processes to Earth's resources and its carrying capacity. A socially sustainable development guarantees people the equal opportunity to create their own well-being, it ensures fundamental rights are respected, it gives people the chance to fulfil their basic needs, it gives people the opportunity to participate in an equal manner and it gives people responsibility in decision-making both in their own country and in the world community. A culturally sustainable development gives people intellectual freedom, it ensures ethical growth and it preserves and fosters cultural diversity from generation to generation.

Following international discussion, the definition of sustainable development has slightly changed from the Finnish Sustainable Development Committee's definition. At the UN's Sustainable Development Summit in Johannesburg in 2002, sustainable development was defined as a whole where the ecological, economic and socio-cultural dimensions are taken into consideration in an equal manner. What counts is that sustainable development is a political entity where these dimensions are integrated in a complementary fashion.

2 The international and national preparation process

For humankind, the twentieth century meant moving into a multifaceted, global age. National economies formed an ever tighter common world market. The twentieth century also saw the world population grow from under two billion to six billion. An explosive population growth, urbanisation, a speeding economy and systems and goods based on technology made humankind a catalyst for change in nature, the economy and society.

By the 1970s, the downsides of a fast and uncontrolled development started to become apparent to everyone in the form of environmental and social problems. Humankind was forced to recognise the finite nature of life's resources and it had to start thinking of how to secure the needs of future generations. The UN's environmental conference organised in Stockholm in 1972 provided the first global discussion forum where such questions were being treated. On the agenda were pollution, the use of natural resources, the living environment, environment education, communication and other questions related to the societal and cultural dimensions.

The next global step was the establishment of the Global Commission on the Environment and Development on the UN's initiative in 1983. The commission was led by Norway's then prime minister Gro Harlem Brundtland, and it published its final report called *Our Common Future* four years later. This report was the impetus of several international follow-up measures and processes.

The report made sustainable development a concept in international politics and it was defined as follows: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It says in the preface of the report (page 16) that "[T]he changes in attitudes, in social values, and in aspirations that the report urges will depend on vast campaigns of education, debate and public participation."

The final report of the Global Commission on Environment and Development's laid the foundations for the UN's huge environmental and development conference Earth Summit held in Rio de Janeiro in 1992. The summit gave a declaration, which included an extensive action programme comprising 40 goals called Agenda 21. The action programme singles out political decision-making, the scientific community, research, the education sector as well as other societal actors – but especially young people in general – as being in a pivotal role in taking sustainable development forwards. With the Agenda 21, work for sustainable

development gained internationally recognised goals and sustainable development established itself as a concept in international politics. The Commission on Sustainable Development (CSD) was set up to follow progress in achieving the goals set out in Agenda 21.

Agenda 21's chapter 36 is dedicated to education. The chapter begins by stating that education is central in promoting sustainable development, as education is essential in changing people's attitudes so that they are able to evaluate matters related to sustainable development and that they are able to express themselves on matters related to sustainable development. All education for sustainable development as well as planning of education for sustainable development is based on chapter 36. The Commission on Sustainable Development particularize and expanded the chapter in 1996 and 1998. The UN's Educational, Scientific and Cultural Organization Unesco was appointed as the head co-ordinator within the UN for implementing the goals related to education for sustainable development.

In the year 2000, the heads of government and state convened under the auspices of the UN to show their support for the world organization's efforts. The Millennium Declaration and the eight Millennium Development Goals (MDGs) form a significant set of qualitative, quantitative and time-bound international targets. The principles and goals of the Millennium Declaration and the principle of sustainable development are the cornerstone of Finland's new development policy programme (valtioneuvoston periaatepäätös 2004).

The Education for All (EFA) process started in Jomtien, Thailand, in 1990, is very important when it comes to achieving the Millennium Declarations' goals on education for sustainable development. The World Education Forum, which was a follow-up meeting organised ten years later in Dakar, set six EFA goals. These include two of the Millennium Declaration's goals on education: to ensure that by 2015 boys and girls will have access to compulsory primary education and that gender disparities be eliminated in primary and secondary education by 2005 and that gender equality be achieved in all education by 2015. The quality of education was also a matter of concern at Dakar and so improving all aspects of the quality of education and ensuring excellence of all so that recognised and measurable outcomes are achieved by all was also made an EFA goal. An improved quality of education will have an important impact on the way the principles and goals of sustainable development are achieved and in how well sustainable development is brought forward in teaching and learning processes and how it is taken on by students.

The UN's Sustainable Development Summit organised in Johannesburg in 2002 returned to the same themes that had been discussed at the Earth Summit in Rio de Janeiro ten years earlier. The Johannesburg Summit devised an action plan to support Agenda 21. The action plan is based on experiences gained after the Earth Summit and it thus reinforces efforts to achieve Agenda 21's goals. The action plan issued by the Johannesburg Summit also underlines the importance of education by stating that teaching and education are crucial in promoting the goals of sustainable development.

Other international organizations besides the UN have also established their own sustainable development strategies. Finland is involved in many of these. The sustainable development strategies of the OECD and the EU emphasise the meaning of information, the development of decision-making processes, citizens' rights to information and means of participating in decision-making. The European Commission states that the sustainable development strategy and the Lisbon Strategy have the same objective: to improve the well-being and living conditions of present and future generations in a sustainable manner. According to a declaration adopted in November 2005, the aim of EU development policy is to reduce poverty as per the UN's Millennium Development Goals. For the first time in

the 50 year history of development cooperation, this declaration, which has been dubbed the European Consensus, formulates common objectives, values and principles for development policy both in member states and the European Commission.

The first Nordic sustainable development strategy adopted by the Nordic Council of Prime Ministers and the Nordic Council came into force in 2001. A revised version of the strategy ("Sustainable Development – New Bearings for the Nordic Countries") was adopted in 2004. The strategy outlines the main long-term sustainable development goals up until 2020, and it also presents the national procedures to be undertaken between 2005 and 2008. The revised strategy elaborates on sustainable consumption and production, and on the social dimension of sustainable development. One of the strategy's main objectives is to support education for sustainable development and to integrate the aspect of sustainable development into Nordic education systems according to the principle of life long learning.

Finland joined the Århus Convention in 2004. The Århus Convention is about citizen access to information, about the right to participate in decision-making, about the right to appeal and the right to the institution of proceedings in environmental matters. The Århus Convention is a commitment to furthering environmental education and to making citizens aware of the environment and how they are able to participate in decision-making related to the environment.

2.1 The Hague Declaration and the Baltic 21E -programme

The broad international framework just described has inspired many regional processes, action plans and programmes. One such process is the Baltic 21 -programme – an agenda 21 for the Baltic Sea Region – established by the Nordic prime ministers in 1996. The Baltic 21 -programme is the first regional programme for the promotion of sustainable development. The aim of the programme is to promote sustainable development in the Baltic region over the next 30 years with special attention given to the environmental, social and economic aspects. The programme is compatible with international, national and local initiatives for sustainable development.

It was soon realised that different sectors were not adequately represented in the Baltic 21- programme. The education dimension that had been given so much importance in the original UN Agenda 21 was missing. Therefore, the Nordic ministers of education gave the so called Hague Declaration thus making sure that education was included in the Baltic 21 -programme.

A separate preparation organ was established so that states could make a national evaluation of education for sustainable development. Finland's review has been published in Ministry of Education's education and science policy publication report number 89 called "Education for Sustainable Development in Finland".

An education for sustainable development programme called "An Agenda 21 for Education in the Baltic Sea Region – Baltic 21E" was adopted by the Baltic ministers of education in Stockholm in January 2002. The programme is being used to develop the education system of the Baltic region so that sustainable development aspects become a natural and permanent part of it. The programme includes goals and activities related to research and development. The programme encourages both national and regional measures and it presents a holistic view of sustainable development where the ecological, economic, social and cultural dimensions are taken into consideration in an equal manner.

The programme states that the aim of education for sustainable development is that every citizen be able to support a development that meets the needs of today's generation without jeopardising the chances of future generations to meet theirs.

In addition to general objectives, the programme sets different goals for different education levels, schools, tertiary education institutions and liberal adult (non-formal) education.

Every student going through compulsory education must gain the necessary know-how, values and skills to be an active, democratic and responsible citizen that will be able to participate in decision-making both on an individual level and in other social contexts to promote sustainable development. This means that the principles of sustainable development have to be integrated in the school world and that teachers must be able to incorporate sustainable development into their teaching.

The aim of higher education institutions is to increase research and expertise on sustainable development through research and teaching as well as by collaborating with the rest of society on a local, regional and international level. This means that teachers must know how sustainable development fits in with their own subject. This also implies that everyday decision-making within tertiary education institutions must be democratic and in line with sustainable development. Sustainable development must also be included in all under-graduate studies and every bachelor and graduate degree must offer students the possibility of specialising in sustainable development.

The aim of liberal adult education is that students be able to influence their own lives, that they be capable of participating in society's developments and that they be aware of sustainable development. This means that education for sustainable development must be widely advertised and that people must be convinced to join classes. Institutions must have the necessary resources for such courses and instructors must have sufficient knowledge on matters related to education for sustainable development.

2.2 Finland's Baltic 21E -programme pilot phase

The Baltic 21E -programme had to be translated into concrete measures on a national level, just like in the other Baltic countries. As the Baltic 21E -programme is a compromise between 11 countries, it is rather general, and that is why a separate programme adapted to Finland's situation and education system was formulated. The committee set up by the Ministry of Education devised a plan for implementation for Finland's version of the Baltic 21E -programme in 2002. The plan sets goals that are in accordance with the original Baltic 21E -programme, and it proposes a series of measures for schools, higher education institutions and liberal adult education. The plan proposes development projects within the National Board of Education, liberal adult education sector and polytechnics. It also gives examples of how university teaching and research could be developed according to the programme's goals and action programme. The Ministry of Education financed development projects related to the national Baltic 21E -programme during its pilot phase.

Sustainable development has been incorporated into the Finnish education system as envisaged in the Baltic 21E -programme and the national launching plan, although not as swiftly as originally planned. This is probably because environmental policy decision-makers, people running schools and those in charge of teaching have not quite yet understood the importance of education for sustainable development. Lack of resources is also a hinderance. Mainstreaming such a multifaceted concept also takes time.

Both the Johannesburg Declaration as well as the Baltic 21E -programme give a definition of sustainable development which states that development only become sustainable once the complementarity of the economic, social and environmental aspects of sustainable development has been properly recognised. Sustainable development is often studied within the framework of each subject and branch of science, but not necessarily as a separate entity. Rather, it permeates teaching and research and is endorsed through interdisciplinarity. This does, however, require a new way of thinking. It is often easier to think of environmental protection, social development and economic development as being separate, as they have been up until now. This is an international problem that must be surmounted in education for sustainable development.

2.3 UN DESD

An Agenda 21 action plan was adopted at the Johannesburg Summit in 2002. The plan bestows great importance on education by naming teaching and education as the central means of achieving sustainable development goals.

The UN declared 2005–2014 as the Decade of Education for Sustainable Development (DESD); the special role of education has been understood on a deeper level internationally. The aim of DESD is to incorporate the teaching of the goals of sustainable development in national curricula on all education levels. On an international level, the decade is being coordinated by Unesco. Unesco is in charge of laying down the groundwork for promoting sustainable development in education and it offers advice in the launching of the DESD on a national level. The main purpose of Unesco is to support states and organizations in the planning and implementation of projects for sustainable development. Unesco does not, however, offer a universal global model, as the promotion of sustainable development is intrinsically linked to local ecological, economic, social and cultural circumstances.

The Ministry of Education's Committee formulated Finland's strategy for the DESD in cooperation with two groups of experts: the education sub-committee of the Ministry's Committee and the education group working under the auspices of Finland's Unesco Commission (The Finnish National Commission for UNESCO). The groups either worked together or separately as stated in their respective mandates. More specifically, the Ministry of Education's committee was in charge of preparing the national strategy for the DESD.

The Sustainable Development through Education Conference held between June 13th and 16th in the Helsinki region was organised by several different organizations and project representatives. The conference presented several practical models on environmental education and sustainable development education, and it also looked at education for sustainable development research done in Finland and abroad. This conference was the first event in Finland to be granted DESD status.

2.4 UNECE ESD

Whereas Unesco is in charge of the global co-ordination of the DESD, it was decided that Europe needed its own regional DESD strategy. The United Nation's Economic Commission for Europe adopted the ESD-strategy in Vilna, Lithuania, in March 2005. The UNECE strategy is mainly a copy of the Baltic 21E -programme. Thus experiences gained from the implementation of the Baltic 21E -programme can also be used in the implementation of

the DESD in Finland.

The UNECE's ESD strategy pays special attention to the differences between countries and their education levels. Seeing as education for sustainable development has to take into consideration local, national and regional circumstances, different aspects of sustainable development can be weighted differently depending on the country and education sector.

Both the UNECE's strategy and the Baltic 21E -programme aspire to integrate education for sustainable development both in formal education and liberal adult education. The aim of education is to promote sustainable development by developing the factual knowledge, skills, understanding and values of citizens.

2.5 National processes

The Finnish Committee on Sustainable Development was set up in 1993 to enhance cooperation on the promotion of sustainable development. The committee was reinstated on 30 January 2003 and it has a mandate till the end of 2007. The committee is led by the prime minister and includes representatives of the state, civil society and the private sector. The Ministry of Education has its own representative in the committee. The committee is to further sustainable development in Finland, and it serves as an advisory organ on matters related to the UN and especially the UN's Committee on Sustainable Development (CSD). The Finnish committee promotes sustainable development by emphasising the things it sees as important. It also functions as a discussion forum and it takes the initiative in matters that need to be dealt by the authorities. The committee's secretariat is located in the Ministry of Environment.

The Finnish Committee on Sustainable Development formulates the guidelines for the Government's Sustainable Development Programme (1998), and these include guidelines on research and development. The programme stresses the importance of cooperation between education experts and experts from other fields.

The Committee on Sustainable Development re-initiated the national strategy process in 2004. In this case, the Ministry of Education is represented by the head of the adult education unit. The strategy is to be approved in the summer of 2006.

A national environmental education strategy was devised by a working group set up by Finland's Unesco committee in 1992. The strategy spells out recommendations that apply to maternity clinics, daycare, the whole education system, research, the defence forces, the church and its congregations, non-governmental organizations, the private sector, public broadcasting and the international community.

The Committee on Sustainable Development set up an education sub-committee for the time period 25 May 2004 to 31 December 2007. The division is to map out progress made in the integration of sustainable development in education, it is to participate in national follow-up measures related to the UN's DESD, it is to participate in the preparation of the themes of the committee's work programme, and it is to formulate a separate theme on sustainable development education and teaching in the committee's working programme. 24 organizations appointed a representative for the sub-committee. The division will present its Education and Training for Sustainable Strategy 2006–2014 and its implementation plan to the Committee on Sustainable Development on 15 March 2006.

In January 2005, the Ministry of Education's Global Education Committee wrote a proposal for the national implementation plan for Global Education (*Kansainvälisyyskasvatus 2010*; Ministry of Education, 2006). The plan was written by representatives from the

Ministry of Education, The Ministry for Foreign Affairs and non-governmental organizations. Education for sustainable development is a part of global education, just as human rights education, equality education, peace education, media education, fostering understanding between different cultures and development and justice issues. The action plan for Global Education and the strategy on education for sustainable development complement each other in helping citizens realise their global responsibility.

3 The preparation process of compulsory and vocational education 2002–2005

With the Baltic 21E -programme, Finland has committed itself to incorporating the promotion of sustainable development in education strategies and principles, to develop the know-how of teaching staff, continuing education and teaching materials and to reinforce the collaboration between research and education. Finland's Baltic 21E plan of implementation looks at what needs to be developed before actually implementing the Baltic 21E -programme. Two new development projects were initiated in the education sector.

3.1 The societal steering of schools

The Council of State and the Ministry of Education (it being a part of the Council of State) are responsible for the planning and implementation of education policy. The Ministry of Education in turn steers the National Board of Education and County Administrative Boards by way of performance agreement. The National Board of Education devises the basic curricula of elementary education, upper-secondary education and upper-secondary vocational education and the degree requirements of vocational education according to the relevant acts, decrees and the allocated teaching times. The National Board of Education also approves the curricula used in pre-school teaching and authorizes the basics of morning and evening activities intended for school children.

