Stream C Linkages between SEA and Other Assessment or Planning Tools

Coordinated by Thomas Fischer, The University of Liverpool, UK, Fischer@liv.ac.uk

Session C1 SEA and Sustainability Appraisal

Topic chairs: Barry Dalal-Clayton, International Institute for Environment & Development, bdalalclay@aol.com; Jenny Pope, Murdoch University; jennypope@bigpond.com; David Annandale, National Environment Commission-Bhutan, annandale@nec.gov.bt

Presentations and discussions in this session will contribute to the development of a framework for sustainability appraisal, which could ultimately include common process steps for SA, objectives and criteria for SA, an analytical and methodological "toolkit," and guidance for integration and trade-offs between competing aspects and objectives. While there will be an emphasis on issues of process (and particularly the crucial issue of the integration of sustainability considerations), we will also consider the conceptual basis for SA, and the implications of different applications of SA within different contexts.

Workshop C1.1 Integration and Trade-Offs

Integration in SEA and Sustainability Assessment: Whether, When, How. Angus Morrison-Saunders, Riki Therivel

Integration Through Sustainability Assessment. Robert B. Gibson

A Principle-Based Approach for the Evaluation of Trade-Offs in Sustainability Appraisals. Frans Hermans, Luuk Knippenberg

Assessing Sustainable Development: What to Do with the Social Pillar? Luuk Knippenberg

Workshop C1.2 Towards an SA Framework

Sustainability Assessment: Dressing Up SEA? Rob Hounsome, Kogi Govender

Sustainability Assessment of Future Scenarios: Methodology and Application to Mountain Areas of Europe. William Sheate, Maria do Rosário Partidário, Helen Byron, Olivia Bina

Sustainable Development Objectives: Why Are They Needed and Where Do They Come From? Theo Hacking

Sustainability Assessment: Issues of Process, Policy and Governance. William Grace, Jenny Pope

Workshop C1.3 Developing a Framework for Sustainability Appraisal

This final workshop session will be a facilitated discussion with the aim of drawing together the findings from the previous two workshops and contributing to the development of a framework for sustainability appraisal.

Session C1 abstracts (in order of presentation):

Integration in SEA and Sustainability Assessment: Whether, When, How

Angus Morrison-Saunders, Murdoch University, A.Morrison-Saunders@murdoch.edu.au; Riki Therivel, Oxford Brookes University, riki@ukoxford.freeserve.co.uk

Whether an SEA considers only environmental or also social and economic issues, at some point in the plan-making process, the three 'pillars of sustainability' need to be brought together. However, in practice this process is murky and indistinct, and little information exists on how to do it. For instance, the objective of the European SEA Directive (2001/42/EC) is "to provide for a high level of protection of the environment with a view to promoting sustainable development," but although the preparation of an environmental report clearly supports the former, the latter process is relegated to "taking the environmental report into account" during plan preparation.

Our paper explores whether integration should be done during the SEA or sustainability assessment process - as an 'integrated assessment' – or afterwards as a formal and separate stage. It considers whether strong integration and 'dark green' decisions are compatible. It presents a range of approaches that have been used in practice at various stages of SEA and sustainability assessment in practice to (more or less effectively) integrate social, economic and environmental issues.

Integration through Sustainability Assessment

Robert B. Gibson, Environment and Resource Studies, rbgibson@uwaterloo.ca

Integration is a key problem for decision making that aims to foster progress towards sustainability. The realm of sustainability has often been depicted as the intersection of social, economic and ecological interests and initiatives. Accordingly, many approaches to sustainability oriented assessments—the project as well as strategic level—have begun by addressing the social, economic and ecological considerations separately and have then struggled with how to integrate the separate findings. The problem is exacerbated by the generally separate training of experts in the three fields, the habitual collection of data separately under these categories and the common division of government mandates into separate social, economic and ecological bodies. The combined effect is not merely an absence of integrative expertise, data and authority but an entrenched tendency to neglect the interdependence of these factors

