

Report **Education for Sustainable Development in the UK  
with Special References to Wales**

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Accepted 22 December 2005

**ABSTRACT**

This paper was summarized and researched about ESD in the UK with special references to Wales. Internationally a Decade of ESD was announced in 2002. The governments of the UK have responded as the UK Department for Education and Skills in 2003. The UK as a whole, and Wales have launched separate SD action plans which include ESD. A need for ESD at all educational levels has been identified, but its education activity and practice almost have an individual context. Because of its constitutional commitment to SD, activity in Wales is particularly important. Whilst ESD in schools in Wales is being encouraged by the bodies with formal responsibility for the sector, very importantly, it is being given great impetus locally by some very ability and committed individuals. However, implementation of these aspirations is far from complete. Progress in the higher education sector is less as yet.

Key words: education for SD (ESD), environmental education (EE), sustainability, sustainable development (SD)

**1 Introduction**

The implementation of environmental education (EE) is among the most important tasks facing us if we are to solve global environmental problems and build a sustainable society in this century. The Japanese government proposed that there should be a "Decade of Education for Sustainable Development (ESD)" at the meeting of the General Assembly in the 2002 Johannesburg World Summit. The Act for the promotion of EE and eagerness for environmental protection was enacted on the 25th of July, 2003 (The Ministry of Environment, 2003). It was brought the Act of ESD in Japan in the 1st of October, 2003. The aim is to build a sustainable society based on the Act. There are historical precedents. Environmental education has been promoted by the International Union of Conservation of Nature since 1948. The Council for Environmental Education (CEE) was founded in the UK in 1968. The National Environmental Policy Act (NEPA) in 1969 has promoted environmental education in the USA (Sakai, 2002). Then the importance of environmental education was globally acknowledged at the United Nations Conference on the Human Environment (UNCHE) held in Stockholm in 1972. UNCHE was followed by numerous international conferences and symposia on environmental education hosted by organization like UNESCO and UNEP. Agenda 21, an action programme for sustainable development (SD), was adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. Environmental education is also actively discussed in Japan, as a major component of ESD.

UNEP is reviewing its strategic plans for EE to identify issues that have impacted on EE since the early 1990s, and may affect future directions of EE. Among the issues they have identified are: an

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integrated, holistic view of 'environment' made relevant by the sustainability agenda; UNESCO's clarification of a comprehensive approach to ESD; the complementary roles of EE and ESD; the significance of the Earth Charter as a moral basis for EE; different degrees of implementation of EE in higher education but little change in primary and secondary education; a more professional approach to communicating and marketing environmental issues; attempts to integrate EE into policy making; and an emphasis on social learning and social capital in natural resource management (Jucker R. and J.Farrar, 2004).

Preliminary reports have already appeared about environmental policies and EE for sustainability in the UK (Sakai, 2005; Sakai, 2005). In this paper, we summarized and researched about ESD in the UK with special references to Wales as precedence cases study.

## 2 Current Situation of ESD in its Historical Context

After the International Conference of UNCHE (Stockholm, 1972) adopted the first Global Action Plan for the Environment, a UNESCO-UNEP Intergovernmental Conference at Tbilisi (USSR, 1977) established environmental education internationally. The World Conservation Strategy, published by IUCN in conjunction with UNEP and WWF (1980), is usually credited with introducing the concept of SD to an international audience. The definition of SD used in the Brundtland report 'Our Common Future' by the World Commission on Environment and Development (WCED), which was constituted by the proposal of the Japanese government, is the most widely known: SD is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Our Common Future, 1987). But not until 1992 was ESD brought to the attention of the world's public. The UNCED, commonly known as the Earth Summit (Rio, 1992) produced a non-binding declaration, Agenda 21, which was a blueprint for implementation of SD. Agenda 21 devotes an entire chapter to 'Promoting Education, Public Awareness and Training'. It specifically states that 'Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues' (Agenda 21, 1993, chapter 36.3) (Jucker R. and J.Farrar, 2004).