Municipalities and other instances responsible for organising teaching then devise their own curricula based on the goals and elements given in the curricula sketched by the National Board of Education. Teachers must adhere to the goals and content of adopted syllabuses. Sustainable development is a thematic entity in the curricula for elementary education and upper-secondary education adopted in 2004 and 2003 respectively. Thematic entities are especially emphasised on in pedagogical work. Their goals and content are incorporated into several subjects, which in turn harmonizes teaching. Sustainable development must be included in local core and free choice subjects as well as in joint school events and it must be a visible part of all school activities and operations.

Since the year 2000, the basic curricula all vocational education include branch-specific environmental studies. The law on competence-based tests will introduce sustainable development in every vocational education programme from 2006 onwards.

The environmental administration and other administrative sectors produce information and services intended for pedagogues, teachers and instructors. National harmonization and expert activities related to environmental education which are the under the jurisdiction of the environmental administration are coordinated by the Environmental Center of Central Finland. The center is also in charge of coordinating cooperation between the environmental administration and third parties.

Government activities as well as the private sector, different organizations, congregations, clubs and the media can all have an effect on environmental awareness, choices and lifestyles. Municipalities also have a responsibility to disseminate information on environmental protection, to foster an environmental awareness and to provide education on environmental protection.

3.2 Principles and strategies

The plan for implementation of the Baltic 21E -programme enumerates the education policy documents that must display the goals and contents of sustainable development. Sustainable development is an important aspect of the general education goals devised by the Council of State. The Ministry of Education's development plan entitled *Education and Research 2003–2008* (Koulutus ja tutkimus 2003–2008) states in the chapter *Guidelines for the development of education and research* that "Sustainable development is to be fostered in education and research".

The National Board of Education adopted its strategy for the future entitled "Mission 2010" (Tehtävä 2010) in 2002. Environmental aspects and securing sustainable development are considered in connection with changes in the operating environment, which is one of the strategic aims of the "Every Finn must have access to high quality and uniform education services" project. The Programme for the Promotion of Sustainable Development (Kestävän kehityksen edistämishjelma) for 2002–2004 was adopted by the National Board of Education in 2002 and it presents the National Board of Education's actions for a sustainable development. The programme has been sent to all Finnish schools.

The National Board of Education has committed itself to the partnership process between different administrative sectors initiated by the sustainable development committee in the autumn of 2001. The National Board of Education promised to help schools devise their own sustainable development programmes and to establish ties with local actors for the protection of the local environment.

The promotion of sustainable development is a project with clearly stated goals in the Ministry of Education and the National Board of Education's performance agreement for 2003–2005. When the performance agreement between the Ministry of Education and National Board of Education for 2004–2005 was revised for 2005, the promotion of sustainable development still remained one of the central areas of focus when developing education. Sustainable development is no longer treated as a separate entity in the performance agreement for 2006–2008.

The elementary aspects of the upper-secondary curriculum were adopted in August 2003, and those for elementary education in January 2004. Sustainable development in upper-secondary and responsibility for the environment, well-being and a sustainable future

in elementary education are subject entities that must be included in common and elective subjects, in common events and it must come across in all school related activities and operations on a local level. Enhancing environmental literacy and long-term thinking as well as assuming a sustainable way of life are central aspects of the curriculum reform. A sustainable way of life fosters physical, psychological, social, cultural and economic well-being while assuming responsibility for the natural environment, nature's viability, productivity and the proper use of natural resources in a sustainable manner.

The curricula for vocational education are also being revised and the promotion of sustainable development applies to all disciplines. The aim is to have students know the principles of sustainable development and to motivate students to act by these principles whether that be in the role of student, professional or citizen. Environmentally friendly work and modes of operating are part of the job. Elective studies may include zero to four study credits of environmental studies. 21 vocational education institutions or teaching centres offer basic degrees related to the nature and environment sector. From 1 January 2006 onwards, sustainable development will be a criteria used in the evaluation of competence-based tests.

The representatives of different administrative sectors, organizations and businesses in the education sub-committee of Finland's Sustainable Development Committee monitor progress made in promoting sustainable development in schools, deliberate on the development of resources and specify the responsibilities of each participant. The sub-committee takes part in the national monitoring of the UN's DESD and it takes part in the preparation of themes in the Sustainable Development Committee from a teaching and education perspective. The sub-committee will have put together a strategy for teaching and education for sustainable development by 2006. The strategy will be accompanied by an implementation plan, and both will be treated by the Committee.

3.3 Taking know-how and continuing education forward

The Baltic 21E -programme highlighted the necessity of developing basic and continuing education for teaching staff, and developing sustainable development steering and administrative systems suitable for schools. Facts on sustainable development or sustainable development pedagogy are still not self-given in basic teacher training. In 2004, the Department of Applied Sciences of Education at the University of Helsinki organised a seminar for those teaching future teachers, and the aim of the seminar was to create a network of environmental educators. The "Creating a network of environmental educators" (Ympäristökasvatustahojen yhteistyöverkoston solmintaa) seminar was attended by over 160 people.

Training organised or financed by the National Board of Education has had to do with writing curricula, working on subject entities and building up environmental systems. The amount of funds allocated in sustainable development have diminished year after year in training aimed in teaching staff.

A pilot project called "Ammatti-KEKE" (Vocation SD) was launched in 2002. The project was conducted in three vocational pilot educational institutions. It opened up the sustainable development learning goals and contents of the basic curriculum so that they could be adapted to the level of the vocational institutions' in question. The project worked on the syllabus of over 20 degree programmes. The material produced by the project will

be used as support material in other vocational education institutions. The project was expanded to also cover other areas.

Finland is in several international programmes and projects that aim to develop the pedagogy of sustainable development. New national programmes have also been set up. The programmes are coordinated by the National Board of Education as well as other administrative branches and organizations. Businesses in the private sector have also joined in the effort, and are setting up more and more projects of their own, providing schools with continuing education and study material. Programmes, projects and networks are an increasingly important way of extending the know-how of teaching staff.

The promotion of a development that is ecologically, economically, socially and culturally sustainable works best in a operating environment where studying and collaboration projects that go beyond conventional subject divisions are allowed. The new basic curricula encourage schools and educational institutions to engage in cooperation with the surrounding community and different organizations. Everyone has something to learn from cooperation with others.

Various environmental systems are being marketed to schools. Green Flag (Vihreä Lippu) is an international environmental pedagogy programme, which 180 Finnish day care centres and schools are involved in. Green Flag aims to create an everyday ecology, and it encourages children and teenagers to participate more. Environmental criteria for schools and educational establishments were finalised in 2003. The criteria provide guidelines on management, teaching and maintenance work. A publication on the environmental criteria of schools and educational institutions was sent by the National Board of Education to all the educational establishments. The Trade Union of Education in Finland OAJ attached the publication to its *Opettaja* (Teacher) magazine. This certificate for schools has been put together in cooperation with the OKKA-Foundation (Teaching, Education and Schooling Foundation), the Trade Union of Education in Finland, the National Board of Education and the Environmental School of Finland SYKLI. The certificate system was finalised in March 2004. The list of criteria, instructions relating to the certificate, a self-assessment form and courses intended to facilitate the adoption of the environmental system can be found at www.koulujaymparisto.fi/index-en.htm. Some vocational education institutions have chosen to adopt the Eco-Management and Audit Scheme and ISO 14001 instead.

3.4 Developing teaching and study material

The Baltic 21E -programme pledges to collect a vast array of study and electronic material. Progress has been made in developing both teaching and study material.

Ympäristökasvatuksen käsikirja (The Handbook on Environmental Education) was published in 2004 (ed. Hannele Cantell). Sustainable development and environmental education students and teachers alike will find this handbook useful. The Guide to Environmental Certification and EMAS Registration of Educational Establishments was the end-product of the LIFE ENVEDU project and was published in autumn 2004. The guide instructs schools and educational establishments on how to adopt the environmental certification and it also explains how one moves on from environmental certification to EMAS registering.

A separate guide intended to facilitate syllabus work called *Aihekokonaisuudet perusopetuksen opetussuunnitelmassa* (Subject Entities in the Elementary School Syllabus) (edit. Marja-Leena Loukola) has also been published. Its articles will also prove to be

useful when integrating sustainable development into the local syllabus. The National Board of Education has for its part published a book called *Kestävän kehityksen edistäminen oppilaitoksissa* (Promoting Sustainable Development in Educational Establishments) (ed. Lea Houtsonen & Mauri Åhlberg).

Collaboration between different administrative branches and organizations has been increased both when it comes to producing written study material and material intended for the Internet. The National Board of Education's sustainable development website provides the latest information on study materials and/or some of it is available directly on the website itself. Ilmasto-jäähylle ('Climate on Hold': www.ilmastonmuutos.info), Elinympäristö ja liikenne (The environment we live in and transport: www.elinymparistojaliikenne.net) and the prevention of waste and efficient packaging (www.fiksu.net) are just some examples of this fruitful collaboration.

The web service provided by the National Board of Education has been enhanced and up-dated. The web service provides the latest information on the Sustainable Development Committee's Education sub-committee's work. You can access the web service at www.edu.fi/teemat/keke (NB. in Finnish only).

Support material intended for other vocational education establishments was also produced during the Ammatti-KEKE programme so as to reinforce branch specific environmental know-how. You can find the material at www.edu.fi > *ammattillinen koulutus* > *kestävä kehitys* (NB. in Finnish only). All of the material produced will be assembled in a text book for the benefit of teachers working in vocational education establishments.

Development work on programmes that aim to enhance sustainable development pedagogy has produced publications and web material. A guide entitled *Opetus ja arki – opetus ja toimintakulttuuri tukemaan toisiaan* ('Teaching and Everyday Life – making teaching and school procedures compatible') is a collection of experiences from schools that were involved in the pilot project of the Baltic 21E -programme. The guide is available on the sustainable development website.

3.5 Research and Development

The Baltic 21E -programme highlights the significance of increasing cooperation between research and schools. Research has a very strong role in some of the sustainable development pedagogy development programmes. As an example, research on sustainable modes of operation in schools is a central part of the OECD's and CERI's (Centre for Educational Research and Innovation) ENSI-environmental education project (Environment and School Initiatives, ENSI). The Finnish ENSI project has embraced the new Internet based knowledge sharing platform called "Knowledge Forum" that is based on the idea of a collaborative learning environment. Thanks to Knowledge Forum, teachers and students participating in the programme can share problems and solve them together with others thus putting everyone's area of expertise to good use.

Researchers also had a significant role in the Baltic 21E national programme pilot projects conducted in schools.

Liikkis (Moving) – Sustainable Traffic Competition

The National Board of Education, the Ministry of Transport and Communication, Liikenneturva [Finnish expert organization on traffic safety], the Trade Union of

Education in Finland OAJ and the Finnish society for Environmental Education (Suomen Ympäristökasvatuksen Seura ry) organised Liikkis (Moving), a competition on sustainable development, in autumn 2005. The aim was to have schools and educational establishments think of displacement and traffic conditions in the surrounding environment. They were also invited to submit suggestions on how to improve traffic conditions. The competition had three different categories: one for elementary school children (grades 1 to 6), one for high school students (grades 7 to 9) and one for upper-secondary school and vocational education students. The winners received their awards in December. The Finnish Youth Academy was asked to join post-competition development work, and it is now getting ready for the 2006 competition.

The co-ordination of international development projects and programmes related to sustainable development

The National Board of Education coordinates the following international projects or programmes related to sustainable development:

- the Globe Programme administered by the USA – involves over 100 Finnish schools
- the ENSI project, Unesco's partner, involves over 20 Finnish schools
- Unesco's Baltic Project, involves 17 Finnish schools
- Finland's Tammi + project, which is to be pursued under the Lähde project, involves 200 schools
- Unesco's world heritage education, involves 60 Finnish schools
- Baltic 21E -programme's 10 pilot schools project

It is important to support such programmes and to disseminate innovations created through networks. There are numerous other networks coordinated by other organizations that generate new ideas. We need a plan and a procedure for the gathering, development and dissemination of innovations.

3.6 Pilot projects and experiences drawn from them

In accordance with the national plan for implementation, the National Board of Education started two pilot projects in compulsory and vocational education in spring 2003. The first project involved formulating the school's own sustainable development action plan that would cover school management, teaching, maintenance operations and everyday practices. The second was about assimilating participation in teaching. The main objective was to come up with models and methods for getting the whole work community involved and to bring about integration. Five schools from around Finland committed themselves to both pilot projects.

The pilot project took on one researcher who worked as a consultant in the project. Regional environmental centres have provided these pilot schools with additional expertise and sometimes even financial resources. Municipal authorities, businesses and the Environmental School of Finland SYKLI have also participated in the project.

The pilot projects were launched in spring 2003. By the end of 2004, schools participating

in the first pilot phase had their own sustainable development action plan and those participating in the second pilot project had an action plan for assimilating participation in teaching. One of the schools was awarded the Green Flag for its efforts and another educational establishment was awarded a different environmental certificate.

The National Board of Education was among those organising Finland's first official UN DESD conference Sustainable Development through Education 13.–15.6.2005. The conference had 260 participants from 16 countries. The Finnish schools that were part of the Baltic 21E pilot project presented their experiences in work shops over two days. The work shops were attended by 70 people from 10 countries.

Experiences gathered from the pilot projects have proved beneficial while laying the foundations of syllabuses, when providing teachers with continuing education and when producing study material. The National Board of Education and the schools participating in the pilot project devised a process description of the putting together of a sustainable development action plan and of participation with other partners for the enhancement of the local environment. The guide entitled *Opetus ja arki – opetus ja toimintakulttuuri tukemaan toisiaan* was published on the National Board of Education's website www.edu.fi/teemat.keke. While actively engaged in the pilot project, schools would debate over criteria for social and cultural sustainability.

Taking on a consultant proved to be a wise move both in terms of efficiency and costs. The pilot project also yielded good results when school development work, the support of environmental authorities and research were combined. Two of the environmental centres that were part of the pilot project have gone on to implement similar projects in their own regions.

3.7 Evaluating the results

The launching phase of the Baltic 21E -programme had its ups and downs. On the positive side you have the enhanced status of sustainable development in core curricula, a significant rapprochement between different administrative branches, a heightened activity in development work on the part of associations, and notable progress made by schools and networks committed to the promotion of sustainable development. On the down side you will notice a decrease in funding for sustainable development projects, and a decline in the status of sustainable development in teacher training and continuing education for teachers.

Experience generated by the pilot projects has helped a great deal in the planning of core curricula. Experiences gained by the schools that participated in the pilot projects have given the impetus to develop environmental criteria and environmental certificates for educational establishments further. The pilot projects proved that combining school development work, input from environmental authorities and research can bring good results. Schools involved in the pilot project have been to various schools and international educational events telling about the new ideas they came up with during the project. They have also provided consultation for schools in their own region. Two of the environmental centres that were in the pilot projects have gone on to establish similar pilot projects in their own regions.

4 The preparation process of higher education 2002–2005

This chapter is about the work that is being done by universities and polytechnics for the promotion of sustainable development. There will be examples of universities and polytechnics collaborating partly or fully and of sustainable development fostering projects that apply to both. The preparation process of polytechnics will be looked at more closely in chapter five and that of universities in chapter six.

4.1 National steering of higher education policy

The state's steering is based on legislation pertaining to higher education, the basis of which are the university act and the polytechnics act and the regulations that have been laid down from these acts. Legislation creates the main general framework for higher education.

Higher education policy is based on the government platform and on the Development Plan for Education and Research which is derived from the platform and approved by the Council of State. In practice, the Ministry of Education's steering is actualised through a tailor-made three-year performance target agreement or performance agreement which is negotiated with each higher education establishment separately. The most important target objectives and operative development guidelines for the coming years are agreed upon during the target steering procedure (*tavoiteohjausprosessi*) of polytechnics and the performance steering procedure (*tulosohjausprosessi*) of universities. Agreements are reviewed yearly in accordance with available resources.

