

# Drivers and Barriers to Implementing ESD with Focus on UNESCO's Action and Strategy Goals for the Second Half of the Decade

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## Abstract

Drivers and barriers to implementing ESD had already been surveyed (in 2000) prior to the designated 'Decade,' and we continue here with an interim survey on barriers in general with a special focus on UNESCO's Action Goals (2009) for the 2nd half of the Decade, in order to overcome the existing deficiencies in implementing ESD. However these goals as well as UNESCO's Strategy Goals since 2010 have lacked a prioritized ranking and thus a targeted strategy.

The analysis of the surveyed Action Goals presented here, conducted by international experts in 2009, classifies UNESCO's goals as perceived as likely to be realized satisfactorily, nearly satisfactorily or unsatisfactorily, concerning the possible extent of successful implementation by 2014 and taking national peculiarities into account. Thus the results may serve to put the focus on suitable activities and support the stakeholders' efforts to implement ESD through the gained insights, *e.g.*, by coping with unsatisfactory results, such as lack of adequate resources or public awareness-raising, the need to train business leaders, gender equality issues, promoting the role and the contribution of the media in fostering public awareness and understanding of sustainability issues, etc. On the other hand, the analysis revealed drivers which can decisively support activities towards ESD, including ESD networking, involving NGOs and development partners to integrate ESD, implementing ESD policies through scientific communities, engaging the commitment, solidarity and potential of youth, etc. Applying this specific knowledge of drivers and barriers – integratively in a synergetic and reinforcing strategy – will serve as a framework for appropriate activities towards the end of the Decade and beyond. The survey was designed and conducted by a non-governmental German-Japanese Cooperation Project on DESD.

**Key words:** barriers, DESD deficiencies, ESD strategy, German-Japanese cooperation on ESD, sustainability, UNESCO's Action Goals

## 1. Introduction : First Half of the Decade and Before

In the year 2000, five years ahead of the UN Decade, ESD experts were asked about barriers to implementing the principle of sustainability in education, *i.e.*, what are the barriers, what qualifications for students will be needed and what priority steps should be taken next for success in implementing ESD? (Gross, 2000, 2009b)

The experts' analysis served as a blueprint for a survey within the authors' German-Japanese Project in 2008 (Gross & Nakayama, 2009; Gross, 2009a). The survey focused on whether there had been any progress within

the prior eight years, taking also in account the activities of the UN Decade since 2005 and before. Colleagues in schools, universities and education institutes, participants of ESD conferences and representatives of government institutions were invited to take part in this survey. All were familiar with ESD implementation issues. The total number of respondents was 129, including 21 Japanese respondents.

The respondents were asked to rate different statements to elucidate the extent of changes within barriers to ESD from 2000-2008.

Nearly 80% of the respondents agreed with the statement "The concept behind 'sustainability' has not been

explained sufficiently: most people still do not understand it,” and when asked whether they thought the requirements specified in 2000 had been followed by successful initiatives, such as, “Has the public been linked to the process of implementing sustainable development?” Only 1.1% of 108 respondents chose YES (52.3% chose TO SOME EXTENT and 46.6% chose NO).

The deficiencies in action seen in 2008 have remained by and large the same as those seen in 2000 and 2009.

Respondents were also asked to comment and explain the reasons for barriers and deficient action (Gross, 2008b, 2009a).

Comments from Europe:

- Sustainability is not a priority for political leaders, etc. (University professor from Spain);
- ESD is not understood as a real need yet, there isn't sufficient support for ESD activities (University professor from Switzerland);
- Growth and progress myths: the sustainability debate has not been able to tackle the main driver of unsustainability: economic growth in a limited system (University professor from Switzerland);
- Lack of funds for demonstration projects (University professor from Germany).

Comments from Latin America:

- Political leaders have no interest in motivating people to participate (University professor from Mexico);
- The lack of continuity in governments; political leaders do not always encourage empowerment (Government official from Brazil);
- Lack of competent teachers (N.N. from Peru);
- Lack of promoting analytical thinking in students (University professor from Costa Rica).

Comments from the Asia-Pacific Area:

- Lack of coordination and concerted efforts to come out with a comprehensive approach (University professor from India);
- Yes, teachers lack sensibility in imparting ESD (Government official from Pakistan);
- Lack of government support (Government official from Pakistan);
- Lack of teachers' knowledge and skills for integrating the concept of ESD into school curricula (Government official from Thailand);
- Political unrest (NGO Member, Bangladesh).

There is a common barrier which applies to all regions and is closely connected to the policy level: sustainability is not a priority for political leaders; politicians have no interest in motivating people to participate; there is no government support or teacher training. Some barriers specific to Latin America and some regions within the Asia-Pacific area, such as political unrest and lack of continuity in government, are additional obstacles to implementing ESD.

## 2. UNESCO's Action Goals for the Second Half of the Decade

The continuing existence of barriers to implementing ESD at the midterm of the Decade led the UNESCO World Conference (2009) to establish Action Goals for the rest of the Decade in the Bonn Declaration and invite the participants and community to discuss them. The goals are detailed in the 'Call for Actions' section (policy and practice level) in the Declaration. However the policy stakeholders still seem aloof concerning the significance of the Declaration. Despite the positive reception of the Declaration, its specifications are inadequate. There is no prioritized ranking of the list of Action Goals (a-r). The most promising goals remain unspecified, so necessary activities cannot be determined which would focus on them. It is therefore important to ask the following questions:

1. Which are the goals that should successfully be realized by 2014? Those demand appropriate efforts and support.
2. Which of the goals have only a minor chance of being realized?
3. Which goals, having the least chance of being realized, still require promotion because they are crucial to the overall success of the Decade?

The authors conducted another survey as part of their German-Japanese Project in 2009 (Gross & Nakayama, 2009) regarding the extent or degree to which UNESCO's Action Goals could be realized by 2014. The current survey on implementing ESD has not been a singular project; it has been embedded in the same efforts since the year 2000 (Gross, 2000). One hundred eleven international ESD experts took part in this 2009 Survey (Table 1).

Altogether there were about 50 thematic results based on the action goals, they had to be diversified into sub-goals, otherwise the results would have been imprecise because the adopted goals served like a box where a lot of different goals and addressees could be mixed

**Table 1** Numbers of respondents and regions.

Europe	Asia-Pacific	Africa	Latin America	North America	Oceania	Total
65	23	3	7	8	5	111
Filter Europe 34/ Around 3/4 of respondents from universities	Filter Japan 13 Respondents: gov.-1, school-3 univ.-7, ngo-1 nn-1	-	-	-	-	44 members of governmental institutions (51.2%); 26 members of NGOs (30.2 %)

together. By asking the participants to evaluate the goals, we could determine satisfactory and unsatisfactory prospects as evaluated by those who were familiar with these issues from a bottom-up perspective, either having encountered barriers or deficient action or being convinced by their own experiences that the goals might be implemented successfully.