The Amsterdam Treaty of 1997 made SD an aim of the European Union (EU). In the same year, UNESCO and the Greek Government organized in Thessaloniki a conference on Environment and Society. The conference report stated that 'education is the primary agent of transformation towards sustainable development' and that all countries should 'reshape education so as to promote attitudes and behaviour conducive to a culture of sustainability' (UNESCO, 1997). The World Summit on Sustainable Development (WSSD) in Johannesburg (August, 2002) confirmed the importance of education in implementing SD. The final version of the WSSD Plan of Implementation states that 'education is critical for promoting sustainable development' (WSSD, 2002, chapter 116). The most important international development to root ESD firmly in all educational endeavors might be that in Resolution 57/254 (2002) of the UN General Assembly, which proclaimed the ten-year period from 2005 to 2014 as the UN Decade of Education for SD.

The UK became a member of the European Community (EC) in 1973, since when EC policy has increasingly influenced UK environmental legislation. It was intended to provide the frame work for the EC's environmental policy for the period 1993 - 2000 and took the pursuit of SD as its principal theme. At the WSSD in Johannesburg (2002), Wales was asked by the European Commission to spearhead an information-sharing network for regional governments. At the beginning of 2003, the Sustainable Regions European network had an initial core membership of twelve regional governments. Therefore, Wales has had a very high priority on an environmental policy based on SD. The Welsh Assembly Government (WAG) recognising that our current way of living is unsustainable, has adopted SD in the exercise of its functions under section 121 of the Government of Wales Act, 1998. Section 121 urges participating governments to 'integrate sustainable development into education systems at all levels of education in order to promote education as a key agent for change'. The Government has also made a commitment to working with others to deliver a sustainable Wales.

3 Education for SD in the UK

The Higher Education Partnership for Sustainability has used its own definition of SD: 'Sustainable = capacity to continue' and 'Development = path of human progress', so 'SD = a path for human progress that has the capacity to continue into the long term' (Higher Education Partnership for Sustainability, 2004). ESD has also been defined by the UK panel for Education for SD (Department of the Environment, 1999) in 1998 as education which 'enables people to develop the knowledge, values and skills to participate in decisions about the way we do things individually and collectively, both locally and globally, that will improve the quality of life now without damaging the planet for the future'. The panel also showed a strategic framework for ESD in the UK, as shown in Fig. 1, and made recommendations for central government, local government, schools, youth services, further education (FE) and higher education (HE), employers and employment, and the public and

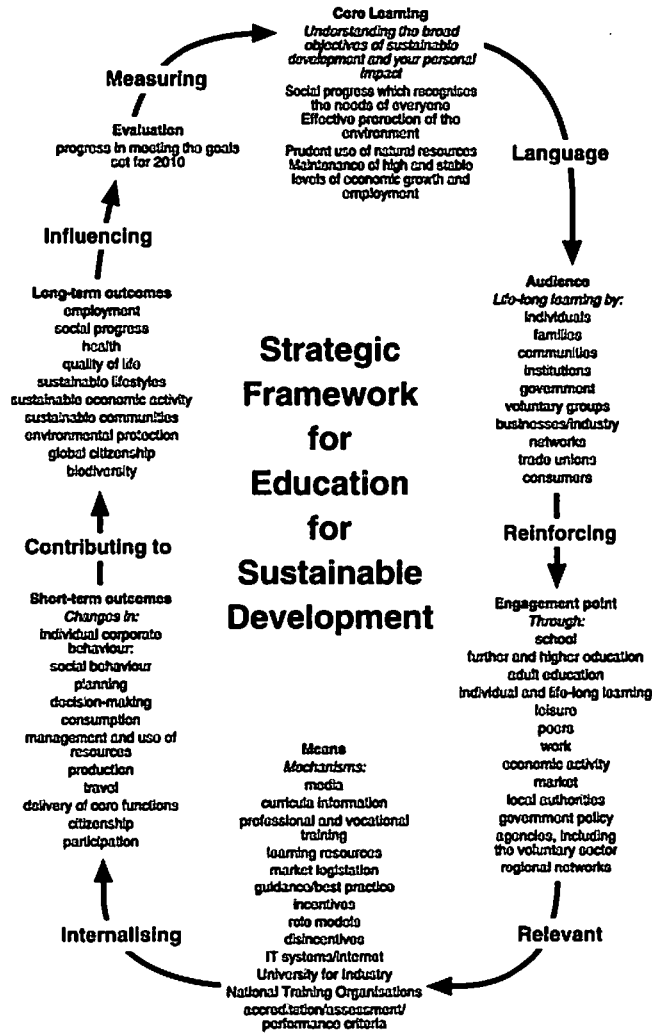


Fig.1 Strategic Framework for ESD in the UK

Source) Department of the Environment, 1999, *Transport and Regions, Sustainable Development Education Panel, First Annual Report 1998.*