The steering of universities has been re-orientated so as to be more strategic in nature. The performance target agreement and the performance agreement set common targets for all – but they also contain goals that are specific to each educational institution. The common targets are central definitions of national higher education policy. Targets that are institution specific seek to support the higher education establishment's strategic goals and profiling.

Higher education establishment have sole responsibility for the quality of their teaching, research and development activities, scientific research and other operations. Higher education institutions are responsible for assuring that the education and diplomas they

issue are in line with national and international standards. This responsibility translates as a legal obligation to conduct self-assessment and participate in external assessments. Higher education establishments must also make sure that their operations are of a high ethical quality.

4.2 Going ahead with the plan for implementation: experiences

Promoting sustainable development in education – the goal of higher education is defined in the Baltic 21E launching plan as follows:

“The individual learner should have skills and competence relevant to their future professions and future roles as decision-makers. Higher education should also play an active role locally, nationally, and internationally in enhancing knowledge and action competence regarding sustainable development through research and education in co-operation with surrounding society.”

According to the Baltic 21E -programme, achieving such a goal will mean that the position of education for sustainable development will have to be reinforced, that instructors will have to have the competency to incorporate aspects of sustainable development in his/her subject both in terms of teaching methods and methods of approach, that the everyday decision-making and modus operandi of higher education establishments will have to be democratic and in accordance with sustainable development, that all branches of science must address the issue of sustainable development in their core studies, advanced studies and graduate studies, and that continuing education must provide skills and information on sustainable development.

The autonomous status of tertiary education establishments guarantees them the right to make independent decision regarding the content of education, research and on the direction they want to develop in. Every higher education establishment has therefore been able to put into practice plans that foster sustainable development based on already existing guidelines by re-evaluating their areas of focus and by consciously honing down their operations so that these correspond with the principles of sustainable development. The Ministry of Education has supported several higher education development projects on sustainable development through project funding.

Tertiary education establishments are under obligation to develop education for sustainable development independently. The best way of encouraging higher education establishments is to provide them with the information and means necessary so that teachers can integrate sustainable development in their teaching and research activities without too much effort.

Our society – both from a national and global perspective – needs experts that have specialised in the problematic of sustainable development through the principle of permeability and that have specialised in the different aspects of sustainable development. It is imperative that this be taken into account in the planning and implementation of teaching in higher education.

4.3 Developing teaching and study materials

The plan for implementation did not include separate projects for the production of study material for sustainable development education. The rule in Finnish tertiary education establishments is that every teacher independently choose and produce the study material needed. No provisions have been made for the follow-up of how tertiary education establishments are going about producing teaching and study material on sustainable development nor has there been any talk of anchoring such development activity with the Baltic 21E -programme.

Branch specific study material promoting sustainable development has been produced both in a virtual format and as traditional printed textbooks. Study material is typically produced within the framework of projects and usually with the involvement of several tertiary education establishments. The projects have promoted expertise of an open and communal sort and they have enhanced communication between different education sectors and tertiary education institutions while striving to achieve the goals of sustainable development fostering education.

The Ministry of Education granted Åbo Akademi University project funding for 2004–2006 for the creation and up-dating of a website on education for sustainable development (among other things). The website (*www.bup.fi*) has been done in collaboration with the BUP Secretariat (Uppsala University, BUP stands for Baltic University Programme). The website works as a portal leading to various sources of information, and it also functions as a bulletin board and a forum for exchanging ideas. Part of the funding allocated to Åbo Akademi University was used to organise the seminars that are described more in detail in chapters five and six.

Work on teaching material and related literature within the BUP network has involved teachers and researchers from the whole Baltic region. Experts representing various fields have planned common packages as well as produced cases and models to be used in teaching. During the past decade or so, the BUP network has produced eight text books and 30 booklets. One such publication is called *Environmental Science: understanding, protecting, and managing the environment in the Baltic Sea Region* (Baltic University Press, Uppsala 2003). The book was co-authored by 80 researchers and teachers from 12 different countries. Teaching material also includes an additional 43 television programmes, most of which present case studies from a particular area in the Baltic region.

Here are some examples of the web-based study material for sustainable development that are being worked on in projects:

Virtual study material on the archipelago –

My archipelago (Turku University of Applied Sciences)

- The project involves building an archipelago in a virtual environment and constructing a study package on its protection. Web study material aiming to support and complement the package is also being put together. A multiform realised by the Turku University of Applied Sciences and the Finnish Broadcasting Corporation YLE serves as a learning environment.

ELMO – Virtual Education and Learning Materials

of Environmental Issues (Lahti University of Applied Sciences)

- This project is about developing virtual teaching with the university sector, the aim being

to create a 20 to 30 study credit package on Management of Environmental Affairs for higher education institutions in Lahti. Project partners include the Lahti University of Applied Sciences (administration), the University of Helsinki's Department of Ecological and Environmental Sciences and Institute for Art Research, the International Institute of Applied Aesthetics (KSEI ry), the Helsinki University of Technology Lahti Center, Tampere University of Technology Lahti, the University of Helsinki's Palmenia Centre for Continuing Education, and several businesses.

Multidisciplinary sustainable development know-how in a virtual learning environment (Helia University of Business and Applied Sciences)

- The Multidisciplinary sustainable development know-how project is being implemented within the framework of a virtual polytechnics, and is coordinated by the Helia University of Business and Applied Sciences). The aim of the production ring (tuontantorengas) is to create cooperation networks between experts from different fields and between polytechnics. It also aims to enhance the professional knowledge that students and teachers have on sustainable development. The aim is to take all aspects of sustainable development into consideration, so themes include socially sustainable development, the state of the environment and follow-up, sustainable tourism and sustainable consumption. The production ring is maintained by seven polytechnics.

ICT-Sustour (Turku University of Applied Sciences)

- The idea behind the Sustainable Education in Tourism through ICT in Education (ICT-Sustour) is to develop sustainable web-based tourism studies in collaboration with European tertiary education establishments and business partners. ICT-Sustour is an international collaboration project belonging that is part of the EU's Minerva programme. The main goal of the project is to create ICT based tools and resources for tourism studies that are environment and sustainable development sensitive.

The a publication intended for enhancing know-how called *Korkeakouluopetus kestäväksi – opas YK:n kestävää kehitystä edistävän koulutuksen vuosikymmentä varten* (Making higher education sustainable – a handbook on the UN's Decade of Education for Sustainable Development, edited by Taina Kaivola and Liisa Rohweder) was published in connection with the pilot phase for universities and polytechnics.

A handbook on promoting sustainable development for university and polytechnics teachers was produced at the same time. Nearly 30 experts from polytechnics, universities and expert organizations participated in the project. The book is also recommended reading for teachers working in other educational establishments.

The book

- defines and gives examples of concepts related to the promotion of sustainable development
- increases understanding on how sustainable development can be promoted in actual teaching and instructing situations in higher education establishments
- describes the four aspects of sustainable development (ecological, social, economic and cultural) in an integrating and harmonizing manner with examples related to teaching
- using examples of best practice, provide different models on how to integrate issues promoting sustainable development into teaching in different education sectors.

4.4 Developing international cooperation

Finnish universities have a long history of cooperation with other universities in the Baltic region. Finnish universities therefore did not have to put much effort into consolidating regional cooperation – as the Baltic 21E -programme so emphatically requires – because the groundwork had already been done. The Baltic University Programme (BUP) network had already been established in 1991, as had several other research programmes and other project programmes. That is why it was convened during the plan for implementation that universities would actively be informed of these networks and research programmes and that they would be actively encouraged to join these networks.

The BUP network is a broad network open for all tertiary education establishments free of charge. Higher education establishments are free to decide what courses they want to offer and they are to cover the expenses of any study material needed themselves. Collaboration is made official through agreements. The programme is coordinated by a secretariat located in Uppsala University and national centres. The network is used to plan and organise courses, about organising teacher and researcher seminars and meetings and student events as well as tie new partnerships with various societal actors through seminars and projects. The secretariat and the national centres are in charge of informing relevant parties on events and projects, which they mainly do by using the Internet.

Polytechnics have also formed a Baltic Sea Sustainable Development Network, which was coordinated by the Laurea University of Applied Sciences in 2004–2005. The aim of the network project has been to bring together the nine states surrounding the Baltic Sea (Finland, Denmark, Estonia, Germany, Latvia, Lithuania, Poland, Sweden and Russia) so as to promote education for sustainable development, research and development activities. 34 higher education establishments have expressed interest in the network. A partnership day was organised in Tallinn in 2004, and one in Kaunas in 2005 and one in Szczecin in 2005. In Finland, the network operates in cooperation with the Baltic University Programme. Several teachers and researchers belong to both networks.

Development cooperation and sustainable development overlap considerably, as became evident in chapter two of this report. Finnish universities took an active interest in development cooperation already in the 1960s. There have been comprehensive education programmes blending the two in forestry, health care and water supply and sewage, such as the sanitation and water management education programme at Tampere University of Technology from 1979 to 1992. 120 east Africans graduated from the programme with a master's degree of Science in Technology. The Academy of Finland has financed development research since the 1970s. From 1990 onwards, the Academy of Finland and the Ministry for Foreign Affairs have co-financed development research, and according to the development research strategy adopted in 2005, this cooperation should continue in the future.

5 The preparation process of polytechnics 2002–2005

It was agreed within the framework of the Baltic 21E -programme's plan for implementation that polytechnics should develop and adopt sustainable development steering and follow-up systems, that they develop skills related to sustainable development by integrating the sustainable development perspective into curricula and by increasing research and development projects that promote sustainable development. At the performance target negotiations every polytechnic was offered the chance of presenting its plans and development proposals for sustainable development fostering projects.

5.1 Developing action strategies

Work on developing action strategies was started during the pilot phase. So far, only a few polytechnics have devised an environmental and sustainable development steering and follow-up plan (for eg. Helsinki Polytechnic Stadia, Kymenlaakso University of Applied Sciences, Turku University of Applied Sciences and Sydväst Polytechnic).

There has been growing interest in developing action strategies. In particular, polytechnics have sought to form a network via the SUDENET network (Polytechnic Network for Sustainable Development) launched by the Kymenlaakso University of Applied Sciences so as to learn from each other on the development of suitable steering and follow-up systems. In partnership with the OKKA-Foundation (Teaching, Education and Schooling Foundation), the SUDENET network serves as a forum for developing environmental system criteria and self-assessment tools that are suitable for polytechnics. Five polytechnics are in the pilot project (Haaga University of Applied Sciences, Laurea University of Applied Sciences, Oulu Polytechnic, North Karelia University of Applied Sciences and Sydväst Polytechnic). A model intended for polytechnics and based on experiences gathered from the pilot phase will be developed in spring 2006. The model will help polytechnics to assess their operations and apply for environmental certificates. In addition, a survey is being conducted so as to determine how environmental systems could be developed so that the system would encompass all aspects of sustainable development, and whether it would be worth while extending the project beyond Finland's borders into some of the other Baltic states.

SUDENET network includes a roster of experts through which know-how on sustainable development can be passed on to all polytechnics.

Some polytechnics have a designated advisory body of experts (for eg. Laurea University of Applied Sciences, Turku University of Applied Sciences and Syväst Polytechnics) that presents extended initiatives and reforms pertinent to sustainable development and monitors their implementation. What's more, many polytechnics have appointed a head teacher for sustainable development who is in charge of developing regionally important research and development projects on sustainable development and who is to promote sustainable development teaching at all levels in the polytechnic.

Environmental and social responsibility reports are good practicals tool with which to further the principles of sustainable development; formulating such a report means assessing factors related to sustainable development systematically and precise indicators. A few of the polytechnics have published an environmental / social responsibility / sustainable development report (for eg. Turku University of Applied Sciences and Sydväst Polytechnic). These reports have not gone unnoticed; the award for best social responsibility and environmental reporting in the public institutions category was awarded to Turku University of Applied Sciences.

5.2 Developing know-how

Promoting sustainable development know-how varies from polytechnic to polytechnic. Only the polytechnics that have a sustainable development and environmental programme have systematically revised their curricula in line with the professional requirements of sustainable development. These same polytechnics have encouraged their whole teaching and researcher staff to delve into the challenges of sustainable development from their own professional point of view. Most polytechnics have one or two teachers and researchers that try to get the school to offer study programmes and separate courses related to professional objectives. Students are interested in gaining a professional approach to sustainable development; many have written theses that bring improvements to working life as part of research and development carried out by the schools.

Sustainable development promoting studies have been developed in several polytechnics. Laurea University of Applied Science, for instance, has put together a 28 credit study programme taught in English intended for those heading for the natural resources and environmental sector called *Sustainable Development – environment and natural resources in Finland and Europe*. Polytechnics have also pooled their resources when developing study programmes. One example of a study module developed through partnership (in this particular case: Arcada Polytechnic, Haaga University of Applied Sciences and Helia University of Business and Applied Sciences) and designed to enhance professional knowledge on sustainable development is the three study credit course Environmental tourism management. The module is taught in English and is a web-based course (with the exception of one meeting), which means any polytechnic student can take part in it. Work on developing know-how is still unfinished. Lahti University of Applied Science, for instance, was preparing 24 credits worth of optional sustainable development promoting studies in 2005.

Three polytechnics (Laurea University of Applied Science, Turku University of Applied Science and Sydväst Polytechnic) actually have a sustainable development under-graduate programme. The objective of these programmes is to train environmental experts with a

broad knowledge of sustainable development for the purposes of industry and commerce, public administration and organizations.

5.3 Continuing education and teacher training

No vocational higher education teacher training institutions offered continuing education on sustainable development during the launching phase. Students have had to learn about sustainable development pedagogy on their own – which depends entirely on the student's personal interest. The syllabus for polytechnic teacher studies does not systematically include theoretical teaching on how to plan a sustainable development curriculum nor does it elaborate on the sustainable development practices particular to each subject. Therefore understanding how this all relates to having an influence on society or on the students remains vague. There is one exception though: the Oulu Polytechnic's School of Vocational Teacher Education offers a three study credit elective course called "the teacher as environmental specialist".

5.4 Research and Development

Research and development related to regional development work is important for polytechnics and has got off on a good start even though research on the content of education for sustainable development and pedagogical methods is lagging behind. 130 regional research and development projects were launched between 2002 and 2005. Most projects receive additional financing from other regional organizations and they often arise from a practical need to develop the region in some way. Projects take into consideration all aspects of sustainable development almost without exception. Below are some examples of the projects initiated so far. Projects have been classified into the ecologically sustainable development category or the socially / culturally sustainable development depending on which aspect the project lays more emphasis. In addition, most projects influence economically sustainable development.

Examples of projects that promote ecologically sustainable development:

- Training simulator to increase environmental safety in navigation (Kymenlaakso University of Applied Sciences)
- Environmental expertise as a bridge between science and entrepreneurship (Lahti University of Applied Sciences)
- Arctic sustainable greenhouse project (Oulu Polytechnic)
- Mapping out emission sources at Hunttijärvi (Laurea University of Applied Sciences)
- Reducing the emissions of a working machine with a diesel motor running on bio fuel (Turku University of Applied Sciences)
- Residue with a high nutrient content in a forest's cycle process (Sydväst Polytechnic)
- Developing the environmental and food safety of South Savo agricultural enterprises (Mikkeli Polytechnic)
- Dry Toilet safely to Europe (Tampere Polytechnic)

Examples of projects that promote socially and culturally sustainable development:

- Human wellbeing and the neighbouring environment (Oulu Polytechnic)
- The sustainable development of the coastal region (Polytechnic Sydväst)
- MASSI project (Pirkanmaa Polytechnic, University of Applied Sciences)
- Idässä itää (lit. budding [in the] east) strategy project (Laurea University of Applied Sciences)
- KUCK, Kompetenscentrum Byggnad-Luftskvalitet-Hälsa (lit. Expertise Centre Building – Air Quality – Health) (Polytechnic Sydväst)
- Immigrants the strength of the Kotka – Hamina region – a Finno-Russian partnership programme (Kymenlaakso University of Applied Sciences)
- Taideapteekki (lit. Art Pharmacy) (Kymenlaakso University of Applied Sciences)
- Accessibility in municipalities (Helsinki Polytechnic Stadia)

5.5 Evaluating the results

The previous section described some of the polytechnic projects promoting sustainable development in theme areas endorsed by the Baltic 21E -programme. Using the Baltic 21E -programme as a starting point, polytechnics have then developed projects that fit their own study programmes and region.