The results of the 2009 Survey present an opportunity to provide a strategy for implementing ESD with action-oriented efficiency; drivers and catalysts have been revealed by priority ranking. The results of the survey reflect a spectrum of low to high evaluations, and the following charts do the same in referring to goals with satisfactory or unsatisfactory outcomes.

### 3. A Three-Filter Approach for Ranking and Regionalizing Goals

A three-filter approach allows goals to be regionalized and ranked when the cut-off point has been set at 60% or more. This approach provides a listing of goals perceived as likely to be realized 'satisfactorily,' 'nearly satisfactorily' and 'unsatisfactorily.'

For example, 78.1% of all experts (111) thought the action goal "strengthening ESD by focusing on climate change" would be realized to '60% or more' of completion; and 81.4% of the European experts (34) and 84.7% of the Japanese experts (13) thought likewise.

The following graphs (Figs. 1 and 2) reveal predictions of promising goals and those which are less promising. Beyond that there are national differences, e.g., to what

extent 'scientific communities' are expected to contribute to the process of implementing ESD; European respondents have evaluated this goal much more highly than international and Japanese respondents. Ultimately the goals are classified into three groups based on the chances of successful implementation predicted by the survey respondents.

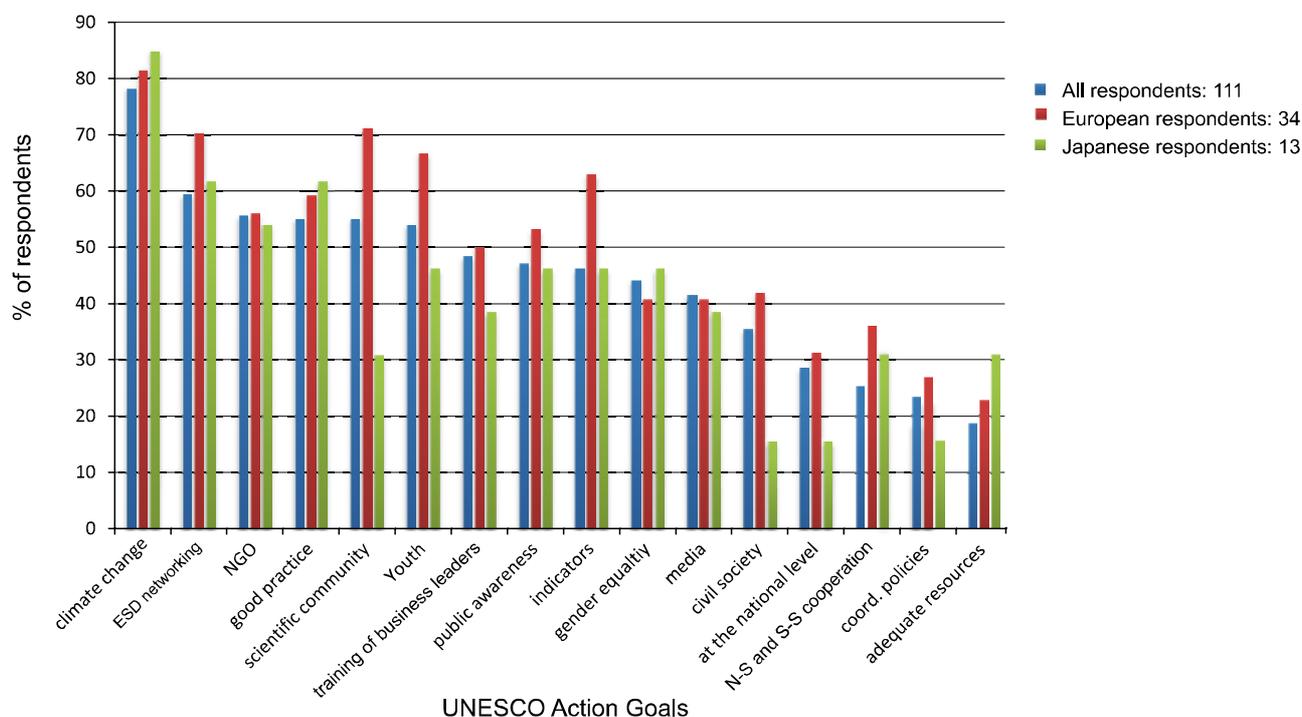
#### 3.1 Goals perceived as likely to be realized satisfactorily

Making use of the '60%- or- more cut' (hereby adding the percentages of respondents who have evaluated the goal as likely to be realized from 60% to 100% of completion) provides an overview of the ranking from top to bottom.

There are regionalized results which are nearly alike, e.g., 'climate change,' in addition to the Europeans' highly ranked evaluation of 'ESD networking,' 'scientific community' and 'youth' which contrasts with the Japanese responses where 'youth' and 'scientific community' have been appraised much more lowly.

Examples of action goals which have been perceived as likely to be realized satisfactorily include q2) *Engage the expertise available within the UN system to strengthen ESD in key sustainable development conventions; for example, those focusing on biodiversity, climate change, desertification and intangible cultural heritage.*

Survey question: *Expertise available within the UN system – q2) strengthening ESD by focusing on climate change.* "Global climate change can serve as a prototype



**Fig. 1** Percentage of respondents judging that each of the UNESCO Action Goals will be realized at a level of 60% or more.  
 50%+: satisfactory  
 40-50%: nearly satisfactory  
 <40%: unsatisfactory

of a sustainability problem, one which is characterized by a high degree of complexity, expressed by a strong interrelationship between ecological, social and economic dimensions, which have important consequences for future generations; furthermore there is the uncertainty about the routes that should be followed to find a solution” (Bertini, 2009).

In referring to this goal we may get some insights into how far this prototype has been evaluated for strengthening ESD (Fig. 2).