households (Department of the Environment, 2001). Four strands of Local Agenda 21 concerning action in the wider community are relevant: 1) Awareness raising and education, 2) Consulting and involving the general public, 3) Partnerships, 4) Measuring, monitoring and reporting on progress towards sustainability. Activities under these headings need to be maintained as important elements of ESD. In May 1999 the Government published 'A better quality of life': a strategy for SD for the UK. This strategy, now under review, signaled a new emphasis on the management of the government's estate and the principles underlying development (Department of the Environment, 1999). Implementation of these aspirations is far from complete. The environmental impact of educational institutions is addressed by the Sustainable Development Action Plan for Education and Skill (DfES) (Ald C., 2003), which mention a series of initiatives aimed at reducing energy consumption across the whole education sector. The school curriculum has been addressing sustainability through new standards in occupational and leadership training.

Within HE in the UK, there is no history of central control of curriculum. Thus different universities are taking different approaches to integrating SD into their curriculum. Many are doing nothing. Seven examples are shown in Table 1. Therefore, a curriculum for ESD of university showed an example in Table 2 (Kingston University, 2004). These programmes would be expected as an EE learning model for HE. "Learning to Last", the UK Government's draft SD Education Strategy (Feb., 2003) has set out an agenda which includes many recommendations from the UK Education for Sustainable Development Advisory Panel. The agenda is mainly for action in the next few years. The aim is to create opportunities for everyone to develop their learning, and improve their standards of education and levels of skills.

The DfES already addresses social and economic aspects of SD in England simply through raising educational standards and improving skills, including education for SD. It can also support high quality environmental management practices for the education estate. The proposed action plan for England has the following objectives (Department for Education and Skills, 2003; DfES, 2003):

- Objective 1 "All learners will develop the skills, knowledge and value base to be active citizens in creating a more sustainable society."
- Objective 2 "We will pursue the highest standards of environmental management across all properties owned and managed by the Department and its associated bodies."
- Objective 3 "We will encourage and support all publicly-funded education establishments to help them operate to the highest environmental standards."
- Objective 4 "We will make effective links between education and sustainable development to build capacity within local communities."

Table 1. Different Approaches to Integrating Sustainable Development into the Curricula of University.

University	Course
University of Aberdeen www.aberdeen.ac.uk	MSc/PGDip in Sustainable Rural Development
University of Wales, Bangor www.bangor.ac.uk	BA/BSc Sustainable Development
University of Birmingham www.bham.ac.uk	BSc in Interdisciplinary Technologies, BA in Arts and Humanities and Technology
University of Brighton www.brighton.ac.uk	Undergraduate module: Citizenship
University of Cambridge www.cpi.cam.ac.uk	Cambridge Programme for Industry (CPI); Education of Non-academic Professionals in their workplace
Cardiff University www.cardiff.ac.uk	MSc in Sustainability, Planning and Environmental Policy
University of Wales, Swansea www.swansea.ac.uk	Access to Education for Sustainability to all Students

Source) Higher Education Partnership for Sustainability, *Guidance for Higher Education Institutions*, 2004

Table 2. Example of Curriculum for ESD of University.

<b>Level 1</b>	Understanding the Environment, Earth Environment, Economy, Environment and Development, Metals and Molecules in the Environment, Investigation the Earth and Environment (double module including UK fieldwork)
<b>Level 2</b>	Ecology: Principles and Practice Environmental Impact of Energy and Chemical Production Environmental Management: Tools and Methodologies Collection and Analysis of Environmental Data (including local field study) Design and Management of Environmental Projects (including field study abroad) Three option modules
<b>Level 3</b>	Environmental Project (two modules) Achieving a Sustainable Future Pollution Control or Land Degradation and Management Four option modules

Source) The website of Kingston University in the UK: [www.kingston.ac.uk/sustainability](http://www.kingston.ac.uk/sustainability)