The preparation of study material and networking have led to sustainable development being given more weight in teaching – even though teacher training or developmental work on teacher training have not yet advanced in the anticipated manner. Networks have served to promote international cooperation and increased cooperation among higher education institutions has gained a foothold.

The prerequisites of sustainable development have been well acknowledged within research and development – both in R&D strategies and in the projects that ensue.

Keeping a regional point of view in innovation will enhance innovation, as it ensures that innovations are based on sustainable ethical values and that they provide solutions to present and future problems.

Polytechnics that have taken sustainable development as the basis of their modus operandi both in education and research have been granted the project financing they have requested from the Ministry of Education. Polytechnics have also received project-specific funding from other sources, but on the whole financing has not been in line with the requirements outlined in the launching plan.

Operating in a more sustainable manner, evaluating students and their thesis from a sustainable development point of view as well as co-operating with and advising people in working life have been left to polytechnics and their own judgement. Some polytechnics have taken their responsibilities very seriously and have done their best to find working solutions whereas others have not adopted a wholehearted approach and have not attempted to integrate the problems related to sustainable development in all of their study programmes.

Polytechnic student organizations have only recently got involved in sustainable development promoting development work. Polytechnics could devote more time to thinking how students could be more involved in developmental work.

The two sustainable development networks operating in the Baltic Sea region – the polytechnic Baltic region sustainable development network and the Baltic University Programme (BUP) network – are commensurate and have the same objectives. It would only be natural for these two networks to merge and to pool their resources and to operate even more efficiently.

The Ministry of Education's possibilities and activities for promoting sustainable development have been encouraging and supportive, but they have been of relatively little importance when compared to the implementation of other objectives equally endorsed by the ministry. Even though development projects related to teaching, research and regional influence have been launched, polytechnics have only really started implementing the Baltic 21E -programme. Further implementation will require that the Ministry of Education assign sustainable development a higher status, and that it grant priority to projects that promote sustainable development through its financial decisions.

6 The preparation process of universities 2002–2005

The aim of the Baltic 21E -programme's national plan for implementation is that sustainable development become an inalienable and durable part of the university sector. According to the plan, universities should pay particular attention to the conceptual understanding of sustainable development and that from this understanding they should articulate objectives and actions related to the promotion of sustainable development. Furthermore, the launching plan recommends that the promotion of sustainable development should be integrated in all teaching and research activities through the principle of permeability.

The plan for implementation was devised out of respect for the autonomous status that universities have in Finland. It is assumed that universities are able to independently discern the objects of research and teaching that are relevant to society. In order to reach the targets contained in the plan, seminars promoting teaching, development and research work were organised and universities were encouraged to work in cooperation. Separately financed projects like with the polytechnics were not seen as necessary at this point.

Universities form an important part of our national research network. Research questions related to the promotion of sustainable development will be looked at separately in chapter 8. Matters related to summer university will be presented in chapter 7, along with other liberal adult education establishments.

6.1 Developing action strategies

The Ministry of Education has encouraged universities to prepare action strategies that promote sustainable development. Universities were given the following task in the Ministry of Education's performance agreement for the years 2004–2006 (Dnro 10/023/2002):

“The operating and financial plan for the years 2003–2006 must include the university's sustainable development action plan. The action plan must make reference to the Baltic 21E -programme's aims and action programme.”

Universities have taken the bull by the horns: every university prepared a sustainable development action plan as requested in 2003. Eleven universities clearly stated that their action plans are based on the Baltic 21E -programme. In their action plans, universities expressed their intention of developing in a more sustainable manner with special reference to teaching and research activities. Some action plans mentioned teaching and research done according to the principle of permeability. A few of the universities took a more practical approach and looked at their operating practices from an environmental management point of view. A more comprehensive summary of the sustainable development action plans drawn up by universities in 2003 can be found at www.minedu.fi (during 2006 only).

According to the guidelines issued by the Ministry of Education in 1996, universities must devise an environmental plan for their operational environment. Every university has a person responsible for the implementation of the environmental plan, and the task involves regular cooperation among universities. Between 2003 and 2005, those in charge of implementing the environmental plan organised four national working seminars. As the owner-occupier and deputy landlord of state-owned real estate, Senaatti-kiinteistöt has been active in developing the safety and environmental affairs of universities. Just as an example, the Tampere University of Technology and Senaatti-kiinteistöt have drawn up a common environmental plan (www.tut.fi), where the two parties define common goals and action guidelines for the environmental protection of the operational environment and for waste management.

In 1988, the Conference of European Rectors (Conférence des recteurs européens, CRE), the precursor of the current European University Association (EUA), founded the Copernicus programme (now referred to as the Copernicus Campus) so as to create a network of European universities. In 1993, the programme served as a basis for the University Charter for Sustainable Development, which so far has been signed by 320 tertiary education institutions in 38 countries. This includes 13 Finnish universities. A survey in 2003 showed, however, that the charter lay forgotten in many of the signatory universities.

6.2 Developing know-how

When planning university curricula that promotes sustainable development, it is important to make a distinction between knowledge and skills that are directly linked to sustainable development as such, and education, which is to lay the foundations of action models based on the principle of permeability and which correspond to the status of a university degree.

Finnish universities offer a considerable amount of education that either specialises in sustainable development or then gives a general view of sustainable development. These can be individual courses, minor or major subjects or they can even amount to a whole degree. Around 10 to 20 per cent of university departments offer some sort of education for sustainable development and at least 35 to 45 per cent of students do at least one study credit's worth of sustainable development related studies.

Most education for sustainable development concentrates on the ecological aspect of sustainable development where special emphasis is given to the interaction between man and nature. The focus is then on identifying ecological damage and how to prevent it through, say, environmental technology.

Unlike other education sectors, universities did not initiate pilot projects to increase know-how during the launching phase. Instead, sustainable development know-how was promoted through dialogue and academic seminars on teaching, development and research.

Seminars were an attempt to encourage universities to embrace sustainable development without actually impinging on their autonomy. Seminars provided examples of good practice, and they also presented different ways of promoting education for sustainable development.

The main objective of the seminars was to promote dialogue between the different actors so as to foster sustainable development. The active participation of the National Union of Students in Finland SYL and its sub student organizations has contributed significantly to the promotion of know-how. The participation levels of university teachers and researchers have been very low, and those that have attended are usually already experts on sustainable development and environmental protection themselves. Universities could become more interested in sustainable development if it were given the status of a national project and if it were to have an effect on how money is distributed.

The following seminars were organised during the launching phase:

The role and responsibility of the universities in adopting the agenda of Baltic 21 E (April 2002).

This seminar was organised by the Finnish national Baltic University Programme (BUP) centre, which is located at Åbo Akademi University, and was attended by representatives from the Ministry of Education, the National Board of Education, six universities and the BUP network. The presentations and subsequent discussions were based on the Baltic 21 chairman's guidelines, and were about how the Baltic 21 E programme could actually be implemented.

Sustainable Development Seminar (September 2003)

This seminar organised by the SYL was attended by almost every student union. Talks were given by representatives from the Ministry of Education, the Ministry of Environment and from President Martti Ahtisaari's Crisis Management Initiative. Student representatives showed themselves to be enlightened and well versed in sustainable development issues, although they tended to emphasise environmental protection. Students granted non-governmental organizations particular importance in matters related to sustainable development.

What promotion of sustainable development consists of and what forms the basis of how universities operate (October 2003)

This seminar, which was organised by the Ministry of Education and the Technical University of Tampere, had speeches by four university rectors, the director of the Ministry of Education's university unit, the national coordinator of the Baltic 21 E programme, the SYL representative and two invited researchers. Participants were divided into four working groups, and they were given themes to work on which were related to the main theme "The academic ideal as the sustainable development dimension of universities". What became apparent during the seminar was that participants were unable to see a connection between promoting sustainable development and the social responsibility bestowed on universities through their autonomous status and even the Finnish constitution. Participants did, nevertheless, engage in a vivid academic debate about science, knowledge, understanding, ethics, values and learning. The participants came to the conclusion that students are very receptive to sustainable development, and that the real challenge will be to increase understanding among teachers and researchers as to how sustainable development is an integral part of everything that goes on in the university. Even though the seminar's

programme was of a high standard, it did not get the attention it would have deserved in universities. This has probably got to do with the fact that sustainable development is still often seen as being in category of its own instead of a principle that permeates through everything.

Indicators for Sustainable Development – A national seminar on Education for Sustainable Development (ESD) in higher education (December 2004)

This seminar, which was organised by Åbo Akademi University, was attended by university and polytechnic representatives. Talks were held by four foreign and three Finnish experts. Participants discussed various ways of integrating sustainable development into higher education. The talks, working group reports and discussions showed that integrating sustainable development into higher education in a permeable fashion is a considerable challenge for educational institutions both in Finland and abroad. Material from the seminar is available at *www.bup.fi*.

Working seminar on sustainable development (May 2005)

The seminar was organised by Åbo Akademi University and the Technical University of Tampere, and it was mainly attended by teachers from polytechnics and universities that have chosen to specialise in sustainable development orientated education. The aim of the seminar was to formulate clear targets for furthering sustainable development in higher education.

University seminar on DESD and development policy (November 2005)

This seminar, organised by Åbo Akademi University and the Department of Applied Sciences of Education at the University of Helsinki, was attended by university and polytechnic teachers and researchers. Participants presented drafts of what could be the DESD objectives of universities, and particular attention was given to the role of universities from a development policy point of view.

6.3 Continuing education and teacher training

Finnish university teachers have usually done post-graduate studies in their own area of expertise. More and more so, teachers are also completing studies in pedagogy. Post-graduate students can also include pedagogical studies in their doctoral degree as a minor subject. Having said that, most teachers have acquired their sustainable development know-how and skills either through post-graduate studies or by devoting some time to it during their own free time.

The BUP network has organised a planning seminar for teachers that intend to teach courses on sustainable development. In addition, the Finnish national BUP centre at Åbo Akademi University organises national and international seminars yearly on furthering sustainable development teaching methods, on sustainable development themes and on how to do further research. The seminars attract around 140 to 160 university teachers from the Baltic Sea region each year. Seminars also include working groups that deliberate over international cooperation and the use of technology in teaching. Teachers put a great deal of effort into coming up with ideas for course materials and then work on them both during the seminar and in between seminars. In their feedback, teachers say the new course material, witnessing student enthusiasm and the international and local contacts they get

through seminars are very important. The international board of the BUP network has decided to show its support for active teachers by granting a *Teacher of the Year* award.

One example of a continuing education for university teachers and researchers seminar organised by Åbo Akademi University's Furthering Education centre in the years 2004–2005 was a seminar on teacher training, which was organised in Poland in March 2004 (www.bup.fi/background/Plock/Plock.htm). Another example is the ESD working seminar for university teachers in Helsinki. The seminar was a joint venture between Åbo Akademi University's Continuing education Centre and the University of Helsinki's Department of Pedagogy and was held in May 2004. The seminar did an evaluation of work in progress for the implementation of the Baltic 21E -programme, a talk was given on the ESD conference that had been held in Göteborg in 2004 and participants looked at how the national BUP network is evolving.

The pedagogical studies of future homeroom and subject teachers include an in-depth look at sustainable development. A sustainable future, responsibility for the environment and well-being are themes that are covered in all school subjects in the current national basic school curricula. In addition to school curricula, teacher training (the practical work experience phase as well subject didactics) includes an introduction to other normative and legal texts that serve as basis for study material.

Sustainable development is an obvious part of teacher training for natural science, home economics and handicraft teachers. Sustainable development only plays a minor part in the teacher training of the arts and social studies teachers and seems to depend entirely on whether the teacher has a personal interest in sustainable development or not.

Continuing education and subject teacher education were initiated within the framework of the LUMA centre (www.helsinki.fi/luma) during the pilot phase. The LUMA centre is coordinated by the Faculty of Sciences of the University of Helsinki and it is an umbrella organization that brings together schools, universities and the private sector. The aim of the centre is to promote the teaching and studying of natural sciences, mathematics, information technology and technology at every level of education. The centre was founded and is financed by the Ministry of Education, the National Board of Education, The Faculty of Biosciences, the Faculty of Behavioural Science, the Faculty of Sciences (coordinator), the board of education of the City of Helsinki, the Finnish Chemical Industry, the Finnish Forest Industries Federation, the Economic Information Office and the Technology Industries of Finland. Several other organizations, societies, science centres, associations and study material publishers have also been involved in LUMA. Some foundations have also made financial contributions.

Most of the work done at the LUMA centre is done entirely on a voluntary basis. Departments are busy founding their own sub-centres. The most recent example of such a centre is the Department of Mathematics and Statistics' Summamutikka-centre. A similar centre is being set up in the arts faculty, and the aim is to have the centre function as a network hub for the whole centre campus area. If the project goes ahead as planned, it would significantly further DESD targets in the arts and social sciences and in teacher training at the University of Helsinki.

In 2005, the theme for the LUMA centre was sustainable development and the UN's international year of physics. This came across in all major lectures and teacher work shops.

The LUMA centre organises two main events each year: one is the LUMA day, which is held in spring on the University of Helsinki campus, and the other is a whole LUMA week held in autumn. LUMA week is a national natural sciences initiative organised both

in school and other educational establishments. Numerous work shops for teachers, science clubs for school children and science camps for upper-secondary students are organised during the main events and during the school year and school holidays.

6.4 Research and development

Since the year 2000, the OECD/ENSI (Environment and School Initiatives) project has been developing community knowledge capacity building in teacher training (primary, middle and upper-secondary school) by way of the Knowledge Forum programme. The project has now accumulated five years of experience on sustainable development knowledge/capacity building and the results are new and interesting on an international scale.

The Finnish Educational Research Association FERA's Special Interest Group on furthering education for sustainable development became operational in 2004. Theme groups on education for sustainable development have been organised at the Pedagogy Days (kasvatustieteen päivät) in 2003 and 2004, the most recent being in Jyväskylä in 2005. The group has international connections and research partnerships.

Two examples of the research being conducted on teacher training are *Environmental Education as an introduction to sustainable development* (*Ympäristökasvatuksen avulla kohti kestäväää kehitystä*) and *Education on sustainable development* (*Kestävän kehityksen kasvatus*), which are run by the sustainable development research groups at the Department of Applied Sciences of Education at the University of Helsinki. Numerous publications and theses related to the subject have been published.

Scientific studies are an essential starting point for education and other related activities. Initiatives with the best of intentions can go to waste if they are based on erroneous assumptions. Our knowledge of sustainable development is still patchy. Sustainable development represents a new way of looking at the world, and it necessitates a deeper theoretical understanding of phenomena and multidisciplinary research.

We also need research on how education for sustainable development influences the way people act. Such research will reveal how education for sustainable development influences the way people live and make choices. This is one of the main focuses of the Baltic 21 E programme.

6.5 Evaluating the results

Finnish universities possess the scientific prerequisites for furthering sustainable development. Using the results of the pilot phase, this chapter will explore what this potential should be used for, and what could possibly weaken this potential as well.

Strategic plans

The Ministry of Education has encouraged universities to engage in furthering sustainable development on a strategic level. As Finnish universities have a wide autonomy, universities have adopted very different approaches to sustainable development. Universities are to formulate their own strategic plans. Sustainable development is still not universally accepted as being a part of social responsibility – and hence a basic responsibility of universities – among administrative staff, university teachers or researchers.

Experience indicates that sustainable development is still often likened to environmental protection and that affairs pertaining to sustainable development are often delegated to someone – sometimes even to a student – who is interested in environmental affairs. This was something quite common in the strategic plans devised by universities for the Ministry of Education.