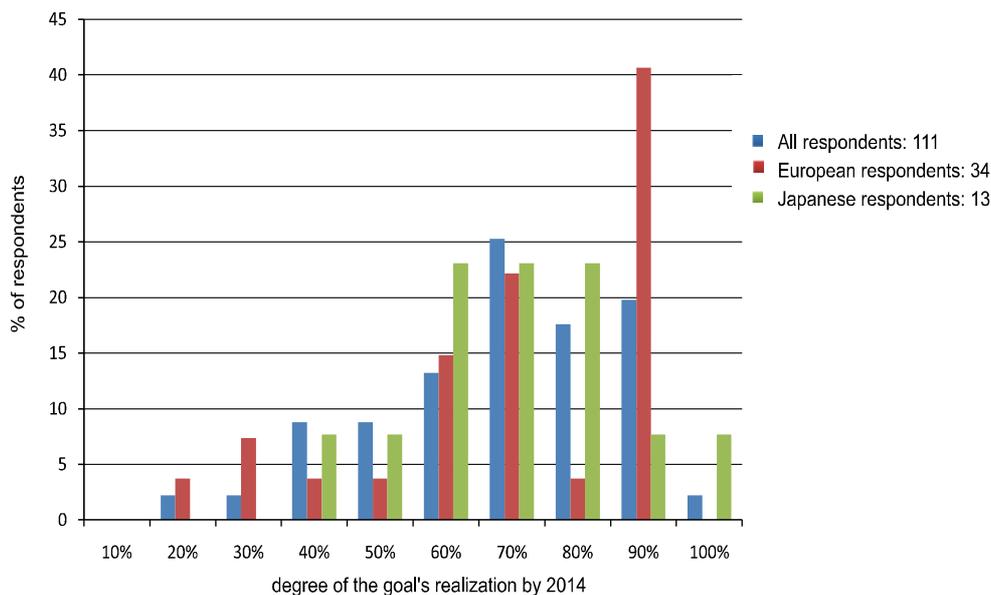
a) ESD and climate change: perceived as likely to be realized to 60% or more of completion: international 78.1%, European 81.4%, Japanese 84.7%. The high assessment of this high-priority goal is certainly based on the intensive consideration in the media. This applies to further topics of this kind too. However the survey shows contradictory results. A considerable number of respondents think that the use of media for awakening public awareness should be increased but on the other hand the media themselves have been less highly rated when the respondents were asked, ‘How far have the media contributed to fostering public awareness and understanding of sustainability issues?’ (Gross, 2009b; 2009c). The relevant figures here are less promising: nearly 60% of the respondents think this might be only realized to 50% or less of the target.

Sustainability and ‘sustainability thinking’ need to be communicated because of their specific features. They are not directly experienced and are very complex: scientific data, analyses and translations have to be communicated to the public. Instead of focusing on sustainability, however, the current media are mainly interested in environmental issues in terms of political conflict, economic costs and losses and not in solutions; moreover journalists often lack scientific competence (Bonfadelli, 2009). Thus the media may not be regarded

as signposts or catalysts for awareness-raising regarding sustainability. The participants of the UNESCO World Conference on ESD (2009) were aware of the need for greater efforts in training and education of the media educators and trainers themselves in order to promote an active interdisciplinary approach towards ESD, *e.g.*, social justice, gender equality, and other relevant values that are integral to ESD, to enable recognition of ESD by media audiences around the world (UNESCO/BMBF/German Commission for UNESCO, 2009, p68). Being aware of this basic gap, UNESCO had launched a training and resource kit for media people (Bird *et al.*, 2008).

b) ESD networking: perceived as likely to be realized to 60% or more of the target: international 59.4%, European 70.3%, Japanese 61.6% – the second rank in the sequence of these results (Fig. 1). The surveyed Action Goal *n*) *ESD networking (schools and universities)* was positively assessed by all experts and especially by the European respondents. Their evaluation should be further promoted and strengthened. This also applies to *d 6) the scientific community*.

The 2009 DESD global review report, based on the Monitoring and Evaluation questionnaire, to which 97 countries responded and which mainly focused on governmental feedback, has also acknowledged the importance of this goal: “Strengthening of networking between schools, educational institutions/ organizations and other potential partners in ESD at a local, national and international level, appears crucial. Such capacity-building is also needed, *e.g.*, in the world of business and industry and the NGO-sector” (UNESCO, 2009a, p65). This acknowledgement, however, does not provide any information as to how important these goals have been regarded by UNESCO. Wavelets toward goals do not break, but waves with varied heights do.



**Fig. 2** Percentage of respondents assessing the degree by which the goal of “ESD and Climate Change” will be realized by 2014.

c) Youth: *j) engage the commitment, solidarity and potential of youth and their organisations and networks in enhancing ESD. Foster young people's ownership of ESD questions and issues.* Fifty-four percent of the international respondents thought this goal would be achieved to 60% or more of the target; as did 67% of the European respondents and 46% of the Japanese respondents. This supports UNESCO's announcement of having a specific focus on 'youth' and 'gender equality' for the future (UNESCO/BMBF/German Commission for UNESCO, 2009, p58), *i.e.*, these efforts should be strengthened anyhow because they may be used as drivers for implementing ESD in the global community. Moreover UNESCO (2009a) recalls that youth initiatives are beginning to emerge rapidly and that these are conducted by NGOs, the private sector, governments, universities and intergovernmental organizations.

### 3.2 Goals perceived as likely to be realized nearly satisfactorily

These figures, although classified as nearly satisfactory, demand strenuous promotional efforts because they still have weak points.

a) ESD and training of business leaders: *i 4)ESD should become an integral part of training of leaders in business* is perceived at the 60% or higher level by 48.4% internationally, 50% in Europe and 38.5% in Japan.

ESD is not just limited to education; executive education for SD in business must be also taken into account. ESD, as the key for providing the qualities of sustainability, should be used for forming a strong partnership with the economy to ensure that these qualities are constantly included. There is a need for increased cooperation between the 'new learning' (mental mode) and the business sector (new economic mode) in training of business leaders. The economy itself will ask to be assisted with strengthening the efforts for implementing ESD.

Ninety-three percent of 766 CEOs confirmed in 2010 in an international survey that sustainability issues will be important or very important and that education as a global development challenge, followed by climate change, will be most critical to the future success of their business. Education is also understood as, "To equip current and future leaders and employees – and those from other sectors such as government and civil society – with the ability to manage sustainability issues as part of core business" (Accenture, 2010).

Reorienting business towards sustainability is becoming the key to remaining competitive in the global economy. The business sector is dependent on a mental change, such as integrative and value-oriented thinking, to secure a sustainable future. This demands a close cooperation between the business and the education sector.

These deficits have also been confirmed in the UNESCO Global Report 2009, which states, "ESD should, possibly in connection with the rise of Corporate Social Responsibility (CSR), become an integral part in

the training of leaders in business and industry. The latter has been little emphasized in the DESD so far" (UNESCO, 2009a, p65).

This view was also represented by the participants of the UNESCO World Conference, underlining 'that more dialogue between the ESD community and key economic stakeholders was needed, particularly in business and government, as well as with business educators, economists, and relevant NGOs. Education must not simply serve the (old) economy; ESD must help transform it with new knowledge, skills and values (UNESCO/BMBF/German Commission for UNESCO, 2009, p61).

Of concern regarding 'training of leaders in businesses' in Japan, compared with the other results, is that there seems still to be a need for action. The 'training of leaders in business' in Japan is progressing more in the area of CSR. An important action to be taken is to stress the linkage between ESD and CSR in Japan.

b) Gender equality: *m) ESD should actively promote gender equality, as well as create conditions and strategies that enable women to share knowledge and experience of bringing about social change and human well-being.* Here this is perceived as likely to be realized to 60% or more of the target by 44% internationally, 40.7% in Europe and 46.2% in Japan.

The results of the survey make it necessary to promote and intensify efforts to establish 'gender equality – a forgotten priority.'

c) Curricula: *f3) using an integrated and systemic approach to curricula.* This is perceived as likely to be realized to 60% or more of the target by 42.9% internationally, 48.1% in Europe and 30.8% in Japan.