#### 4 Education for SD in Wales

The Environment Agency Wales (EAW) declared "Our contribution towards sustainable development" in 2002. This innovative work in the Wales spatial plan (Wales Assembly Government, 2003), therefore, describes in practical terms what this means for the future spatial development of Wales. The Government has not come up with a concrete proposal yet. However, in recognizing the need to live more sustainable, the National Assembly for Wales (NAW) has adopted the SD scheme "Learning to Live Differently" (The National Assembly for Wales, 2001), a framework of actions and commitments for the government's work. The EAW has wide ranging statutory duties and powers, under the Environment Act 1995. The NAW has been given the important duty of furthering SD. SD consists of three elements, Economy, Social and Environment. The concept of SD is shown by the overlaps among three elements that have to be reconciled or harmonized, to the principle of sustainability.

The WAG established its ESD Advisory Panel in May 2001 in order to guide and support the Government on integrating ESD across all educational sectors. The Panel's remit is to ensure that the breadth of the concept is appreciated, and that it includes the following elements: (1) an understanding of the impact of environmental, economic, social and cultural factors, (2) a focus on both the natural and the built environment, and (3) awareness of the importance of both the local and global dimensions. In practice, the emphasis has been on formal education. Since the Panel reported to the Minister for Education and Lifelong Learning, it has had directly a great influence on each sector for promoting EE and ESD. Its ESD Award Scheme is a welcome if modestly funded means of promoting competitively innovation in delivering ESD in the formal education sector. There has been a conference on ESD in HE and FE in Wales, entitled Education for Sustainable Development, the Challenge for HE and FE, and Adult Education (University of Wales, Swansea, 17 March 2003) (Jucker R. and J. Farrar, 2004). In addition, the WAG has, especially, promoted the spread of Welsh and Welsh culture with ESD to FE and HE.

In Wales, Department for Education and Training is led by the Minister for Education and Lifelong Learning, who has an Education and Lifelong Learning Committee of Assembly members. The Minister is advised by the ESD Advisory Panel, which has recently become the Advisory Panel for ESD and Global Citizenship. The Government has made a commitment to working with others to deliver a sustainable Wales by website, publication of "Sustainable Regions", meeting in each region and so on. A website (<http://www.esd-wales.org.uk/english/welcome.asp>) has begun to collate activity on ESD in Wales. The following websites contain information about developments and resources to support education for SD and global citizenship, and the situation of ESD in Wales. Opening statement, the National Assembly's web pages on SD, [www.wales.gov.uk/themessustainabledev/index.html](http://www.wales.gov.uk/themessustainabledev/index.html).

- ESD Advisory Panel, Terms of Reference, [www.wales.gov.uk/subieducationtraining/content/curri/apesd/apesd-trwp\\_e.html](http://www.wales.gov.uk/subieducationtraining/content/curri/apesd/apesd-trwp_e.html)
- ESD in primary and secondary schools, [www.accac.org.uk/schoolcurric/esd/global\\_citizenship.pdf](http://www.accac.org.uk/schoolcurric/esd/global_citizenship.pdf)
- Framework of ESD, [www.estyn.gov.uk](http://www.estyn.gov.uk)
- Initial Teacher Training, [www.esd-wales.org.uk/english/ESDreports/reports.asp](http://www.esd-wales.org.uk/english/ESDreports/reports.asp).

The sector in Wales involves many organizations, as illustrated in Fig.2. ELWa is the Education Learning Wales and is responsible for post-16 education and training for individuals, businesses, communities and learning and research providers. HEFCW is the Higher Education Funding Council for Wales, and has worked closely with ELWa. ACCAC is *Awdurdod Cymwysterau, Cwricwlwm ac Asesu Cymru* in Welsh

(the Qualifications, Curriculum and Assessment Authority for Wales) and Estyn is IIM Inspectorate for Education and Training in Wales. Some other organizations promoting ESD and EGC (global citizenship) are represented with the Assembly by Cyfanfyd, the Development Education Association for Wales. Learning Education Association (LEA) advisory services, such as ESIS (Education Support and Inspection Service), support schools in meeting the educational goals, including ESD, as set out in the Education Strategic Plans for the LEAs. Agencies such as the EAW and the Countryside Council for Wales have education officers. NGOs especially the Oxford Committee for Famine Relief (Oxfam) and the Royal Society for the Protection of Birds (RSPB) have an active commitment to the education agenda. The Council for Education in World Citizenship (CEWC)-*Cymru* is an educational charity working with young people to promote understanding of the contemporary world. *Cymru* in Welsh means Wales. Powys Environment and Development Education (PEDEC), Global Connections and the World Education Centre also promote ESD and EGC. Powys is a large and sparsely populated region, a quarter of the land area of Wales but with just 8% of the population.