With increasing demands and other pressing interests, furthering sustainable development is likely to be neglected unless it is up-graded to a national theme and made into one of the Ministry of Education's top priorities. The only way to lend sustainable development more weight is to grant just as much importance to the possible social implications of decision-making as well as to efficiency and effectiveness of action taken.

There are plenty of international and national strategies and reports on sustainable development. Given the visibility that sustainable development has, one would assume that all these documents would automatically be taken into consideration in the strategic planning of research and teaching programmes as well as by universities. In reality, only a fraction of researchers and departments have taken a second look at these documents.

Promoting sustainable development is often seen as a job for experts only – this applies to both universities and other sectors of society. Teaching and research for sustainable development necessitates, however, a multidisciplinary approach, and is thus everyone's responsibility. Sustainable development is also often first and foremost seen as something implying action whereas in actual fact it is more of a question of evaluating and appreciating something according to the principle of sustainable development.

Applying scientific knowledge

Sustainable development requires that the ethical applications of scientific knowledge be discussed more in depth. What is the real role of scientific knowledge in the ethical set of values that form the basis of critical thinking in research and responsible decision-making in working life? When looked at from this point of view, it is clear that we must develop peoples' abilities to handle large entities of knowledge, increase their capacity to combine information and also increase their aptitude (both scientific and mental) for multi- and crossdisciplinary work.

From a sustainable development point of view, universities should not only be looked at as forums for scientific discussion, as they are also engaged in a dialogue with the rest of society. Holding onto the first two primary functions¹ of universities while solving real world problems related to sustainable development is a considerable feat that no university has yet seriously attempted.

The role of education and implementing the principle of permeability

Several reports confirm that universities offer adequate environmental education leading to specialisation – either in the form of programmes or subprogrammes. No separate support actions are therefore necessary, and the challenges related to providing such an education are largely the same as with any other educational programme leading to specialisation.

Education for sustainable development should be influenced by social sciences where it is a given fact that politics, justice, the economy, cultures and sciences have an influence on each other. Education for sustainable development would in this case be based on the

¹The first being research, the second research based education and the third social dialogue.

principle of permeability both in general studies and in specialisation studies. Universities should seriously consider whether there is sufficient grounds for integrating the problematic of sustainable development in every degree.

Every student should receive a basic education on the challenges of sustainable development regardless of which area they are specialising in. Currently, this is not the case. The principle of permeability is a formidable challenge for teachers and researchers. The real hurdle will be to have university researchers and teachers understand how sustainable development is connected with what happens in a university and why sustainable development is so important for universities. It is a long-term transformation process to which all universities must commit to. Sustainable development must also become part of the analysis of core material within each degree.

Research and development

The Baltic 21 E programme emphasises research on teacher training. It not only endorses research on teaching methods, but on teaching content as well: what material would be the most conducive to sustainable development favourable thinking? The Baltic 21 E programme also encourages research that brings together different aspects of sustainable development and which addresses development cooperation issues. Such research is funded by various organizations in Finland, such as the Academy of Finland, Tekes, Sitra, various foundations, public sector units and so on. Lack of funding is not a problem in Finland when it comes to implementing research that promotes sustainable development.

Graduate Schools

Graduate schools funded by the Ministry of Education and those of universities have the same orientation as under-graduate programmes, that is to say, they are post-graduate programmes based on different environmental research themes. Post-graduate programmes that concentrate specifically on sustainable development issues are few. It would be especially useful to map out what methods and information young researchers would need both in general and in their own area of speciality in order to be able to engage in multi- and crossdisciplinary research promoting sustainable development. Field-specific evaluation criteria should also be developed from a sustainable development point of view.

Getting students involved in the development work

Students are active promoters of sustainable development. University students have the possibility of participating in the development of course content. Student unions have also expressed their interest in the development work on promoting sustainable development. Surely the enthusiasm and know-how of student unions could be better harnessed than it is now.

International cooperation

Education, research, and development work for sustainable development should take greater advantage of international cooperation. Fellowships as well as teacher and student exchanges should be encouraged even more, as having a better understanding of foreign cultures and being confronted to new ways of thinking is important for all members of the scientific community.

Partnerships with polytechnics

During the pilot phase, the Ministry of Education encouraged the university sector and the polytechnic sector to work in cooperation – as they then did. The fruit of this collaboration is a book on how to organise education for sustainable development. In addition, polytechnic representatives have participated in academic seminars on sustainable development organised by universities. Universities and polytechnics should deepen their collaboration within the Baltic cooperation framework. Combining the project based Baltic Sea Network (Itämerkiverkosto) of polytechnics with the Baltic University Programme would create synergy while at the same time rendering further cooperation easier. It is important to keep in mind, though, that universities and polytechnics have different vocations in terms of education, research and development work.

7 The preparation process of liberal adult education 2002–2005

7.1 The societal steering of liberal adult education

Liberal adult education is based on the principle of life-long learning. Its main objectives are to nurture and diversify the development of individual personalities, to enhance people's capabilities to work in a community, and to promote democracy, equality and diversity within Finnish society. Educational establishments that are in charge of liberal adult education are citizens' institutes folk high schools, education centres, sport institutes and summer universities. Citizens' institutes are in charge of ensuring local and regional adult education needs are met. Folk high schools are boarding schools, and every school has their own set of values and philosophy that they abide by. Education centres work in cooperation with citizen and culture organizations on a national level. Sport institutes are national boarding schools and regional learning establishments. Summer universities, on the other hand, work on a regional level, and specialise in open university teaching. In 2005, there were 254 citizens' institutes, 91 folk high schools, 11 education centres, 14 sport institutes and 21 summer universities.

Citizens' institutes are mainly municipal establishments. The other liberal adult education institutions are usually backed by various associations and foundations. Some of the establishments are limited companies (Ltds). The associations and foundations mentioned earlier often represent varying world-views and religious viewpoints.

The work of liberal adult education establishments is governed by the national law on liberal adult education (632/1998). Permits granted for running an educational establishment, which are issued by the Ministry of Education, are based on this law. Liberal adult education establishments are then allowed to define the objectives and methodology of their establishments within the framework of their permit. In addition, the national liberal adult education organizations and the Ministry of Education have agreed on so called guideline guidance whereby the status of liberal adult education as providers of adult education promoting equality, social cohesion and active citizenship is consolidated. The general aim of liberal adult education is to increase the number of participants from under-represented groups. Helping immigrants settle in is a top priority. The main areas of focus are courses in language and culture, social studies, civics and civil society. Schools also provide

training packages so as to develop the IT skills required in an information society, health studies, and orientation courses for future open university studies. Sustainable development is mentioned separately in none of these areas of focus, as educational establishments are free to determine for themselves what they deem important.

Public funding given to educational establishments is mainly composed of state grants based on the actual extent of the educational activity. Educational establishments are also entitled to apply for government subsidies with which to develop teaching in the areas of focus mentioned earlier.

The network of liberal adult education establishments is spread far and wide, which means that it is accessible to the adult population throughout Finland – even in sparsely populated areas. The heterogeneity of the organizations behind the various educational establishments and the voluntary nature of the study programmes are readily compatible with the ideology of sustainable development. Educational establishment certificates are one way of steering adult education so that educational establishments are encouraged to produce local environmental programmes and to actively follow environmental values and principles.

Liberal adult education establishments are often active players in their own field, and they also adhere to the principles of sustainable development when dealing with external interest groups. This creates a bigger environmental awareness among locals and school staff.

7.2 Carrying out the plan for implementation

With the Baltic 21 E programme, Finland committed itself to including education for sustainable development in all of its national education policy documents.

The objectives of liberal adult education (non-formal education) were defined in the Baltic 21 E programme as follows: students are able to influence their own lives and are able to participate in the development of society. They are aware of sustainable development and of the possibilities to study sustainable development. This means that citizens must be informed of the voluntary education for sustainable development courses provided by various liberal adult education establishments. Citizens must also be given an incentive to participate in education for sustainable development. Being able to provide citizens with quality education means that instructors must have an adequate level of competence both in terms of sustainable development per se and teaching. Adequate resources are also required for organising courses.

So as to support these objectives in liberal adult education, national and regional development projects were set up for 2003–2005 with the help of the Ministry of Education. Development projects were implemented in folk high schools, citizens' institutes, education centres and summer universities.

7.2.1 Principles and strategy

Finland committed itself to include the promotion of sustainable development in its decrees and norms on education (inc. non-formal education). The Ministry of Education recommended that the central organizations of liberal adult education devise a sustainable development programme for 2004–2006.

Summer universities

A membership survey conducted by Kesäyliopistot ry (Summer Universities ry) reveals that most are familiar with the concept of sustainable development and that several summer universities offer courses related to sustainable development. Somewhat disappointingly, some respondents said that there is no demand for environmental or sustainable development training. Some courses had to be cancelled because not enough students were interested.

The concept of sustainable development was seen as problematic, because it can be thought to encompass all human and societal activity. Most respondents likened sustainable development to its environmental dimension only.

The following are objectives for a future sustainable development programme for summer universities. They are based on the results of the survey.

- The programme shall work as a general information package on sustainable development for summer university staff and related interest groups.
- The programme will look at summer universities from a sustainable development point of view, which in turn will help summer universities evaluate their own activities using new concepts. Respondents did not seem to be aware of the summer universities' strengths – especially when it came to being socially sustainable educational establishments.
- The programme is to be an actual environmental programme that can be adapted to the needs of all summer universities regardless of where they are at in terms of sustainable development. The programme provides a good starting point for environmental certification (universities are not required to gain environmental certificates).
- The programme will give recommendations on how to get started with sustainable development and it will also propose a timetable for implementing the various stages of sustainable development at summer universities. The programme also includes a directive monitoring and evaluating system.

The guiding principles of the programme are environmental management, assuming life span responsibility and getting the personnel to commit to the principles of sustainable development. Using the targets set out in the programme as starting points, each summer university is then to draw up its own sustainable development goals. The programme urges summer universities to first assess their own environmental impact before they start integrating sustainable development into their own teaching. The programme also includes an extensive list of sustainable development criteria.

Education centres

A sustainable development programme for education centres was completed in 2005. It is based on a survey that was conducted in seven education centres. The programme comprises four entities, of which ecological sustainability is the largest (it includes eight sub themes). The sections on social, cultural and economic sustainability are more concise. Every section includes recommendations on how one should proceed in order to achieve a sustainable future. Education centres are free to choose how and to what extent they want to implement the programme. You can find the education centres' sustainable development programme 2004–2006 at *www.visili.fi*.

Folk high schools

The sustainable development working group of the Finnish Folk High School Association included members from nine folk high schools. Tasks related to sustainable development were approached from the everyday perspective of folk high schools. Based on this approach, the working group drew up a programme for the promotion of sustainable development, and this in turn was published as a book called *Kestävyttä etsimässä* (Looking for Sustainability).

The book contains various models of how sustainable development is being promoted in folk high schools, it provides guidelines on planning, it offers advice on integrating sustainable development within folk high schools and it gives recommendations for the monitoring and evaluation of implementation. The book is available at http://www.kansanopistot.fi/fin/yhdistys/skoy_frame.html (NB. contains only one article in English).

Citizens' institutes

The Finnish Association of Adult Education Centres KTOL founded a working group for the years 2004–2006 so as to reflect on the promotion of a socially and culturally sustainable development in citizens' institutes. An article series on sustainable development that looks at liberal adult education from an ecological, economic, social and cultural point of view has been published in the adult education magazine AIMA.

7.2.2 Development of know-how and continuing education

Liberal adult education establishments have already for a number of years offered courses of varying duration on different themes related to sustainable development. The courses often transmit know-how and skills that can be applied to everyday life and that can be used to improve the local neighbourhood. Courses are based on themes that have been requested by the students themselves.

In 2004, the Ministry of Education issued a recommendation to liberal adult education establishments and the member organization's behind education centres saying they should formulate regional and local education plans and programmes in order to amalgamate sustainable development into teaching. The ministry exhorted educational institutes to lay their prejudices aside so to form new partnerships and atypical networks. Educational institutes thus formed partnerships with municipalities, congregations, research institutes, civic organizations and their own member organizations. Course planning was to be based on regional needs that needed practical solutions – this was a fundamental requirement. The teaching of skills and know-how related to sustainable development in public places had to be divorced from classroom teaching. Information and the chance to participate could not be limited to the classroom alone, it had to be expanded to other open forums of society. Curricula were to be planned so that they would prompt citizens into being critical and aware consumers, decision-makers, voters, parents and professionals – i.e. active as opposed to passive members of society.

Between 2003 and 2005, the Ministry of Education granted educational institutes subsidies so that they could write regional sustainable development curricula. The following are examples of regional education programmes and other network enhancing projects.

Folk high schools

Regional and local projects which were actually carried out were successful in their attempts to build networks and traditional organizational divides were superseded. People normally working in very different fields were able to join their efforts and make good use of their pooled expertise. Several education programmes resulted in new innovations. What was also very positive about the whole experience was that citizens were able to express their opinions, needs and wishes during the planning phase already.

Some projects took a bold approach, and decided to shift teaching from the traditional learning environment to public spaces open to citizens. This led to genuine discussion between citizens and those organising the courses.

The projects made both organisers and participants more aware of sustainable development. Several folk high schools inscribed sustainable development in their charter and their strategy. We have taken up four examples of sustainable development related folk high school projects.

Eurajoki Christian Folk High School

The Keke kaikille project ('SD² for all') promoted sustainable development awareness. The project was done in cooperation with citizens' institutes, adult education centres and voluntary organizations.

School staff were offered practical SD training. An introductory SD folder presenting the school's ways of working was put together for new employees and students. A planner in charge of mapping out how interested organizations would be in participating was hired for the project. Associations and civic organizations were approached with an open mind.

Several of the courses and lecture series were planned in cooperation with organizations and educational institutions. The needs of organizations gave rise to new ideas. Many different organizations formed networks as a result.

Between folk high schools and civic organizations

Civic organizations were worried, as they had a lot of know-how to share, but they had yet had to find the proper medium. Some felt that citizens' institutions and folk high schools were somewhat distant, and were too shy to offer their services. This is no longer the case.

Between different organizations

Quite often you will have similar associations running completely independently of each other so that they barely know of each other – even in small municipalities. One such example is Uusikaupunki (pop. 18,000) where, once the pulmonary association and the association of detached house residents actually found out about each other, they realised that they had many interests in common. The exhibition for internationalism organised by the adult education centre of Pori brought numerous organization together.

²"Keke" comes from the words KEstävä KEhitys which means sustainable development in Finnish.

Networking between folk high schools

Folk high schools are allowed to advertise the courses of other schools and institutions. This gives citizens the chance to educate themselves as broadly as possible.

Otava Folk High School

Otava Folk High School has sustainable development inscribed in its charter. School staff have been divided into four teams. Every team must take into consideration the sustainable development point of view and they must record the results. Sustainable development is readily apparent in the planning of the syllabus, in course planning and course implementation. Sustainable development is also an everyday part of boarding school life – both for its residents and in terms of maintenance. The principle of sustainable development is also part of the development work in open learning environments. This all started from a student initiative.

Church Training College

The Church Training College is a compact learning park situated on the lakeside of Tuusulanjärvi (Järvenpää, southern Finland). The college has set out to find out how a learning park could endorse sustainable development. The college has devised an environmental programme for the learning park, which encompasses all educational institutions in the area. In addition, teachers strive to take into account the different aspects of sustainable development in their teaching.

The environmental programme was presented in the area during theme week in the spring of 2003. The restaurant had a menu composed mainly of organic and locally produced food – the emphasis being on vegetables. Monitors and TV screens would display new flashes, and the bulletin featured an article on the environmental programme. Posters were put up and an evening on sorting waste was organised in the hall of residence.

Hoikka Institute

The Hoikka regional centre provides training and rehabilitation services for the Pulmonary Association in western Finland. Hoikka Institute is responsible for training services. The institute is guided by Pulmonary Association Heli ry's values, which are communality, equal chances of participation, responsibility and ecologically sustainable development.