One possible solution is to redefine the driving concept to avoid the three conventional categories and to focus assessment decision making on trade-offs. The first step is to define sustainability (more precisely and more usefully) as resting on a set of fundamental requirements that cross the boundaries between the three usual categories. In this paper these requirements are presented as eight basic sustainability assessment decision criteria (socio-ecological system integrity, livelihood sufficiency and opportunity, intragenerational equity, intergenerational equity, efficiency, socio-ecological civility and democratic governance, precaution and adaptation, and immediate and long term integration). The second step is to recognize that while all eight of these requirements are needed for progress towards sustainability and should be sought in every undertaking under assessment, there will be conflicts. A major integration issue will therefore be how to ensure the inevitable trade-offs do the least damage to overall prospects. For this, some generic trade-off rules can be proposed (six will be presented in the paper) But attention to the processes for applying these rules in particular contexts will also be crucial.

Sustainability Assessment: Dressing up SEA?

Rob Hounsome, Kogi Govender; CSIR Environmentek, rhounsom@csir.co.za, kgovender@csir.co.za

Sustainable development requires a global change in thinking towards a 'new way of living.' A common framework is required to assess progress towards sustainable development. This framework should be applicable across levels of planning and within various sectors of development. The current suite of environmental assessment tools have been leveraged to assess and manage for sustainability with varying levels of success.

Taking a variety of sustainability criteria, strategic Environmental Assessment (SEA) is shown to be the environmental assessment tool that comes closest to meeting the criteria as the most suitable tool for assessing sustainability. While the SEA approach sets out to be holistic, it does not always work well in practice. The assessment framework is flexible in the way that it links the goals to the assessment measures and the application of the process. The flexibility of SEA can leave the process open to abuse as there is little guidance for quality control and uniformity, possible one of the biggest barriers to SEA.

Sustainability Assessment is a recent addition to the environmental assessment toolbox and has been defined as follows: "Sustainability Assessment is a formal process undertaken in response to identified need(s) in order to assess, monitor and manage initiatives(s) to ensure society's progress towards sustainability."

Sustainability Assessment has the potential to enhance the sustainable decision-making processes of local, regional, national or international authorities and private organisations. Despite this relative importance, sustainability assessment as a formalised process, is not currently practiced.

This paper identifies key criteria that should underpin sustainability assessment which are then used to evaluate some of the shortcomings of SEA. Through this evaluation, the paper highlights the need for a new sustainability assessment tool. The concept of sustainability assessment is introduced and a recommended approach is discussed along with the requirements of "sustainability science."

Sustainability Assessment of Future Scenarios: Methodology and Application to Mountain Areas of Europe

William Sheate, Envir. Policy & Management Group, w.sheate@imperial.ac.uk; Maria do Rosário Partidário, DCEA/FCT-UNL, mp@fct.unl.pt; Helen Byron, European Programmes & Training Department RSPB, helen.byron@rspb.org.uk; Olivia Bina, Universidade Nova de Lisboa, olibina@gmail.com

BioScene (Scenarios for Reconciling Biodiversity Conservation with Declining Agriculture Use in Mountain Areas in Europe) is a three-year project (2002-2005) being funded by the EU 5th Framework Programme, and aims to investigate the implications of agricultural restructuring and decline for biodiversity conservation in Europe's mountain areas.

The project takes a case study approach to the analysis of the biodiversity processes and outcomes of different scenarios of agri-environmental change in six countries (France, Greece, Norway, Slovakia, Switzerland and the United Kingdom) covering the major biogeographical regions of Europe. The project is coordinated by Imperial College London, and each study area has a multidisciplinary team including ecologists, and social and economic experts, which seeks a comprehensive understanding of the drivers for change and their implications for sustainability (i.e., environment, society and economy).

A key component is the sustainability assessment (SA) of alternative scenarios both for agriculture and rural policy and for biodiversity management. This paper discusses the development and application of the SA methodology developed for this project. It departs from the UK and international experience, but has been designed to respond more specifically to the needs of the overall research objectives. For example, while it is objectives-led, it is also strongly grounded in baseline ecological and socio-economic data. A particular aspect of the approach is the engagement of stakeholder panels in each study area throughout the research, which emphasizes the participatory nature of the research methodology.