ACCAC is the WAG's principal advisory body on the school curriculum and assessment. ACCAC's purpose is to advance education and training in Wales through the promotion of quality and coherence. To this end, the Authority has identified five key objectives, namely (ACCAC, 2003):

- Objective 1: Developing a coherent Qualifications Framework which meets the needs of Wales and improves levels of skill and educational achievement.
- Objective 2: Developing a coherent and integrated curriculum for 5-19 year olds, together with assessment arrangements at 5, 7, 11 and 14 which raises standards of achievement and widens educational opportunity.
- Objective 3: Commissioning high quality Welsh and bilingual classroom materials to support the teaching of Welsh, other subjects through the medium of Welsh and Wales-specific aspects of the school curriculum.
- Objective 4: Improving the Authority's intelligence base and providing timely information regarding developments in education and training in Wales.
- Objective 5: Ensuring an increasingly effective and efficient organization.

ACCAC's annually published three years Corporate Plan that is available at [www.accac.org.uk](http://www.accac.org.uk) (Qualifications Curriculum & Assessment Authority for Wales, 2003). This sets out the Authority's longer-term priorities. The Authority has identified five key objectives. The policy framework within which the Authority plans and takes forward its work derives from key strategy documents published by the WAG, namely [www.betterwales.com](http://www.betterwales.com) (Qualifications Curriculum & Assessment Authority

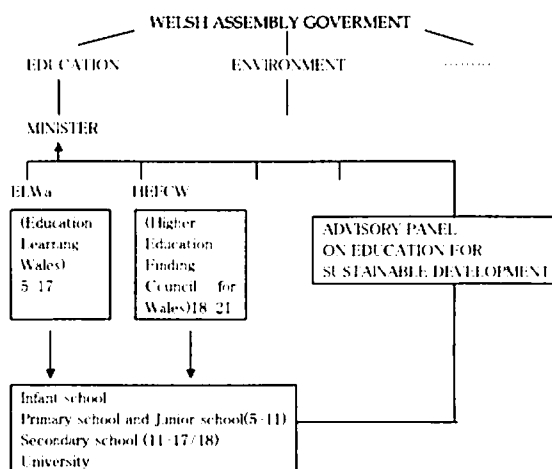


Fig.2 The Organizations of ESD in Wales

ty for Wales, 2002), "The Learning Country and *lath pawb* (common language)". Work within Objective 3 is also shaped by, and contributes to the development of, the WAG's cross-cutting themes (ACCAC, 2003):

- *SD*. Improving awareness of sustainability issues in commissioned classroom materials.
- *Social inclusion*. Commissioning Welsh language and bilingual materials for pupils of all abilities.
- *Equal opportunities*. Commissioning that the materials commissioned tackle all types of stereotyping.
- *Bilingualism*. Commissioning materials that contribute towards providing a wider range of opportunities for pupils studying through the medium of Welsh.
- *Partnership*. Working closely with other public bodies that commission Welsh language materials – the Welsh Books Council, the BBC and the National Council of ELWa.

The Authority began its work in Wales in 1995, and in the seven years between 1995 and 2002 it has commissioned over 230 projects and 1,500 titles, with an average ACCAC investment of approximately £50,000 per project. An analysis of these projects exemplifies the range of materials that is included within the commissioning remit.