ESD curricula have to meet a cluster of interwoven requirements (Gross, 1997, 2006a, 2006b, 2008a; Nakayama *et al.*, 2006). ESD curricula should aim at a shift in people's mindsets and knowledge, but an exclusive concentration on knowledge alone will not fulfill the requirements needed for ESD. Knowledge must be added on the one hand by promoting understanding and teaching practical skills in order to impart action competence, and be completed on the other hand by stressing empathy and solidarity. These requirements for curricula will still be incomplete, however, if they are not based on values (Lucerne Declaration, 2007), because interrelated issues demand responsible decisions. One has to decide among options, to balance out between the different dimensions in order to act responsibly. Without values one will act arbitrarily. We have to decide, among other things, how to act, how to care for others and how to strive for our own well-being and others.' These decisions will not be valid forever since there is an increasing tendency to recognize and accept uncertainties because we are confronted with processes that change continuously.

Therefore the construction of ESD curricula must consider a decision-making structure for analyzing the interconnectivity of economic, environmental and social systems, providing the designers of curricula as well as teachers and students with this approach for balancing

out the conflicting issues by value-oriented decisions and thus practicing action competence coupled with self-responsibility. Curricula should furthermore be developed from within individual disciplines apart from cross-curricular offerings because a transdisciplinary view will be more appropriate for ESD than an interdisciplinary one. The first ESD reference curriculum ('Eurocurriculum') of this kind was presented in 1994 within an international R&D project in Germany (Gross & Friese, 2000).

A closer look at the majority of the current curricula, supposedly ESD-proof, reveals deficiencies (2009a, Gross). ESD is still perceived as EE and predominantly taught in that way, supplemented only by social aspects and not by a rethinking of education itself; the methods are not really suited to promoting values; sectoral initiatives prevail. Moreover, more than half of international experts have denied that the curricula are characterized by a multi-perspective and systemic view. Those results are also confirmed by the Japanese respondents, who reported the dominant perception of ESD as EE (75%); supremacy of environmental aspects (75%); no decision-making structures within the curricula (75%); or curricula offering no methods suitable to promoting values (65%).

These results show that the current education systems are still too rigid for the integrative nature of ESD. Thus countries still need to adapt their legislation and policy frameworks to the needs of ESD. Japan has meanwhile adapted ESD within a 5-year strategic policy into the National Basic Education Plan (2008).

### 3.3 Goals perceived as likely to be realized unsatisfactorily

There are a considerable number of Action Goals which may be classified as 'unsatisfactory' because the respondents think they will not be sufficiently realized. The results of the selected Action Goals (regionally filtered) reveal differences. The Japanese respondents tend to see the government's efforts in implementing ESD programs at the national level as relatively weak. Respondents might easily feel that the government is concentrating more on anti-global warming issues than on ESD.

Regarding the Action Goal *c1) Mobilize adequate resources and funding in favour of ESD, in particular through integration into national development policy and budgetary frameworks*, internationally, only 18.5% perceived this as likely to be realized to 60% or more of the target, with 22.6% in Europe and 30.8% in Japan responding likewise.

These results deserve special attention because the issue of 'resources' is rather neglected in the current discussion on ESD. The UNESCO Global Report 2009 has documented this, summarizing as follows: "In most countries across the world, the availability of public budgets and/or economic incentives is either non-existent or minimal at best ... raising funds for ESD activities and projects is key to ensuring the successful achievement of the DESD" (UNESCO, 2009a, p71).

Besides these (s.a.) there is a list of further deficiencies, e.g., teacher education practice; support for teacher education institutions; contribution of civil society to ESD actions; recognition of local knowledge; SD as a cross-cutting theme; support for teachers' evaluation of ESD processes; integration of ESD by involving the private sector; integration of ESD in programmes; putting ESD in the priorities of foundations; and North-South cooperation (Figs. 1 and 3).

All these ESD-oriented goals should be weighted by priority, strategically linked with community-based capacity development and implemented with the necessary resources.

## 4. Bottom-up Comments on the Process of Implementing ESD

All respondents to the survey were invited to comment on the process of implementing ESD.

### 4.1 What is most urgent to solve at the policy level?

This item received 83 comments. The suggestions made may be summarized by emphasizing the following comments:

- It needs to be more bottom-up,
- SD should be taken more seriously at the centres of political and economic power,
- More assistance is needed to develop ESD policies in developing countries,
- More cooperation between different sectors and the administration is needed (this was confirmed by the survey, where goal *d3) 'ESD policies through co-ordinated and intersectoral/interministerial approaches'* was evaluated by 23% of the respondents as likely to be realized to '60% or more' of the target, or, vice versa, 67% think it will be realized to 50% or less).

### 4.2 How to awaken and strengthen public awareness of ESD?

There were 86 comments within the survey, which had the following focus:

- Using media as the key to public awareness-raising on ESD. This is not really promising although widely demanded. The media are currently more focused on 'catastrophes' instead of mediating complex processes; see above);
- Merging business, education, science and greening education at the local/regional level, and making it output-based;
- Showing good (best) practice examples and promoting the message of ESD.

This is supported by the survey: *h2) dialogue on ESD by sharing good practices*. Overall 55% of the respondents thought it was likely to be realized to 60% or more of the target, with 59.2% of European respondents and 61.6% of Japanese respondents replying likewise.

### 4.3 What steps should be taken next?

Table 2 provides a ranking of responses from top to bottom for implementing ESD at the practical level.

This is a revealing and instructive overview of the core goals of ESD. The results may serve as a manual for what should be done next. It is not surprising that there is broad agreement between the international and European respondents because the perceived deficiencies are nearly alike in both cases, confronting a need for a global change in mental mode, whereas the Japanese figures seem to confirm that there is predominately a lack of basic prerequisites for implementing ESD.

## 5. UNESCO's Strategic Goals 2010 – 2015

UNESCO's set of key areas for strategic action in 2010- 2015 (UNESCO, 2009b, 2009c, 2010) is based on the adopted action goals as defined in the Bonn Declaration (UNESCO World Conference on Education for Sustainable Development, 2009), and focuses on four key areas.

- (A) Enhancing synergies with different education and development initiatives and strengthening partnerships among ESD stakeholders,
- (B) Developing and strengthening capacities for ESD,
- (C) Building, sharing and applying ESD-related knowledge, and
- (D) Advocating for ESD, and increasing awareness and understanding of sustainability.

Figure 3 shows a prioritized ranking of UNESCO's Strategic Goals for 2010-2015.

These key areas, mainly referring to Bonn's Action Goals, are characterized by a broad variety of measures which include specific actions, cooperation with institutions, taking regional differences into account, supporting particular programmes such as EFA and MDG, etc. The extent to which these goals, however, will be realized from 2010 till the end of the Decade and by which criteria or guidelines these goals have been legitimized is unclear, except that they have been adopted by the Bonn Declaration and by succeeding UNESCO conferences with references to inter-governmental reports.