In 2000, Hoikka Institute was the first folk high school to be awarded the green flag. In order to gain the green flag, a school must actively develop its environmental affairs for at least one school year and students must also participate in the effort.

Citizens' Institutes and Adult Education Centres

Several citizens' institutes and adult education centres have devised a sustainable development programme either with the municipal authorities or on their own for many years. Working in cooperation with the municipality is a natural step for both institutions.

The Valkeakoski Adult Education Centre's documents on quality work give a definition of sustainable development. The quality work documents can be found at http://www.valkeakoski.fi/portal/suomi/opetus_ja_koulutus/valkeakoski-opisto/laatuasiakirjat/ (NB. in Finnish only). The Adult Education Centre of the City of Tampere and the Citizens' Institute of

Kirkkonummi have also written their own sustainable development programmes (*www.tampere.fi* and *www.kirkkonummi.fi*).

Citizens' Institutes gave particular attention to the social and societal aspects of sustainable development when implementing their development projects. It was also experimented whether information on sustainable development on the Internet would reach residents better if it were spread out by specific themes.

Just as folk high schools, citizens' institutes have also tied partnerships with some very different civic organizations. Four of these citizens' institute projects are presented here.

Globally Sustainable Development in Pori, the Adult Education Centre of Pori

The theme of the Globally Sustainable Development in Pori Event was the effects of war, conflict and peace on the lives of people and the environment from a sustainable development point of view. The event was planned in cooperation with Finland's local Pori committee of Unifem, the Pori branch of Finland's Defenders of Peace association (Suomen rauhanpuolustajat ry), the Pori branch of Amnesty International and the Pori branch of Unicef.

Specific themes were Peace on Earth? – women building peace and sustainable development in Afghanistan, global ethics and Finland's role in peacekeeping work.

The Globally Sustainable Development in Pori Event also provided the opportunity for the Multicultural Association and several non-political groups promoting internationalism and development cooperation to present themselves. The organizations that had participated in the planning of the Globally Sustainable Development in Pori Event also had their own stalls.

Making sustainable development a way of life. The Citizens' Institute of Heinola

The project was managed by the Citizens' Institute of Heinola and the Citizens' Forum on Sustainable Development of Heinola. The aim of the project was to increase awareness of sustainable development on a grassroots level. The project was targeted at individuals, schools and organizations. Information on the connection between sustainable development and housing, food, waste, recycling, nature conservation, culture and free time – among other things – was put on the Internet. What was really positive about the project was that people from very different fields got to participate and that queries related to adopting sustainable development in everyday life were also given the time of day. Participants got to consider things from various points of view, and the project also gave an overall picture of the cooperation between the institute and local residents. There were problems, however, in making out the big picture and there was a certain lack of focus. A lot of SD information already exists on the Internet, but it has to be adapted to local needs. It was not always easy to get locals interested in SD.

An introduction to wholefood. The Citizens' Institute of Rauma

The project was done in cooperation with the 4H associations of Eura and Lappi as well as with the Rauma Mushroom Club. The aim of the project was to get people interested in using natural food products. The Eurajoki Christian Folk High School offered extra courses for those especially interested in mushrooms, berries and herbs.

A healthy environment and diet. The Citizens' Institute of Uusikaupunki

The project was planned in cooperation with the Environmental Association of Uusikaupunki, the Uusikaupunki branch of Finland's Defenders of Peace, the Pulmonary Association of the Vakka-Suomi Region (South-West Finland), the Uusikaupunki Association of Detached House Residents and Vakka-Suomi's Friends of the Environment.

The training programme focused on hay fever: what causes hay fever, what are the symptoms and how symptoms can be alleviated. Other themes included organic food, the ideology of fair trade, internal air and healthy housing.

Cooperation between national organizations

The Finnish Association of Adult Education Centres KTOL, the Finnish Folk High School Association, the Finnish Adult Education Association FAEA and the Green Cultural and Educational Centre prepared and organised a seminar for all those involved in liberal adult education called *What makes people want to change – the tools of sustainable development in liberal adult education*. The seminar was held at the Adult Education Centre of the City of Tampere on 12 November 2004 and 12 SD projects were presented during the seminar. As part of their development work, the Finnish Folk High School Association did an additional study trip to Denmark where they visited the International People's College, a pedagogical innovation centre and various other institutions.

7.2.3 Developing teaching and study material

Thematic study material related to sustainable development is available within liberal adult education both in printed and electronic form. Many citizens' institutes and folk high schools have produced material, as have many education centres in collaboration with member organizations. Material intended for sustainable development education has mainly been produced using project based funding.

Study material in Swedish, German and English produced through national and international projects is already available, but material in a foreign language can sometimes be discouraging for a student. Such study material could be used though if it were translated into Finnish.

The following is a description of the study material that has been produced by education centres in collaboration with their member organizations. The material aims to raise citizen interest. The material is very suitable for study groups.

Kestävän kehityksen opas järjestölle ja ulkoilijalle³, Karoliina Luoto (ed.)

The handbook considers the organization as a key player in supporting ecologically sustainable development. The handbook gives advice on how local associations can reduce their impact of the environment, and it also gives handy environmental tips to people who like to spend time outdoors – be it a day hike or longer. The handbook contains a sustainability checklist that associations can use to assess their activities and tackle possible problems. The handbook is especially intended for members of the Finnish Trail Association (Suomen Latu ry, umbrella organization promoting outdoor activities) and its member associations. Publisher: Suomen Latu ry

³A sustainable development handbook for organizations and people who like to spend time outdoors

Matkailuelämyksiä perinteestä⁴, Sirpa Huttunen

The booklet describes how local cultures and folklore can be used to build up attractive travel packages. Ms Huttunen looks at how tourism and folklore have been blended together in the past. She also gives practical advice on how to use tradition and culture as “ingredients” when putting together programmes, services etc. Ms Huttunen asks what a “genuine” representation of tradition actually means. The booklet is intended for tourism entrepreneurs, but the book will also appeal to all those who are generally interested in local cultures and traditions. Publisher: The Kalevala Women’s Association

Kestävä kulutus⁵, Eija Koski and Kati Komulainen

This handbook looks at the four different principles inherent to sustainable development: ecological efficiency, reasonableness, risk prevention and fair international trade. The book gives advice on how to do your bit for the promotion of sustainable development. Every chapter contains factual information, exercises as well as a list of additional reading that the reader could find useful. The handbook is for anyone that is preoccupied by sustainable consumption, but it is also suitable for study groups. Publisher: The Finnish Association for Nature Conservation

Tunne järvesi⁶ -project

The project involved several education centres and the Finnish Lake Association. The aim of the project was to get people interested in monitoring the state of their own local lake. Just as an example, residents were taught to analyse the flora and fauna of the lake in order to be able to make a rudimentary assessment of the quality of the water. They were also shown how to measure the turbidity of the lake. Data gathered during the project on monitoring the water ways was made available for summer residents. Meanwhile, more people were being trained around Finland to carry the work of monitoring water ways onwards. Study material was produced for instructors and citizens alike.

7.2.4 The continuing education of teachers, advisers and peer instructors

There are no adequate studies on sustainable development available for staff working in non-formal education. This is a serious shortcoming, as education on sustainable development should be an integral part of all education intended for adults. The situation cannot be rectified without adequate funding. Training to raise awareness on sustainable development issues among teachers, advisers and peer instructors should have separately allocated funds within the Ministry of Education’s budget. The emphasis would then have to be on national and international development projects on sustainable development.

⁴Travel experiences provided by tradition

⁵Sustainable consumption

⁶Know Your Lake -Project

7.3 Developing research

So far there has been little research on sustainable development within the sector of liberal adult education. Research and development work on the content and methods applied in voluntary education for sustainable development should be initiated in all educational establishments involved in non-formal education. The pedagogical methods of study groups should be revised and the very meaning of study groups for our modern day society today should be re-assessed, as study groups could promote sustainable development on a grassroots level right in the core of civil society.

8 A review of the research policy for sustainable development

Sustainable development has already been the focus of Finnish research policy for a long time. Several of the Academy of Finland's research programmes and Tekes' (Finnish Funding Agency for Technology and Innovation) technology programmes as well as the research strategies of some Finnish universities have sought to enhance environmental protection and sustainable production methods. The emphasis has been on ecological sustainability. Lately, social and cultural sustainability have gained in importance as well.

So as to render research a bigger impact, cooperation between researchers with different scientific backgrounds as well as between researchers, decision-makers and other actors who benefit from the research has been encouraged. As an example, one could mention the extensive, multidisciplinary national and international research programmes on the causes and effects of climate change.

The Science and Technology Policy Council of Finland's policy defining publication called *Knowledge, innovation and internationalisation* (2003) strongly emphasises the need for research based social innovations. The council proposes that social innovations be fostered by joint research programmes and cluster programmes between various ministries and the Academy of Finland. Cluster programmes include both researchers and the end-users, and the aim of cluster programmes is to hone down the research question so that it best serves the needs of the end-users. Cluster programmes also strive to promote the practical use of research results.

On 12 November 2004, the Science and Technology Council of Finland adopted a policy document called "Internationalisation of Finnish science and technology". According to the report, some of the most pivotal strategic aims are assuming responsibility in resolving shared (global) problems, supporting economically and environmentally sustainable development as well as promoting employment, well-being, social cohesion and cultural diversity.

A goal of the plan for implementation published by the Ministry of Education's Committee in 2002 was to increase cooperation between universities and sector research institutions. A decision in principle (periaatepäätös) adopted by the Council of State on 7 April 2005 reads that developing the structure of the public research system means that "there are to be more joint projects between tertiary education institutions, research institutes and companies, that infrastructure and other cooperation be enhanced so as to develop the

research network, and that social and technological innovation activities be promoted.” One example of such cooperation is where the University of Helsinki’s Faculty of Sciences, the Finnish Meteorological Institute and the Finnish Institute of Marine Research conducted joint research on climate change and air quality.

The Academy of Finland

The Academy of Finland initiated new research programmes in 2005 (for e.g. sustainable production, power in Finland) and it adopted a new development research strategy. The development strategy urges people to take up new challenges and opportunities. When choosing a research topic, the criteria must be based first and foremost on the research itself and the quality of the research, but also on the relevancy of the research. Research which serves the goals of development must be promoted in all branches of science as part of the general funding of science. The Academy attaches great importance to the fact that all its scientific committees take this into account in their funding. According to the strategy, the amount of places in graduate school should be increased and more graduate students from developing countries should be admitted to the Academy. The field work of graduate students should also be financed.

One particularly noteworthy research programme funded by the Academy of Finland 2003–2005 on sustainable development related issues is the Baltic Sea Research Programme (BIREME), the aim of which is to analyse the environmental and developmental aspects of the Baltic Sea and its drainage basin. The programme was co-financed by several administrative branches and the Russian Foundation for Basic Research. The programme is going to be expanded so as to include all other states in the Baltic Sea Region. The EU finances the preparation of such a programme through the BONUS-ERANET project, a project in which all states within the Baltic Sea Region will participate. The European Commission is also willing to co-finance the implementation phase of the BONUS Programme during its Seventh Framework Programme.

Other on-going Academy of Finland sustainable development related programmes in 2002–2005:

- Sustainable Use of Natural Resources 2001–2004, inc. The Ministry of Agriculture and Forestry and the Finnish Funding Agency for Technology and Innovation Tekes
- Finnish Companies and the Challenges of Globalization 2001–2004, inc. Finnish Funding Agency for Technology and Innovation Tekes
- Health Promotion 2001–2004, inc. The Ministry of Transport and Communications, the Finnish Work Environment Fund and the Finnish Cancer Association.
- Life as Learning 2002–2006, inc. the Ministry of Education, the National Board of Education, the Finnish Funding Agency for Technology and Innovation Tekes and the Finnish Work Environment Fund
- Wood Material Science Research Programme 2003–2006, inc. the Ministry of Agriculture and Forestry, the Finnish Funding Agency for Technology and Innovation Tekes, Formas (Sweden) and VINNOVA (Sweden).
- Social Capital and Networks of Trust 2004–2007, inc. the Ministry of Social Affairs and Health, the Ministry of Labour, the Finnish Funding Agency for Technology and Innovation Tekes and the Finnish Work Environment Fund.

- Environmental, Societal and Health Effects of Genetically Modified Organisms 2004–2007, inc. the Ministry of Agriculture and Forestry, the Ministry of Social Affairs and Health, and the Ministry of Environment.
- Russia in Flux 2004–2007, inc. the Ministry for Foreign Affairs, the Ministry of Defence, the Ministry of Agriculture and Forestry, the Ministry of Transport and Communications, the Ministry of Environment and the Finnish Funding Agency for Technology and Innovation Tekes.
- Environment and Law 2005–2008, inc. the Ministry of Environment, the Ministry of Trade and Industry, the Finnish Funding Agency for Technology and Innovation Tekes and the Supreme Administrative Court.

All research programmes have ecological, economic and social sustainability as themes. The programmes are being organised through the collaboration of different committees. The international dimension as well as collaboration within the Baltic Sea Region are essential parts of the Baltic Sea Programme and the Russia in Flux Research Programme.

The Finnish Funding Agency for Technology and Innovation Tekes

The strategy published by the Finnish Funding Agency for Technology and Innovation Tekes in 2005 – *Building on Innovation – Priorities for the Future* – states that the future of Finland lies in knowledge and competence. The strategy stresses the importance of entrepreneurial expertise. This is seen as a challenge for tertiary education institutions, as they must find new ways of collaborating with the business world. Wealth created by economic growth, on the other hand, is seen as laying the foundation for funding well-being services and consequently for upholding environmental values and social justice. The strategy also states that sustainable development is a driver that creates and shapes global markets. It is assumed that sustainable development will cause changes in the relative costs of production factors and thus create market opportunities for those who react quickly. Sustainable development is seen as something that emphasises an environmentally sound approach and eco-efficiency, but also includes human aspects and sustainable economic growth on environmental and social terms. Among the strategic areas in industrial clusters, the sustainable development point of view can be found in the environmental, energy, forest, well-being, and the chemical and bio cluster.

The European Union

One of the thematic areas of the European Union's Sixth Research and Development Framework Programme (2002–2006) is Sustainable development, global change and ecosystems. This particular thematic area is composed of three sub-themes: energy, transport, and global change and ecosystems. Themes related to sustainable development can also be found in other parts of the framework programme, such as in health, diet and societal influence related questions, but also in areas that are worked in collaboration with developing countries. Similar themes will no doubt be included in the Seventh Framework Programme where sustainable development shall be mentioned as a general objective of the programmes of different thematic areas.

Finns have participated actively and successfully in the EU's environment research programmes. Finns also participate actively in research cooperation work with developing

countries in EU funded research projects. This is when a sufficient critical mass is achieved, and the contacts that various researchers from the EU have tied with colleagues in developing countries previously can be taken advantage of.

9 Finland's ten year strategy and guidelines 2006–2014 for education for sustainable development

Adopting a way of life based on the principle of sustainable development is one of the biggest national and global challenges we face in the coming decades. The UN's World Summit on Sustainable Development in 2002 set goals whereby we commit ourselves to building a humane, equitable and caring global society, cognizant of the need for human dignity for all.

Education is an essential way in which to nurture critical thinking, to empower people to handle both local and global questions related to development and to find solutions for sustainable development problems. Mutual respect between generations forms the basis of sustainable development. In order to honour our commitment to the Johannesburg Declaration, we have to include the whole population within our education policy; everyone must acknowledge their responsibility when it comes to creating an ecologically, economically, socially and culturally sustainable future. An education policy based on the principle of life-long learning strengthens society, gives citizenship new meaning and increases welfare. A commission set up in 2003 by the Ministry of the Environment and the Ministry of Trade and Industry (Kestävän kulutuksen ja tuotannon toimikunta, KULTU: Commission for Sustainable Development and Production) designates the education system as an important way of transmitting values, information and skills.

There is no universal model of education for sustainable development. It is important that the educational guidelines for sustainable development be drawn from the region's local culture as well as from the local social, economic and environmental circumstances. Nevertheless, it is equally important that the global aspects of education for sustainable development be kept in mind.