Whilst ESD in schools in Wales is being encouraged by the bodies with formal responsibility for the sector, very importantly, it is being given great impetus locally by some very able and committed individuals. The first scheme "Learning to Live Differently" adopted in November 2000 (The National Assembly for Wales, 2001), provided a solid start to delivering the Assembly's commitment to promote SD in all its actions and to make it the centerpiece of policy-making by the WAG. Wales is adopting a set of headline indicators for SD. The Statistical Bulletin presents the latest available data on each of the 12 headline indicators in the initial set for Wales (Welsh Las SD Netherwood.doc, 2003). Reports for some earlier years and comparisons with the UK are included where available. It is also expected to be referred to the annual report on the SD Scheme for Wales. The Scheme has been shown in "Starting to Live Differently – Consultation on the review of the Sustainable Development Scheme –" (Welsh Assembly Government, 2003). The Assembly reported about "How we propose to update the SD scheme" and "the vision of a sustainable Wales" in each section, as an existing scheme.

The booklet for ESD has been published by ACCAC, on behalf of the WAG Panel on ESD and the WAG Working Group on Global Citizenship. The booklet (ACCAC, 2002) has contributed to schools to plan and develop learning activities to promote ESD and global citizenship in Wales. It is also useful for colleagues in organizations who work with teachers. There are a lot of examples of good practice for ESD in primary and high schools of Wales, as shown in Table 3. For example, Ewloe Green county Primary School has practiced "Planning for Real" review and that's Code. Ewloe Green Eco Code for ESD is as follows:

- (1) We don't drop litter – we put it in the bin;
- (2) We recycle and reuse, We switch off to save electricity,
- (3) We close doors to save heat,
- (4) We walk not drive when we can,
- (5) We think before we act and leave wildlife and plants alone.

Wales has a vigorous Eco-School programme. The Eco-School programme was born out of the 1992 Earth Summit (UNCED). During the summit, Foundation for Environmental Education in Europe (FEEE) identified a need for delivering Local Agenda 21 issues to schools. Eco-Schools were duly created, and were piloted in Denmark during 1993 before arriving in the UK, where it was managed by Keep Britain Tidy. It is based on the ISO 14001 process, with emphasis on litter and waste minimization. Schools also focus on issues of transport, healthy living, energy/water saving or school ground development. The first schools in Wales were registered in 1994 and the programme expanded in Flintshire and the Gwent Valleys. By 1999, it was possible for Keep Wales Tidy to fund an officer with responsibility for the programme throughout Wales. At this point there only 71 schools registered, and a handful of European Green flags gained. By 2000, with co-ordination of the programme, and a great deal of networking with other environment organizations, Eco-schools began to grow

Table 3. Case Studies for ESD of Primary and High School in Wales.

Category	Primary school	High school
Regional Activity	<ul style="list-style-type: none"> <li>• Pupils' Eco-committee</li> <li>• 'Planning for Real' review</li> <li>• The Coast to Coast project</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainability Committee</li> <li>• Sustainable transport in Cardiff and Rennes</li> </ul>
Global Activity	<ul style="list-style-type: none"> <li>• Promoting global and environmental awareness</li> <li>• Children's global right to education</li> </ul>	<ul style="list-style-type: none"> <li>• Does the Amazon rain forest have a sustainable future?</li> <li>• Global curriculum policy</li> <li>• Exploring stereotypical preconceptions of Africa</li> </ul>
Application of Website	<ul style="list-style-type: none"> <li>• The Econet 21 project</li> <li>• Global links on the school website</li> </ul>	<ul style="list-style-type: none"> <li>• Global projects on the school website</li> </ul>
Others	<ul style="list-style-type: none"> <li>• The value of first hand experience in education for sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing the environmental footprint of the school</li> <li>• Entrepreneurship, waste and business studies</li> <li>• Diogel?/Safe?</li> <li>• Exploring the myth of recycling in Flintshire</li> <li>• Sustainable development in geography fieldwork</li> </ul>
County Council	<ul style="list-style-type: none"> <li>• Celebrating and promoting education for sustainable development in the county's school</li> </ul>	

Source) ACCAC, *Education for Sustainable Development and Global Citizenship, Guidance, Curriculum & Qualifications, 2002*

rapidly. The pupils of Eco-schools in Wales have been growing and getting involved in a hands-on programme that gives them a key role in decision making and participation in order to reduce the environmental impact of their school. The hope is that sustainability learning extends beyond the classroom so that students become responsible citizens at home and within their community (Sustainable Development Commission, 2003).