Setting priorities means ranking goals according to relevance, focused here on the degree of consent by stakeholders and/or by establishing ways of coping with barriers and deficiencies, either singly or using a synergistic approach. Applying this to UNESCO's strategic

key areas, just a collection of goals with no ranking, reveals a considerable number of unsatisfactory results, especially concerning key area *A) enhancing synergies with different education and development initiatives and strengthening partnerships among ESD stakeholders.*

These deficiencies are documented in linkages and funding between ESD and EFA as well as the MDGs; inter-sectoral approaches; approaches that involve business and the corporate sector; and funding for programming processes as well as foundations and donors. The surveyed goals of the linkages between ESD and EFA and their funding have been characterized, with regard to the applied criteria, as unsatisfactory within the efforts of implementation. Only 30% of all respondents think that the linkages between ESD and EFA will be realized to 60% and more of the target level by the end of the Decade and 20% of the respondents think so what is concerning their funding (Fig. 3). This is a remarkable deficiency, given that the linkage between ESD and EFA is essential, since ESD promotes values such as peace, equality and respect for human rights, gender, environment and cultural diversity underpinning EFA and MDG (ACCU, 2010).

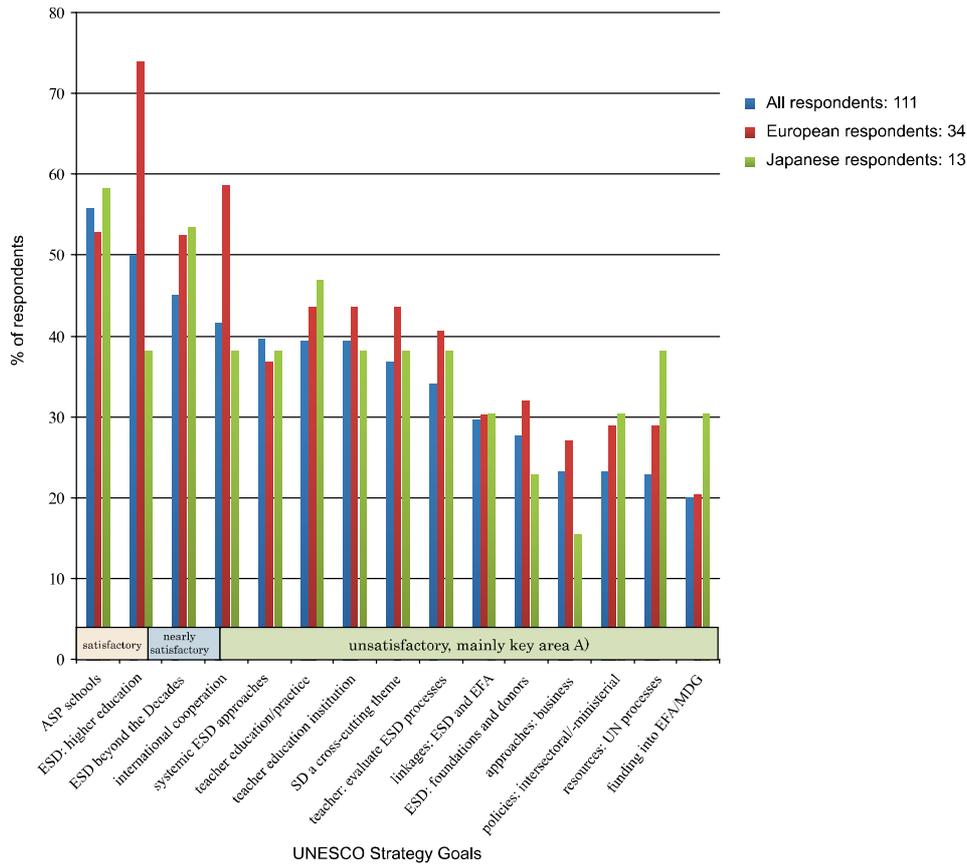
Further serious deficiencies are revealed in key area *B) developing and strengthening capacities for ESD* in teacher education and teacher practice; support for teacher education institutions; evaluation of ESD processes; and effective pedagogical approaches by teachers.

What is noteworthy regarding the results of all key areas here and with special focus on regional differences is that nearly all evaluations by the European respondents are far more positive than those of any of the others. This largely applies to the Japanese evaluations, too (Fig. 3). A comparative look at the overall results also makes it clear that the goals 'ESD through higher education institutions' and 'international cooperation' received a particularly high rating among the European participants.

These strategies and forms of cooperation should be supported, *e.g.* by referring to the RCEs' five-year experiences and contributions within these activities (UNU-IAS, 2010). The RCEs have contributed through development and practice of learning activities relevant to sustainable development; advice to policy-makers on the policies relevant to ESD; and provision of alliances for ESD and sustainable development (SD) in their respective regions and beyond. Examples on a smaller scale include, as given here, a joint project between

**Table 2** Future steps to be taken for implementing ESD.

	All respondents (111)	European respondents (34)	Japanese respondents (13)
1	Really rethink education	Really rethink education	Train administrators
2	Raise public awareness	Reform teacher education	Provide hands-on ESD materials
3	Reform teacher education	Raise public awareness	Focus on systemic thinking
4	Provide sufficient financial resources	Provide sufficient financial resources	Reform teacher education
5	Revise ESD curricula: subject oriented, based on competencies	Revise ESD curricula: subject oriented, based on competencies	Provide sufficient financial resources
6	Focus on systemic thinking	Provide hands-on ESD materials	Revise ESD curricula: subject oriented, based on competencies
7	Provide hands-on ESD materials	Develop national ESD indicators	Develop national ESD indicators
8	Develop national ESD indicators	Focus on systemic thinking	Really rethink education



**Fig. 3** Percentage of respondents judging that each the UNESCO Strategy Goals will be realized at a level of 60% or more.

German and Japanese geography teachers who by surveying the status of ESD implementation promote the international exchange of experience at the grassroots level and may thus be in an advantageous position to evaluate implementation strategies and determine efficient action goals (Nakayama *et al.*, 2006).

Promising goals within UNESCO's strategy may include those in the key areas C (*Building, sharing and applying ESD-related knowledge*) and D (*Advocating for ESD, and increasing awareness and understanding of sustainability*), *vid.* Figs. 1 and 3.

Here it seems appropriate to refer to UNESCO's Action and Strategy Goals. Especially highly ranked is '*strengthening ESD by focusing on climate change*,' which is also emphasized by the German and Japanese Resolution (UNESCO, 2009c) '*to reorient education and training systems to address sustainability concerns through coherent policies at national and local levels, including through climate change education*.' Further promising goals are ESD networking, NGOs, scientific communities and youth (Fig. 1).