The strategy presented in this chapter is based on the Finnish government's commitment to the UN's Decade of Education for Sustainable Development (DESD), on Unesco and UNECE documents related to the DESD's implementation and on the Baltic 21E - programme.

9.1 The education system's vision and strategic guidelines for sustainable development

The Finnish education system has a vision of people committed to living in a sustainable manner. The motivation, knowledge and skills they acquire will be through education and training imbued with the principle of education for sustainable development. Citizens committed to sustainable development will live in a responsible manner throughout their lives and they will apply the principle of sustainable development whenever devising a new procedure or developing the environment. They will also be able to weigh out the ecological, economic, social and cultural consequences of their choices in practical situations. Finland is a society that locally and globally cherishes humanity's physical, psychological, social, cultural and economic well-being, but not at the cost of nature's biodiversity or nature's carrying capacity.

Our national education system's vision of education for sustainable development requires that the following goals based on the Baltic 21E -programme are achieved:

All individuals are to be capable of contributing to sustainable development which meets the needs of the present without compromising the ability of future generations to meet their own needs. Furthering sustainable development through education is based on an all encompassing view of a development that takes into consideration the economic, social and environmental aspects.

The aim of education and training for sustainable development is to have people assume a sustainable lifestyle and to have people understand what are the essential elements needed for building a sustainable future. The aim is to increase awareness of the inter-relationship between welfare, the environmental efficiency of the economy and environmental protection. Similarly, people should be able to detect changes and analyse the reasons and consequences of such a change. They should also be committed to a sustainable lifestyle and they should feel motivated enough to participate and make a difference. In addition, people with a vocational training will have acquired the skills and readiness to take sustainable development into consideration in their work.

A person with a university degree will have the basic know-how and skills needed in the professional world and to work as an expert. They will be capable of acting as active citizens and they are capable of influencing decision making. They can also keep themselves up-to-date with the innovations and research conducted in their own field – and this according to the principle of sustainable development.

An adult participating in evening classes and other classes on a voluntary basis will gain a wider understanding of the role sustainable development has in building a future. They will be more empowered and their chances of participating in the development of society will improve.

In order for the vision to become a reality, the education sector must receive resources to raise an awareness of sustainable development and sustainable work practices among staff. Innovations, forums where new alternatives can be discussed, and sustainable alternatives are what make sustainable development possible. A sustainable future cannot happen without effective national and international steering, but individual citizens must also become more

active, responsible and co-operative on a global level.

Finland's decade of education for sustainable development is based on both national strategies and guidelines as well as on regional plans related to the promotion of sustainable development in education. It is based on the UN's European strategy for education for sustainable development and the strategy behind it, that is to say, the Baltic 21E -programme. In addition, the following guidelines intended for the whole education sector take into consideration the sustainable development Copernicus Charter for universities.

Here are the guidelines for Finland's decade of education for sustainable development:

- 1 Promote sustainable development in education and training: education and training for sustainable development will be one of the focal areas of the education system, and this includes sustainable consumption and production. This will apply to both compulsory education and vocational education, to polytechnics, universities and adult education.
- 2 Commit to sustainable development on an institutional level (political, administrative and practical level): Show a real commitment to the principles and practices of sustainable development in developing and implementing education policy.
- 3 Endorse an ethical and integrated line of approach: in all matters take into consideration the ecological, economic and socio-cultural aspects whilst keeping in mind that all three are complementary.
- 4 Permeability: Sustainability has to be integrated into all aspects of education. We must formulate programmes, means and methods that further education for sustainable development, and we must have all teachers, researchers and students participating at all educational levels. Everyone should be aware of the challenges related to society, the environment and development regardless of which topic one is studying, teaching or researching. Our society needs citizens that know the basics of sustainable development just as much as it needs sustainable development experts.
- 5 Staff training: Offer staff in schools, educational institutions and universities courses and training in matters related to sustainable development. Just encouraging them is important too. Give them the means to do their job in an ecologically, economically, socially and culturally responsible way.
- 6 Interdisciplinarity: Encourage schools and other educational institutions to engage in interdisciplinary education as well as in teaching and research projects related to sustainable development so that these form a core function of all education in schools and educational institutions. Children and teenagers should be brought up as responsible citizens by approaching different subjects in a holistic manner using different means and teaching methods. Tradition and skills should be transmitted and made good use of.
- 7 Disseminate information: devise easily accessible teaching material and teaching programmes, organise lectures open for the general public, and collaborate with the media. Develop internet services so that the goals of sustainable development and the means for achieving these goals can be widely spread through virtual teaching and web course platforms. Widely accessible internet services should also be used to disseminate information to private persons, businesses, corporations and the public sector on how to participate in building a sustainable future and who to contact.
- 8 Networking and increased co-operation: Reinforce the local, national, regional and international network of interdisciplinary education experts for sustainable development

in order to collaborate within the framework of teaching and research programmes. This means that pupil, student and researcher exchange programmes should receive sufficient support as well. Develop co-operation between other relevant actors in society, plan and implement co-ordinated strategies and action plans. Improve implementation and make it more transparent through wide collaboration between different professional groups.

- 9 Participation: Create genuine opportunities for citizen's to participate and influence decision-making through non-governmental organisations. Enlarge the learning environment to encompass the surrounding society and working life.
- 10 Research, post graduate and continuing education programmes: Promote research as to advance sustainable development. Devise specific programmes for different target groups, such as teachers, the business world, public administration, NGOs and the mass media.
- 11 Putting innovations to good use: Encourage the use and incorporation of innovative, sustainable development friendly technologies in teaching.

9.2 Proposals on how to implement the strategy and guidelines, education sector by education sector

Every education sector has its own place in society as well as its *modus operandi*, responsibilities and way of governance. That is why the goals pertaining to education for sustainable development and the action plans that will help to achieve these goals will be presented separately educational institution by educational institution.

9.2.1 Basic and secondary education

The aim of education for sustainable development is to raise environmentally aware citizens that are committed to a sustainable way of life. They must be able to detect changes in the well-being of humans and the environment, and they must be able to identify the causes and consequences of these changes both at a local and global level. Education must develop critical and innovative thinking and students should be given opportunities to experience what taking responsibility means and what participation and having an influence is like.

Both the Baltic 21E -programme and Finland's national plan for launching the Baltic 21E -programme stated that sustainable development should become a central tenet of Finland's education policy. The strategy in education and training for sustainable development is in line with this aspiration.

By 2014, sustainable development will be a focal point of the Ministry of Education's research and education strategy, of the National Board of Education, of the further education of school management and teachers. The same will apply on a local level.

Teachers need constant support in the teaching of and education for sustainable development. Regional development centres and partnership networks are needed to map out the needs of schools, to collect and distribute good practices, to provide support in terms of information and methods, to organise development work and to take care of communication.

Create a central development network from already existing organisations in collaboration with other administrative sectors.

One of the biggest challenges facing the syllabus reform is the better integration of schools into the enviroing society. Integration is not only about creating learning paths throughout compulsory education but also about collaboration between different school subjects and the bringing together of teaching and school cultures. New action plans, partnerships and ways of collaborating are needed so as to extend the learning sphere into the surrounding society.

Create partnership models and disseminate information on the successful models so as to give all students the possibility of participating and influencing decision-making in schools and that all schools have functional ways of collaborating with the surrounding community by 2014.

Working in a multidisciplinary and multiprofessional working environment means gaining new insight into producing teaching material first. New initiative is needed in both the pedagogy of sustainable development and schools need to tie new partnerships outside school walls. More resources are needed to maintain and develop the internet service on sustainable development found on the education website edu.fi.

Map out and evaluate the sources of information and teaching material on sustainable development that are currently being used in schools: how they enable the portrayal of different aspects, how they guide students to live in a more sustainable manner and how they fit in with partnership projects involving people and institutions from outside the traditional educational sphere. The aim is to lay out a plan of what needs to be developed further so that a comprehensive whole regarding education for sustainable development be ready by 2015.

In the meantime, the basic curricula of elementary and secondary schools and upper secondary schools will have been developed and schools will also be run in a more progressive manner.

Schools will work in a consistent manner and good ideas will be worked on whilst striving to learn and develop a sustainable society in which to live in. Many projects and programmes related to promoting sustainable development are already under way. It is important to continue supporting these projects and programmes and to pass on the good ideas that these networks produce. There are also several other networks that are co-ordinated by other instances and that give rise to new ideas. The National Board of Education's support is especially instrumental in this regard.

Make a plan for gathering, developing and distributing innovations as well as information and experiences between different networks, and thus bring about new methods and content for promoting education for sustainable development.

A well thought-out and comprehensive action plan for sustainable development that the whole personnel can really commit to is achieved in the best way when the ground work for the plan has been worked on together in the working community.

By the year 2014, the environmental certificate of educational institutions will have been extended to include the social and cultural aspects of sustainable development.

The aim is that by 2014, all schools and educational institutions will have their own sustainable development action plan and that 15% of schools will have received outside recognition or a certificate from an independent organisation for their efforts to achieve sustainable development.

9.2.2 Vocational upper secondary and vocational liberal adult education

Sustainable development is included in the so called common emphasis part of the basic curricula of vocational education programmes. Other "common emphasis" areas include internationality, being able to use technology and information technology, quality customer-orientated service, consumer know-how, work safety and looking after one's health.

The goals of sustainable development have been described in the following manner in the introductory part of the curricula:

"The aim of sustainable development is to have the student know the principles of sustainable development, and to motivate the student to abide by them in his/her studies, work and as a citizen. S/he is aware of environmentally friendly ways of working and living, and lives and works accordingly. Such a person will especially recognise what constitutes problem waste and will know how to dispose of them adequately. S/he will appreciate nature's biodiversity and understand the economic, social and cultural aspects of sustainable development, and s/he will know how to act accordingly."

Free choice studies within the common curriculum in vocational education include environmental science studies (0 to 4 credits). The courses lay special emphasis on preserving nature's biodiversity, on ecologically sound consuming and positive action for the good of sustainable development. Education for sustainable development has also been adapted according to the special needs of each vocational education programme.

From August 2006 onwards, all diploma students will have to go through a practical exam where they must demonstrate their skills in order to graduate. The exam is planned, prepared and evaluated by the school in association with professionals actively working in the given field, and the exam is either a work situation or work process. During this competence-based test, the student demonstrates his/her skills by performing real life tasks, and this is measured up to the goals set in the curricula with regard to the skills needed in a given profession in working life. Such an exam is a compulsory part of all vocational education (90 credits), and students must pass the exam in order to graduate.

One of the criteria used during the evaluation of these exams is sustainable development. Since professionals from outside the school itself form part of the jury, it is all the more important that all members of the jury agree on what is a satisfactory, good or excellent demonstration of sustainable development in a job performance.

Follow-up how well sustainable development permeates through practical job performance exams into the professional world by 2014. Continue to diversify the production of teaching material and provide further training in sustainable development for teachers and work place counsellors operating in different professional fields.

Every educational institution that offers vocational education must include an implementation plan for sustainable development in its core studies syllabus. Work on the curriculum related to sustainable development and the incorporation of environmental systems necessitate constant training, revision of teaching material and further networking. The National Board of Education's support is especially instrumental in this regard.

The environmental certificate system of educational institutions shall be developed further. By 2014, their environmental certificate should encompass the social and cultural aspects of sustainable development.

Ideally, by 2014 15% of educational institutions will have acquired some certificate or diploma in recognition for their efforts for sustainable development.

This means that teachers working in vocational education have to be provided with sufficient supplementary education.

21 schools offer nature and environmental vocational education programmes. One such programme is a study programme in environmental protection where students graduate as Environmental Operatives. One can also specialise in the nature sector whereby one becomes an Entrepreneur in Nature-based Services. There are also vocational programmes especially designed for adults where students can either become wilderness or nature guides by doing a vocational skills demonstration. One can also become an Entrepreneur in Nature-based Production.

Vocational education for jobs within the nature and environmental sector has only recently been introduced and details are still being worked on. Getting the programmes up and going has demanded a lot of resources and has strengthened the environmental know-how of these teaching units.

Investments made into nature and environmental teaching units should also benefit the wider public; therefore, these units should become resource centres for environmental and sustainable development know-how by 2014.

Competitions that demonstrate the professionalism of people who have a vocational education, such as the Skills Competitions, are held every year. They are a display of what true professionals can do at their best. It is important that sustainable development be more and more acknowledged in these competitions, as performances that are qualified as top performance send a message to future professionals on what are accepted ways of performing a job sustainably.

The aim is to incorporate sustainable development into the planning and implementation of different Skills events by 2014.

9.2.3 Polytechnics

Several of the programmes on offer at polytechnics have their teaching, on-the-job training, competence-based tests and research and development designed so as to bring about

sustainable development in practice. The same cannot be said, however, for co-operation between polytechnics, which have widely varying teaching programmes – common principles and evaluation models based on sustainable development are only just being elaborated.

Within the framework of the next performance agreement periods, all polytechnics must base all their procedures related to education on the principle of sustainable development so that students as well as all staff will be able work and act according to the targets set out in the performance agreement that has been commonly agreed on.

Especially teachers have lacked the opportunity to increase and incorporate their expertise on sustainable development in their teaching.

Both new and experienced teachers must urgently receive additional training in sustainable development.

Whenever possible, students must also take into account the possible effects of sustainable development on the phenomenon they are observing in their diploma work. The role of the teacher must in this regard be defined more clearly in the syllabus.

Setting up the administration and follow-up as well as developing and consolidating the structure of polytechnics during the past ten years has demanded a lot of time and resources from the schools themselves, from administrators and from the Ministry of Education.

By the end of this decade, polytechnics will have had to heavily incorporate the furthering of sustainable development as well as research and development on sustainable development into their agendas and budget frameworks. That is why polytechnics must devise common ways of gathering qualitative and quantitative data on their different activities both for informative and evaluative purposes.

By 2012, every polytechnic must have a head teacher that is responsible for education for sustainable development, sustainable development research, and for the co-ordination of co-operation between all polytechnics on sustainable development.

Regional and international influence in sustainable development projects has got off on a good start, but is still more the result of coincidence and is rather dispersed on a geographical level.

The research and research co-operation of staff in polytechnics and universities must be improved on swiftly in projects related to sustainable development. This aspect must be emphasised when comparing different projects.

By 2012, polytechnics must reach a considerable level of expertise on local problems related to sustainable development and they must be committed to international expertise as well. Polytechnics must ensure that their staff can maintain a sufficient level of expertise by providing them with adequate work and travelling opportunities and by maintaining good relations with international experts.

9.2.4 Universities

The strategy for sustainable development in universities is based on the advancement of science, on the ethical application of scientific information, on permeability, and on the respect of the autonomous position that universities have in society. Research is aimed at gaining a deeper understanding of what sustainable development is and on having sustainable development permeate all activities. The following goals along with appropriate guidelines are suggested for universities:

By 2009 all university departments will have looked into the possibility of incorporating sustainable development into all teaching and research as well as into degree requirements and research projects.

Universities must fulfil this goal independently. Nevertheless, the Academy of Finland, the Finnish Funding Agency for Technology and Innovation (Tekes), the Finnish National Fund for Research and Development (Sitra) and ministries are asked as public funders to lend a helping hand to universities in achieving this ambitious goal. Seen from a permeability point of view, the dilemma between research questions on sustainable development and research itself is how to interpret the results within a framework that takes into consideration the relationship between man and nature without neglecting social relationships that are inherent to man. The aim is to make a report that outlines how universities have achieved this objective.

By 2012, every university will have formed a partnership based on development co-operation with at least one other university. Universities are to help these partnership universities in their scientific endeavours and in developing their teaching programmes.

Development policy and furthering sustainable development are deeply entwined and are mutually beneficial. In addition to the goals set above, the Ministry of Education – in co-operation with the Ministry for Foreign Affairs, the Academy of Finland and other universities – will develop steering and financing mechanisms to fulfil these objectives.

By 2009, universities will have gone through their environmental programme concerning their working environment and they will have incorporated goals related to sustainable development in it.