From September 2003 all schools in Wales have a requirement to include ESD and Global Citizenship within the curriculum. Guidance to schools has been offered through a variety of bodies, from the WAG (ACCAC, 2002) to a multitude of public and private organizations keen to assist schools to promote opportunities to involve pupils and raise awareness of this vital area of Citizenship education.

#### 1). Current activity in formal education: summary

In schools, there is excellent progress being driven by committed individuals but this is patchy. The bodies such as ACCAC and Estyn that have formal responsibility in this sector have taken ESD seriously and made significant progress in mainstreaming it. Overall, schools are ahead of most of Wales in implementing SD. Progress in FE/HE has been much less impressive at both individual and (in particular) government levels. Crucially, progress in the formal education sector has been good enough to enable us to make some quite precise suggestions about what needs to happen next to implement ESD.

The aspirations of the WAG action plan are being addressed by appropriate actions in primary and secondary education. A complacent view would be that the actions match the aspirations. However more could and should be done.

#### 2). Primary and secondary

The national curriculum was revised in 2000; what it needs is good resources, higher profile and greater exposure for ESD. The curriculum review taking place now (for implementation in 2007) must take full account of ESD, in more subjects and stressing international as well as local issues. Development of the Curriculum Cymreig also needs to incorporate ESD. Estyn inspections should place more emphasis on ESD (Ofsted have just published "Taking the first step forward, towards an education for sustainable development", which collates good ESD practice, are some way behind). ITET: circular 13/98, which sets the standards for teacher training colleges, is being revised, providing a great opportunity to push for increase ESD through UCET *Cymru*. We need ELWa to produce guidance on how it is going to embed ESD within the organisations it supports.



The key issue is now implementation and resourcing. More resources to support ESD, and not more good practice examples, are needed. We need to have ESD relevant materials available on the virtual teacher web site and National Grid for Learning. Teachers need to be able to develop critical thinking skills in their pupils that can be applied to any context – from global warming to international trade rules. GEST funding has a new category for ESD and EGC which will enable LEA advisory services to offer appropriate INSET. The resourcing needs to be adequate to make material available bilingually, and to seek out and share material originally prepared in Welsh or English. The wealth of good practice in schools which have attended LEA INSET and been involved in projects co-ordinated and led by LEA advisers needs to be more widely known and used by partnership with LEAs.

Schools, like the rest of the education sector, are under significant pressures to deliver an array of initiatives. The WAG needs to develop a plan for promoting ESD that makes it clear that this is a priority and aims, via resourcing and funding, to support and encourage wider participation in sustainable development in all education and skills sectors. Such a plan needs to include: Schools to become sustainable institutions in the day-to-day management of the school, across the whole school community; LEA Education Strategic Plans to incorporate support programmes to enable schools to effectively deliver ESD and GC; Increased access to resources that enable teachers to gain a clearer understanding of and an ability to teach ESD and GC; Develop a (web-based) sustainability self-assessment support tool for schools, to be reflected in Estyn inspections.

### 3). Tertiary

The FE/HE sector needs a clear steer from ELWa/HEFCW on institutional and curricular implementation of ESD. Resourcing needs to be linked to delivery. An identifiable funding stream for research in SD would engage more academics.

### 4). General

The aspirations of the Action Plan are insufficient. They are confined to the curriculum, but need to be extended to institutional behaviour – and here many schools, LAs and HE institutions are significantly ahead of the government in applying SD principles to both governance and environmental management.

Much activity by other bodies in Wales impinges on the ESD debate. All local authorities are developing Community Strategies, with SD as a key component; this provides a real opportunity to integrate ESD with their responsibilities for formal education. An example could be the establishment of an environmental forum in Gwynedd, (north Wales regions) first discussed in September 2003 at a meeting organized by the local authority. The aim is facilitated a discussion on the need for some sort of forum/network that would provide an opportunity for agencies and groups working in the environmental field to hold discussions and co-operate more effectively in the region. The implications for education delivery are obvious. The voluntary sector has much to contribute too. The Ecological footprint has been promoted in Wales by the WWF, and organizations such as the Centre for Alternative Technology (CAT) have also regarded the footprint as an educational tool (Stuart Bond WWF Cymru, 2003). Since the CAT opened in a central north Wales at 1974, it has rendered many services to the cause of EE. WWF has produced Education materials across UK (Summer 2003 Lifelines).