## 6. National Approaches: Germany and Japan

Against the background of the present survey results on UNESCO's Action Goals (Fig. 1) and Strategic Goals for the Second Half of the Decade (Fig. 3) it seems appropriate to review the current goals (2009/2010) of national governments, *i.e.*, evaluating Germany's and Japan's

goals for the second half of the Decade, based on the above results – the European responses in Figs. 1 and 3 show them to be largely representative of the German ones.

### 6.1 Germany

This compilation of the German goals has been reduced to provide a general overview, (whereas the Japanese goals are more specific), without regard to the extent of chances of implementation; consequently there is no list in which urgent measures are required and thus it is not strange that there is no direct mention of stakeholders, including youth and NGOs, as drivers, or women as new hope for ESD; neither are there references to barriers such as the role of 'civil society,' 'coordinated policies' or 'adequate resources.'

However, just the merger of both hopeful and less hopeful goals might offer an efficient strategy. Here, however, the sum of goals is predominately characterized by a single-step approach instead of a synergetic one. The explicit reference to 'climate change' could have already shown a multi-perspective approach.

There are five German goals for the second half of the Decade (Deutscher, 2009):

(a) ... *i.e.*, employers have to be won over as partners.

Comment: a higher rate of partnerships, *e.g.*, employers, does not necessarily mean a higher rate of implementation of ESD – instead, business leader training and executive education on ESD is required. A joint strategy

including the business and education sectors is essential and therefore more promising than a bundled collection of partners.

(b) ... ESD: a permanent place in the curricula and the training of teachers in all areas of education.

Comment: ESD has not arrived everywhere in the reality of education, according to a statement by the President of the German Commission for UNESCO before the Committee on Education, Research and Technology Assessment of the Deutschen Bundestag, 2010. This refers to his assessment that curricula are still more focused on EE, preferably with some additional social aspects, than on curricula with decision-making structures based on the three ESD domains. This goal lacks a clear statement on the structure of ESD curricula with regard to the current state of curricula.

(c) ... furthermore ESD's successes and efficiency must be made transparent.

Comment: There are no hints on how to do this and until now no efforts have been made to check the efficiency of the process of implementation through bottom-up surveys, still lacking within the activities of the German Commission for UNESCO.

(d) ... international exchange, especially the exchange between the North and the South.

Comment: The emphasis on the exchange between the North and the South, one of the most serious barriers, may cause the impression of a unilateral transfer from the North to the South, certainly not at the same level as previously requested. Here they should have referred to the appropriate communication level, namely 'scientific communities.'

(e) ... for the second half of the Decade it will be important to achieve greater visibility of ESD.

Comment: Here the efforts really have to be strengthened, especially in Germany, where only 13% of the public knows what is meant by the term 'sustainable development,' thus 'public awareness raising' is still a big problem, re-confirmed at the World Conference in Bonn 2009 by the members of the German UNESCO Commission, who were puzzled about the current lack of success in addressing the public and asking for ideas on how to succeed.

## 6.2 Japan

Within the Japanese goals for the second half of the Decade (UNDESD Japan Report, 2009) three major initiatives have been emphasized, (a) Evaluation and revision, (b) Dissemination and (c) Fostering closer alliances. A top priority will be put on strengthening ESD in school initiatives with regard to responsible citizens in the future, because more sustainable societies will depend on them.

(a) Evaluation and Revision: The Government is still looking for methods to evaluate the effectiveness of ESD initiatives. There is an urgent need for finding an appropriate evaluation system to monitor the progress of ESD. With regard to this, the revision of Japan's Action Plan (2006) will be of vital interest since most of the ESD stakeholders will be asked to evaluate their efforts

(Nakayama 2008).

(b) Dissemination: A register system for ESD programs and a support system will be set up for improving the visibility of ESD, giving ESD a concrete form and encouraging its dissemination. Additionally a nationwide campaign was started in 2009 to increase the number of UNESCO-associated schools as well as boosting fiscal support for ESD programs in the registered schools. Further efforts are also planned for awareness raising in schools, especially training programs for administrative personnel, local boards of education and teachers.

(c) Fostering Closer Alliances: In 2008 the government revised the National Course of Study for Primary and Secondary Schools towards including ESD. At the same time, steps were taken for promoting joint community-school ESD initiatives. Two initiatives are being implemented at the higher education level: a university network for supporting UNESCO-associated schools in their efforts to promote ESD (ASP UnivNET), and an environmental graduate school network for strengthening ESD programs. At the community level the government will support various ESD programs and deploy coordinators to promote ESD there.

Within the Japanese goals for the second half of the Decade there is also a focus on global promotion of ESD, referring to the International Forum on ESD Dialogue held in Tokyo in 2008. Those goals include (a) to develop "model projects" that can be undertaken jointly by multiple stakeholders, (b) to establish a framework for cooperation among all stakeholders, including private companies, and (c) to increase the number and quality of UNESCO-associated schools.

The overall strategy of the Japanese initiatives is directed at producing concrete results with the insight that priority goals must be set first, followed by drafting of an action plan for achieving them.

## 7. Summary and Conclusion

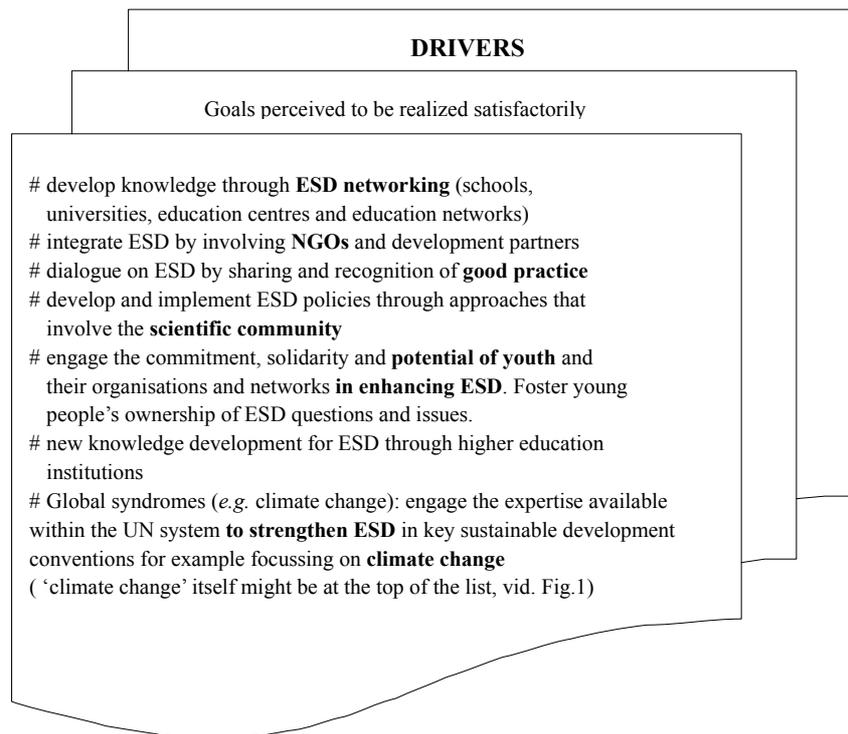
There are widespread efforts within the community towards implementing ESD goals by 2014 and beyond. These efforts have been accompanied and supported by UNESCO's Action and Strategy Goals in 2009 and 2010, which had been adopted under the impression that the Lead Agency might be faced with a lost decade, which had been confirmed by its own findings: lack of human and financial resources, difficulties in making linkages with ESD (e.g., EFA and MDGs), weak inter-sectoral collaboration, lack of appropriate tools for ESD and difficulties in assessing ESD (UNESCO, 2009a, p36). Considering these deficiencies and referring to UNESCO's collection of goals makes us aware of the principal defects: lack of a survey on the priority of goals and lack of an action plan for dealing with these challenges and other barriers. What the adopted action goals are promising and what we will get are vague. There is a covert incoherence as well as an overt disenchantment (Entzauberung) between the goals' unknown results and the surveys' known ones.