Universities will go through their environmental programmes in co-operation with their contract service providers and Senaatti-kiinteistöt (Senaatti real estate). They will formulate sustainable consumption objectives e.g. with regard to the amount of paper and electricity used and they will revise their problem waste treatment. In addition, universities will work out evaluation and implementation methods related to the goals of their environmental programme.

By 2015, the promotion of pre-conditions for sustainable development will have been integrated into every university's strategy.

Universities will implement this goal independently so that the promotion of pre-conditions for sustainable development is taken into account in a permeating fashion in the assessment

of teaching and research as well as in the assessment of the working environment; sustainable development will then only be one criteria among many, and will no longer be treated superficially as a separate entity.

9.2.5 Liberal adult education

Institutions that provide liberal adult education must include sustainable development in their documents, strategic guidelines and curricula. Strategies must mention the need to increase citizen awareness of sustainable development. This means that the definition of sustainable development has to be clarified, and that it must be defined so that citizens understand the significance it has in building our future. Any explanation must be based on matters that are important and meaningful to citizens themselves. Only then can citizens be truly motivated to follow courses on sustainable development.

Education for sustainable development should also be seen as the key to a functioning democratic society. The aim of any course or programme should be to enlighten citizens; citizens should be able to critically evaluate any local or global solution related to sustainable development and they should be able to make their personal choice based on that evaluation.

The Ministry of Education should include a definition of sustainable development in its annex on further education and liberal adult education when making its budget proposal for 2007. Sustainable development should be named as one of the general aims of societal influence, and it should be apparent in the annex of the yearly budget proposal when steering education for sustainable development and other activities. This should also be taken into consideration in the guidelines pertaining to liberal adult education.

Education for sustainable development makes it more likely that people will really understand the importance of living in sustainable manner, which in turn means that people will more readily absorb information and skills that will make a sustainable society a reality. In order to encourage such a trend, national central organisations could set up sustainable development follow-up groups within their own sector. These groups would keep an eye on whether activities supporting sustainable development are working and whether they are having an influence on society.

Central national organisations and local educational institutions that provide liberal adult education are to abide by the UN's Decade of Education for Sustainable Development 2005–2014. Seminars, training programmes, courses and material production on sustainable development will be made available.

Between 2006 and 2012, the social and cultural aspects of sustainable development will be highlighted. Results acquired from numerous pilot projects during the testing phase of sustainable development 2005–2006 will be put to good use in planning, education programmes and in writing new course material adapted for mature students.

People working in liberal adult education should form networks and build partnerships with companies and scientific communities. Novel ways of co-operating render education for sustainable development more meaningful both in formal and non-formal education, and they are a real alternative to a diploma or degree-orientated education. People who participate in liberal adult education are often motivated for personal reasons, which means that they are more motivated than degree students and they are willing to put in the effort, because they feel a genuine need for change.

9.2.6 Research and development

The most important aims of research on sustainable development are the following:

- to produce information on the environment, society and cultures so that the precursors of as well as possible hindrances to sustainable development can be identified and analysed;
- to produce information and to develop action plans and technology that advance sustainable development, including education and training content and method;
- to create know-how whereby people can assimilate and apply research results that have been produced elsewhere;
- to help as a nation those in a weaker position and to make an effort in solving global problems.

Research on sustainable development is needed both in terms of basic research and applied research. The principles of sustainable development should, however, permeate research throughout. Permeability in research can be achieved by evaluating and weighing all research results in light of the principles of sustainable development. Basic natural science research on the sustainability of the environment needs to be continued and it must be increased in areas that are currently not well represented in research (the atmosphere, outer space within close proximity to Earth and the oceans and seas). Basic research on sustainable development is also needed in the social, economic, cultural and health sciences. Applied research on sustainable development should be linked to basic research through multi-disciplinary research projects or larger clusters.

Passing research results to citizens and decision-makers so that they actually have an impact on how citizens behave and how political and economic decisions are made is a particularly daunting challenge. Setting sustainable development as a goal means giving up on economic and technological laissez-faire and restricting the abuse of nature and other humans. Such decisions necessitate solid basic knowledge and a commit to the principles of sustainable development based on scientific knowledge. So as to make research more influential, the end-users of research results need to be part of the research process already during the planning phase.

10 Further measures and follow-up

The Baltic 21E -programme and the implementation of Finland's strategy for its decade of education for sustainable development must be followed and evaluated regularly. Countries that have committed to the Baltic 21E -programme and the UN's Decade of Education for Sustainable Development must report on national implementation. A follow-up committee must be set up so as report and evaluate on implementation and this committee is to be in charge of developing indicators and follow-up methods. Indicators must be developed with reference to the indicators that have been devised for the UNECE's ESD strategy.

The Baltic 21E programme has no set timeframe. An interim follow-up report on the whole of the Baltic 21 programme is drawn up every two years. A more substantial report is written every five years for the meeting between prime ministers of the Baltic region. The Lead Parties co-ordinating the programme are Finland and Lithuania. A senior officials group acts as the steering group for the whole Baltic 21 programme. The senior officials group is composed of Lead Party representatives from the Baltic21 subprogrammes – such as the Baltic21E programme.

A report on the implementation of the UN's DESD is given yearly within the framework of the UNECE's ESD's steering group. As the strategy is largely based on the Baltic21E programme, experiences from the Baltic21E programme can also be used when implementing the DESD in Finland. There is an international steering group for the implementation of the UNECE's ESD-strategy where Finland is represented by the Baltic21E's working group's chairman. Finland's representative also acts as the national DESD contact person, as the Lead Party representative of the Baltic21E programme and as the co-ordinator of Finland's national Baltic21E programme.

Half way through the programme, the National Board of Education will be in charge of making nation-wide evaluations on test scores and of making sure sustainable development is implemented in teaching, in the cooperation between different subjects, in the administrative culture of schools, and in the cooperation between schools and other organizations in society. The evaluation will bring about new information regarding the revision of syllabuses and will help determine areas of focus. Work done by the national board compliments the follow-up on the Baltic21E programme and the decade strategy.

The first annex of this report presents a framework for reporting regarding the follow-up

of the implementation of the national strategy for education for sustainable development. The model is also to be used in the implementation of the Baltic21E programme and in the reporting on the carrying out of the UNECE's ESD-strategy's implementation.

11 Financing education for sustainable development

Every administrative branch and organization must define in their strategies the areas they intend to focus on and develop on. These areas will then receive the biggest share of development resources. That is why it is important that education and schooling for sustainable development become an area of focus in the educational administration, in the social and health administration and the environmental administration. It is also important that other administrative branches and organizations give their support to pedagogues, teachers and instructors.

What the Baltic 21E -programme and the UNECE's ESD-strategy are striving for is that sustainable development become the aim of the national education system and that it become a natural part of all education no matter what the level of education. Once this will have been achieved, the basic funding of any education sector will also contribute to the advancement of sustainable development. So as to reach this goal, sustainable development must be mentioned in official documents, in development plans for education and research and in documents that formulate the specifics of different forms of education. In short, it must be incorporated in all documents that shape educational policy.

The furthering of sustainable development is incorporated in the basic funding of the different education sectors. The need to promote sustainable development is already acknowledged in the Ministry of Education's performance management procedure.

The expenses of the Ministry of Education's committee on sustainable development from 2002 to 2006 were financed by the ministry's education and science policy department's units' development clause. The committee suggests that the follow-up group be funded in the same manner.

A framework for reporting as proposed by the committee

The education system comprises a large variety of actors that are governed by administrations that vary from country to country. Education concerns people of all ages in different life situations. That is why the Baltic21E programme contains both a common general goal for the whole education system and an additional separate list of goals for each education sector (schools, universities, liberal adult education). The report is thus divided into two parts.

The purpose of monitoring the general goals of education is to make an assessment of the current situation in the whole of the education sector, i.e. how Finland's national strategies have been implemented in the education sector. This section of the report can look at whether national strategies are functional, how cooperation between different sectors works, evaluate what the institutional frameworks of education for sustainable development are and map out the possible difficulties that have been encountered in trying to apply the strategy.

When evaluating the education system sector by sector, reporting is done according to the five areas of operation as defined in the Baltic21E action plan. At this stage, evaluation is done more systematically by going through the special features of each sector. Each education sector defines the specific content of their area of operation according to their own characteristics.

The five areas of operation common to the whole education system are:

- 1 Policies and strategies
- 2 Competence development within the education sector
- 3 Developing continuing education
- 4 Developing teaching and learning resources
- 5 Research and development

Be it an overall evaluation of the education system or a more specific report, it is worth noting down the timeframe. The phenomena which are being reported on can be divided into four levels, such as in the box below.

When the strategy begins	What has been done	The results of action taken	The effects of the strategy
What strategic guidelines have been drawn up in the administrative branch	What concrete action has been taken as according to the strategy	What has been achieved with action taken	What are the consequences of the implemented strategy

The common goal of education

As according to the definition of policy in the Baltic21E -programme and as stated in chapter 9.1 of the committee's report, the common goal of the whole education sector is:

"All individuals are to be capable of fostering a development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development through education is based on an all encompassing view of a development that takes into consideration the economic, social and environmental aspects."

Reporting is to give an overall picture of the education system in relation to Finland's guidelines for the decade of education for sustainable development:

- 1 Pedagogy and education for sustainable development: One of the main areas of focus in the education system is pedagogy and education for sustainable development, and this includes sustainable consumption and production. This is to be one of the main areas of focus in compulsory and vocational education, in polytechnics, in universities and in liberal adult education.
- 2 An institutional commitment on a political, steering and practical level: a real commitment to the principles and practices of sustainable development in the development and implementation of education.
- 3 An ethical and integrated line of approach: the ecological, economical and socio-cultural aspects must be taken into consideration in all activities so that all aspects are treated as complimentary to each other.
- 4 Permeability: Sustainable development is to be integrated in all activities. Programmes, tools and methods for sustainable development that involve teachers, researchers and students at all educational levels regardless of educational institution must be developed.
- 5 Staff training: Offer courses and training, and encourage staff in schools, educational institutions and tertiary education institutions on matters related to sustainable development so that they can then perform their jobs in an ecologically, economically, socially and culturally responsible way.
- 6 Interdisciplinary: Encourage interdisciplinary education. Encourage schools and educational institutions to make common sustainable development tuition and research projects a top priority. Make children and adolescents responsible citizens by explaining events and phenomena in a holistic manner; use different methods and pedagogical styles. Schools should also make good use of and pass on traditional knowledge and skills.
- 7 Disseminating information: Produce teaching material and education programmes that are widely accessible. Arrange lectures for the open public and cooperate with the media. Internet services should be developed so that information on the goals of sustainable development and how to achieve a sustainable future can be distributed efficiently and used in virtual teaching and web courses. Participating and keeping in contact should also be rendered easier for private citizens, businesses, communities and the public administration.

- 8 Networking and increasing cooperation: Strengthen the interdisciplinary network of education for sustainable development experts on a local, national, regional and international level and have these networks cooperate within the framework of teaching and research programmes. This means that mobility of pupils, students and researchers should be supported as well. Have educational institutions develop their contacts with other relevant societal actors so that they could plan and implement common strategies and action plans. Improve implementation and transparency with different professionals working in cooperation.
- 9 Participation: Create genuine possibilities for participation and ways of influencing through increased citizen participation and non-governmental organizations. Expand the learning sphere to include the wider community and working life.
- 10 Research, graduate and continuing education programmes: Encourage research so as to propel sustainable development forward. Devise programmes for specific target groups: teachers, the business world, the public administration, non-governmental organizations and the media.
- 11 Putting innovation to good use: Encourage the use of innovation and technologies that endorse sustainable development in teaching and in its content.

Goals by sector

1. Schools

In this programme the term "school" encompasses the following educational institutions: pre-schools, compulsory education, upper-secondary education, vocational education and diploma-orientated liberal adult education.

The vision set out for Finnish schools in the Baltic 21E -programme forms the basis of reporting:

The aim of an up-bringing and education for sustainable development is to have people assume a sustainable lifestyle and to have people understand what are the essential elements needed for building a sustainable future. The aim is to increase awareness of the inter-relationship between well-being, the environmental efficiency of the economy and environmental protection. Similarly, people should be able to detect changes and analyse the reasons and consequences of such a change, they should be committed to a sustainable lifestyle and they should feel motivated enough to participate and make a difference. In addition, people with a vocational training will have acquired the skills and readiness to take sustainable development into consideration.

In order to reach this goal, the following things are necessary:

- Education for sustainable development must become the norm.
- Education for sustainable development must be a part of normal teaching and learning, and it must form the basis of all school life.
- The teacher must have the necessary training in order to be able to integrate sustainable development in his/her teaching.
- Teaching methods and the learning environment must be favourable to sustainable development.

Action programme and reporting

Reporting is done according to the categories established in the Baltic21E programme presented at the beginning of this annex. How schools have managed to take education for sustainable development into consideration in its different activities as according to the previously mentioned goal and the committee report's chapters 9.21 and 9.22 is to be paid special attention to while writing the report. Every sector shall define their area of operation independently. Examples of what areas of operation can be included can be found in the initiation plan in annex 2 (Education for sustainable development / Baltic 21E -programme, Ministry of Education 2002).

2. Tertiary education and research

The vision set out for Finnish schools in the Baltic 21E -programme forms the basis of reporting:

A university graduate will have the basic knowledge and skills for a set profession or as an expert. S/he will be able to influence decision-making and also participate in decision-making. A university graduate will be capable of staying up to date in his/her field of expertise and is also capable of generating new information according to the principles of sustainable development.

In order to reach this goal the following things must be taken into consideration:

- 1 Education for sustainable development must become the norm.
- 2 A teacher must have the skills necessary to consider aspects related to sustainable development within his/her field of expertise and s/he must use adequate teaching methods and manners of approach.
- 3 The everyday decision-making and working practices of tertiary education institutions must be democratic and in accord with sustainable development.
- 4 Sustainable development should be a part of all under-graduate programmes.
- 5 Under-graduate and post-graduate studies should offer courses on sustainable development and continuing education should enable students to supplement their knowledge and skills on sustainable development.

Action programme and reporting

Reporting is done according to the categories established in the Baltic 21E -programme presented at the beginning of this annex. How tertiary education establishments have managed to take education for sustainable development into consideration in its different activities as according to the previously mentioned goal and the committee report's chapters 9.23 and 9.24 is to be paid special attention to while writing the report. Every sector shall define their area of operation independently. Examples of what areas of operation can be included can be found in the initiation plan in annex 2 (Education for sustainable development / Baltic 21E -programme, Ministry of Education 2002).

3. Liberal adult education

Liberal adult education refers to folk high school, citizens' institutes, education centres, summer universities and sports academies.

The vision set out for Finnish schools in the Baltic 21E -programme forms the basis of reporting:

A mature student participating in liberal adult education will become aware of the role sustainable development plays in building our future. S/he will be more in control of his/her life own life and his/her chances of participating in society will improve.

In order to reach this goal the following things must be taken into consideration:

- Management in educational institutions and organizations will commit to furthering sustainable development within their own sector so that education for sustainable development is incorporated in all liberal adult education documents, strategic guidelines and syllabuses.
- Educational institutions and organizations inform citizens of training and participation opportunities that are related to sustainable development.
- Pedagogues, teachers and instructors must have sufficient information and expertise on sustainable development and they must be provided with teaching material which is adapted to mature adult learners.
- National central organizations and regional educational institutions set up follow-up groups to evaluate progress on sustainable development and whether it is having a societal influence or not.

Action programme and reporting

Reporting is to be done according to the categories established in the Baltic 21E -programme presented at the beginning of this annex. How educational institutions have managed to take education for sustainable development into consideration in its different activities as according to the previously mentioned goal and the committee report's chapter 9.25 is to be paid special attention to while writing the report. Every sector shall define their area of operation independently. Examples of what areas of operation can be included can be found in the initiation plan in annex 2 (Education for sustainable development / Baltic 21E -programme, Ministry of Education 2002).



OPETUSMINISTERIÖ

Undervisningsministeriet

MINISTRY OF EDUCATION

Ministère de l'Éducation

ISBN 952-485-096-6

ISSN 1458-8102

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