## 5 The Issues and Goals of ESD

One of the UK Sustainable Development Commission's ultimate goal should be reducing carbon dioxide emission by at least 60% from current levels by about 2050 (Sustainable Development Commission, 2003). At the Sustainable Development Commission's Telling Stories event, it launched the Combust network and website: [www.combust-network.org.uk](http://www.combust-network.org.uk), a learning network to support those charged with engaging others – whether local communities, business or the media – on SD. The website hosts a discussion forum and a digital archive of SD communication materials (Welsh Las SD Netherwood.doc, 2003). The goal will be impossible to achieve without action on ESD implemented

widely and soon as public policy. Even to achieve this single goal, a remarkable range of issues need to be incorporated in ESD. Any strategy would need to encompass the following aspects of sustainability: 1) the curriculum, 2) institutional resource management methods for water, waste, energy and transport, 3) promoting procurement including local, organic, recycled and fair-trade products, 4) links to local communities and communication, 5) criteria for institutional learning and teaching strategies.

On the other hand, the WAG and other organizations have been publishing "Sustainable Regions" in Wales since Aug., 2002 for an enlightenment of SD (UK Sustainable Development Commission for OSKaR, 2002). The Sustainability: Community, Environment, Economy (SCEnE) project has shown the best practice of SD as an original appraisal (Plows A.J., et al., 2003; Sustainable Development: Putting Wales First Powis Hall, 2003; Wales SCEnE, 2004). And the identify is a very excellent indicator and tool for SD to sustainability in Wales. Components are of economic (economics and investment and resourcing), environmental (community and employment and the workplace) for the SCEnE SD appraisal based on the SD defined by the Brundtland Commission. One project has "mapped" the key sources of knowledge and awareness about SD in Wales (UK Sustainable Development Commission for OSKaR, 2003; Meirion T. and R.Martin eds., 2004). The map envisages three "roles" in which people can gain knowledge and awareness about SD: as learners, as workers and as citizens. It also shows the progression through the educational system in terms of the promotion of ESD in the primary, secondary and tertiary education, and teacher training.

## 6 Conclusion

The governments of the UK have responded as the UK Department for Education and Skills in 2003. The UK as a whole, and Wales, have launched separate SD action plans which include ESD. A need for ESD at all educational levels has been identified, but its education activity and practice almost have an individual context.

Environmental education in Wales and Japan is based on similar ideas, emphasizing comprehensive understanding of the environment and learning through experience. In Wales there is a strong emphasis on integrating environmental education into ESD. It is therefore essentially interdisciplinary, involving a wide spectrum of disciplines from the natural science to the social sciences and the humanities. ESD aims to help students and citizens understand the environment, acquire necessary skills, contribute to environmental conservation, develop their own values and create an alternative lifestyle. Environmental education should be also an essential endeavor for the reevaluation of contemporary society, thereby helping us in the transition to a sustainable society

Because of its constitutional commitment to SD, activity in Wales is particularly important. Progress in the higher education sector is less as yet.

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## 要 旨

本論文では、イギリス（UK）の中でも持続可能な開発のための教育（ESD）活動が活発化しているウェールズの歴史的経緯と現状をまとめて論じた。国際的なESDの10年は、2002年に公表された。そして、UK政府は、2003年に教育とスキルのための新設の省を設置してきた。UKとウェールズは、ESDを含めた独立したSD行動計画を法制化してきた。その中で、すべての教育レベルにおいて、ESDの必要性は認識されてきた。しかし、その教育活動や実践は、個々のバラバラな対応にゆだねられてきた。

そこで、特に、EUやUKから優先権を与えられているウェールズのESDはアドバイサリーパネルを通じて組織化が進んでおり、その活動の動向が注目される。ウェールズでは「持続可能な地域」がその目標となっており、そのための様々なセクターがつけられ有機的な連携を目指している。ウェールズの学校におけるESDは、大変重要な担当部局の正規の責任ある部局によって推進・奨励されてきており、幾つかの大有能なグループや委託された個々の組織により、地域において大きな起動力を与えられている。しかし、ESD実践活動と連携はまだ不完全であり、高等教育機関での進展はまだ実例が少ない。

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