National goals, such as Germany's and Japan's goals for the second half of the Decade, which are either adapted or transferred from UNESCO's sets of action and strategy goals, reflect these deficiencies. However a re-orientation has taken place within Japan's strategy on ESD goals (UNDESJ Japan Report, 2009), based on an approach where a ranking of the goals will be available and an action plan doable, even with a focus on the global promotion of ESD. Germany has remained with a listing of individual measures where the chances of success will be uncertain, where the ranking of the goals remains invisible and where the goals are not integratively

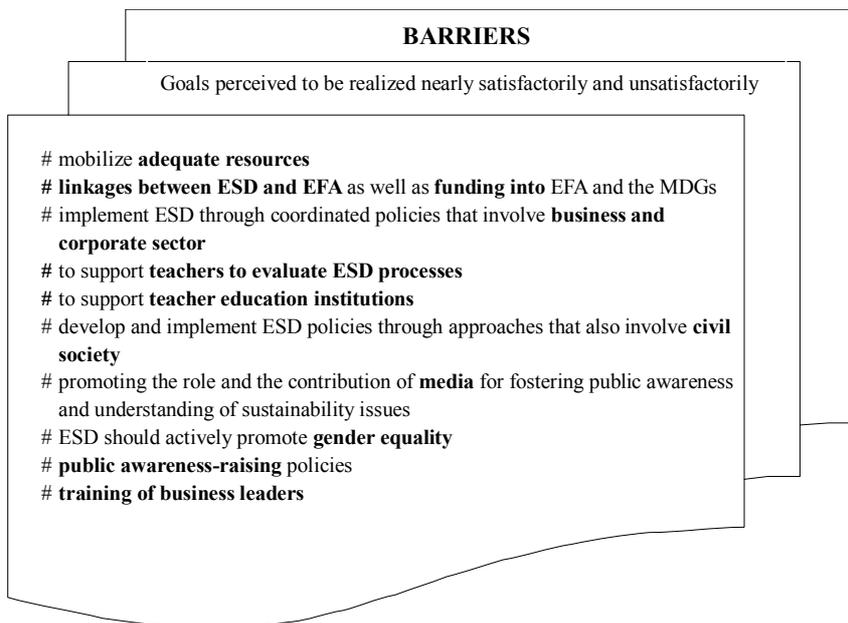
aligned with each other either. In other words an overall strategy is missing (Deutscher, 2009).

A ranking of the goals would have offered appropriate strategies for strengthening those with promising outcomes and promoting those with minor chances of being successfully implemented. The identified results of the survey may be used within the near future (Fig. 4). All stakeholders may be invited to promote the goals by intra- and inter-sectoral cooperation and make use of this knowledge for an action-oriented planning, based on their regional and cultural characteristics.

The results of the SURVEY:



and **BARRIERS**: they need to be decreased, especially at the policy level.



**Fig. 4** Drivers and barriers: both should be integratively used for promoting ESD.

## References

- Accenture (2010) *A New Era of Sustainability: UN Global Compact-Accenture CEO Study 2010*.  
[http://www.unglobalcompact.org/docs/news\\_events/8.1/UNGC\\_Accenture\\_CEO\\_Study\\_2010.pdf](http://www.unglobalcompact.org/docs/news_events/8.1/UNGC_Accenture_CEO_Study_2010.pdf)
- Bertini, G. (2009) *Sustainable Development and Education for Sustainable Development*, SCRIBD, 2.
- Bird, E., R. Lutz and C. Warwick (2008) *Media as Partners in Education for Sustainable Development: A Training and Resource Kit*.  
<http://unesdoc.unesco.org/images/0015/001587/158787e.pdf>
- Bonfadelli, H. (2009) *Does the Media Really Contribute to Achieving Sustainability?* Media and Mass Communication, Signposts and Catalysts to Sustainability, AGS, CCES & ETH Sustainability Workshop, 15-16 Oct. 2009.  
[http://www.ags.ethz.ch/partnership/impulse\\_talks](http://www.ags.ethz.ch/partnership/impulse_talks), and  
[http://www.ags.ethz.ch/AGS\\_outreach\\_Bonfadelli.pdf](http://www.ags.ethz.ch/AGS_outreach_Bonfadelli.pdf)
- Deutscher B. (2009) *Bericht der Bundesregierung zur Bildung für eine nachhaltige Entwicklung* (German), Drucksache 16/13800.  
<http://dipbt.bundestag.de/dip21/btd/16/138/1613800.pdf>
- Asia/Pacific Cultural Centre for UNESCO (ACCU) (2010) *ESD Journey of Hope*. Final Report of the Asia-Pacific Forum for ESD Educator and Facilitators, Tokyo 2009.  
[http://www.accu.or.jp/esd/forum\\_esd/pdf/esd\\_journey\\_of\\_hope.pdf](http://www.accu.or.jp/esd/forum_esd/pdf/esd_journey_of_hope.pdf)
- Gross, D. (1997) A Curriculum based on the principle of sustainable development. In: Nakayama et al., eds., 80-87.  
<http://www.desd.sustain-future.org/chambery.pdf>
- Gross, D. (2000) Three questions on education for sustainable development, *Human Nature Articles*. *GreenCom*, 5-2.  
<http://www.dgross-sustainable.de/sumque.html> and <http://www.dgross-sustainable.de/Human Nature Articles.pdf>
- Gross, D. and H.-W. Friese (2000) *Geographie, Umwelterziehung und Bildung zur Nachhaltigkeit, Geographie und ihre Didaktik*, 4, 2000, ISSN 0343-7256. Comments on this curriculum at <http://www.dgross-sustainable.de/comeuro.htm>
- Gross, D. (2006a) *European Experiences and Perspectives on Reorienting Curricula to ESD; Education for Sustainable Development in Europe*. The 10th APEID International Conference Learning Together for Tomorrow Education for Sustainable Development, 6-8 December 2006, Bangkok, Thailand.  
[http://www.unescobkk.org/fileadmin/user\\_upload/apeid/Conference/papers/APEID\\_dieter\\_gross\\_paper\\_01DEC06.pdf](http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/papers/APEID_dieter_gross_paper_01DEC06.pdf)
- Gross, D. (2006b) *European Experiences and Perspectives on Reorienting Curricula to ESD*. The 10th APEID International Conference Learning Together for Tomorrow Education for Sustainable Development, 6-8 December 2006, Bangkok, Thailand.  
[http://www.unescobkk.org/fileadmin/user\\_upload/apeid/Conference/ppt/gross\\_PPT.ppt](http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/ppt/gross_PPT.ppt)
- Gross, D. (2008a) *Characteristics of ESD Curricula*. 2nd ESD Conference Berlin, German-Japanese Cooperation, DESD-Project. Japanese-German Center, Berlin.  
[http://www.desd.sustain-future.org/updated\\_online\\_characteristics\\_curricula.ppt](http://www.desd.sustain-future.org/updated_online_characteristics_curricula.ppt)
- Gross, D. (2008b) *Barriers and Deficits with Implementing ESD*. 2nd ESD Conference Berlin, German-Japanese Cooperation, DESD-Project, Japanese-German Center, Berlin.  
[http://www.desd.sustain-future.org/survey\\_barriers\\_ESD\\_Dieter\\_Gross.pptx](http://www.desd.sustain-future.org/survey_barriers_ESD_Dieter_Gross.pptx)
- Gross, D. (2009a) *Barriers and Deficits with Implementing ESD, Results of a Survey*.  
[http://www.desd.sustain-future.org/int\\_jap\\_compilation\\_survey%20results\\_dg.pdf](http://www.desd.sustain-future.org/int_jap_compilation_survey%20results_dg.pdf)
- Gross, D. (2009b) *Unsatisfactory Standards for the Implementation of ESD : Results of an International Survey, Suggestions for Strategies to address the Issues*.  
[http://www.desd.sustain-future.org/dg\\_survey%20on%20action%20goals.ppt](http://www.desd.sustain-future.org/dg_survey%20on%20action%20goals.ppt)
- Gross, D. (2009c) *Barriers and Deficits with Implementing ESD: An Analysis for Isolating Efficient Strategies to Cope with Global Changes*.  
[http://www.desd.sustain-future.org/dieter\\_gross\\_climate%20change%20and%20education.pptx](http://www.desd.sustain-future.org/dieter_gross_climate%20change%20and%20education.pptx)
- Gross, D. and S. Nakayama (2009) *Decade of Education for Sustainable Development (DESD), A Lost Decade or an International Success?* An International Survey on UNESCO's Action Goals, Survey Monkey, May - October 2009.
- Nakayama, S. (2006) *International, National and Local Implementation Strategies for ESD in the Asia-Pacific Region*. The 10th APEID International Conference Learning Together for Tomorrow Education for Sustainable Development 6-8 December 2006, Bangkok, Thailand.  
[http://www.unescobkk.org/fileadmin/user\\_upload/apeid/Conference/ppt/nakayama\\_PPT.pdf](http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/ppt/nakayama_PPT.pdf)
- Nakayama, S. (2008) *Front Line of ESD in Japan*. The 2nd ESD Conference Berlin, German-Japanese Cooperation, DESD-Project. Japanese-German Center, Berlin.  
[http://www.desd.sustain-future.org/08%20%2019Presentaion\(Nakayama\).ppt](http://www.desd.sustain-future.org/08%20%2019Presentaion(Nakayama).ppt)
- Nakayama, S. et al. (2006) *ESD Curriculum Development, A Report from German-Japanese Cooperation: ESD Curriculum Development Project in Support of the German Year in Japan 2005-06*. Joint Project Research Group of ESD Geography Curriculum Development: Hiroshima Geographic Alliance of the Japanese Society for Geographical Sciences and Asia/Pacific Cultural Center for UNESCO (ACCU).
- Reinfried, Y. Schleicher and A. Rempfler, eds. (2007) *Lucerne declaration on geographical education for sustainable development. Geographical Views on Education for Sustainable Development*, Proceedings of the Lucerne Symposium, Switzerland, July 29-31, 2007. *Geographiedidaktische Forschungen*, 42: 243-250.  
<http://www.igu-cge.org/Charters-pdf/LucerneDeclaration.pdf>
- UNESCO (2009a) *Review of Contexts and Structures for Education for Sustainable Development 2009: Learning for a Sustainable World 2005-2014*.  
<http://unesdoc.unesco.org/images/0018/001849/184944e.pdf>
- UNESCO (2009b) *Draft Strategy for the Second Half of the United Nations Decade of Education for Sustainable Development (2005-2014)*, including the Bonn Declaration, General Conference, 35th session, 35 C/54, Paris, 2009, 5 October 2009.  
<http://unesdoc.unesco.org/images/0018/001845/184512e.pdf>
- UNESCO (2009c) *Draft Resolution Submitted by Germany and Japan: Draft Strategy for the Second Half of the United Nations Decade of Education for Sustainable Development (2005-2014)*, including the Bonn Declaration, General Conference 35th Session Paris 2009, Education Commission 35 C/COM ED/DR.2, 12 October 2009.  
<http://unesdoc.unesco.org/images/0018/001848/184880e.pdf>
- UNESCO (2010) *Strategy for the Second Half of the United Nations Decade of Education for Sustainable Development: Supporting Member States and Other Stakeholders in Addressing Global Sustainable Development Challenges through ESD, Education for Sustainable Development in Action*, UNESCO Education Sector, 2010/ED/UNP/DESD/PI/1.  
[http://www.preventionweb.net/files/15341\\_unescostrategyforth unitednationsde.pdf](http://www.preventionweb.net/files/15341_unescostrategyforth unitednationsde.pdf)
- UNESCO/BMBF/German Commission for UNESCO (2009) *UNESCO World Conference on Education for Sustainable Development*, Proceedings.  
<http://www.esd-world-conference-2009.org/fileadmin/download/ESD2009ProceedingsEnglishFINAL.pdf>
- UNESCO World Conference on Education for Sustainable Development (2009), *Bonn Declaration*.  
[http://www.esd-world-conference-2009.org/fileadmin/download/ESD2009\\_BonnDeclaration080409.pdf](http://www.esd-world-conference-2009.org/fileadmin/download/ESD2009_BonnDeclaration080409.pdf)
- United Nations University Institute of Advanced Studies

(UNU-IAS) (2010) *Five Years of Regional Centres of Expertise on ESD*, UNU-IAS, Yokohama, Japan.

[http://www.ias.unu.edu/resource\\_centre/5%20years%20of%20RCEs.pdf](http://www.ias.unu.edu/resource_centre/5%20years%20of%20RCEs.pdf)



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