Sustainable Development Objectives: Why Are They Needed and Where Do They Come From?

Theo Hacking, University of Cambridge, th252@cam.ac.uk

The author is engaged in research aimed at establishing how the assessment of mining projects should be undertaken to ensure that the planning and decision-making process is directed towards sustainable development (SD). As part of this research, a review of a wide spectrum of SD-directed assessment techniques has been undertaken. The review covered enhanced forms of EIA, 'integrated' social and environmental impact assessment (S&EIA) and new approaches and frameworks, such as the Seven Questions to Sustainability.

The features that are commonly promoted for enhancing the SD-directedness of assessments include: expanding the thematic coverage, greater 'integration' of the themes and more effective stakeholder participation. An especially challenging feature implicit in many of the approaches is a shift in the goal of the assessment from avoiding or mitigating negative impacts to also proactively seeking to enhance positive impacts and, ultimately, to do this in a manner that contributes to (or achieves) SD. Setting SD as the goal has far reaching implications for the choice of the assessment 'benchmark.'

The established approach to impact assessment is baseline-led, whereby the conditions that are likely to prevail in the absence of a proposed initiative are used as the 'benchmark' for determining the significance of impacts. Proponents of greater SD focus criticise this for being directionless since it is based on extrapolating the past with no clear vision of what should be achieved in the future. As the Cheshire Cat pointed out to Alice: it does not matter which way you go if you do

not know where you are going. 'Determining where you want to go' is, in a nutshell, the argument in favour of objectives-led assessment approaches.

Establishing objectives by which SD can be defined is one of the greatest challenges in the development of objectives-led assessment, especially since there is still so little consensus regarding exactly what SD entails. There has been reasonable progress towards developing 'sustainability assessment principles, but these high-level principles only provide very general guidance at the project-level. In spite of this, it is increasingly common for claims to be made about the 'sustainability' of initiatives or their contribution to SD. In the absence of context-specific objectives, the validity of these claims can easily be challenged.

The paper will present an overview of a number of approaches to developing SD objectives. They include: using stakeholder opinion, derivation from principles (e.g., Rio Declaration), establishing thresholds and backcasting.

The strengths and weaknesses of these approaches and areas requiring further investigation will be highlighted.

Sustainability Assessment: Issues of Process, Policy & Governance

William Grace, GHD Pty Ltd, bill.grace@ghc.com.au; Jenny Pope, Murdoch University, jennypope@bigpond.com

In many jurisdictions we are now seeing the increasing use of sustainability assessment to assist decision-making with respect to major projects such as infrastructure or resource development. Usually the decision relates to either the acceptability of a proposal (a threshold question), or choosing the best of multiple options (a ranking question).

Western Australia is in the early stages of developing and implementing sustainability assessment processes, and application so far has been mainly to major infrastructure projects as opposed to plans and programmes (as has been the case for example in the UK). This probably reflects both the resource-dependent nature of the Western Australian economy and the state's vast size and relatively sparse population, which means that planning processes are far less complex and less developed than in some other jurisdictions.

The sustainability assessment of project proposals calls for similar processes to these other applications. However, it also presents some particular challenges and opportunities, particularly with respect to the interactions between the particular assessment and the broader policy and institutional settings. These include the policies that guide the framing of the question (whether a threshold question or a ranking question) that the assessment is designed to help to answer, and the governance and institutional arrangements that give rise to the policies.

This paper explores both issues of process and issues of policy and governance via an analysis of three project case studies from Western Australia.

Session C2 Integrated Assessment and Planning for Sustainable Development

Topic chair: Hussein Abaza, UNEP Economics & Trade Unit, hussein.abaza@unep.ch

Workshop C2.1

Integrating Impact Assessment into Decision-Making Processes for Global and Regional Trade Agreements. Clive George, Colin Kirkpatrick

Integrated Assessment and Planning for Sustainable Development. Antonio Minetti

From Strategic Integrated Assessment Towards Strategic Integral Area Development. Inge de Kort

WFD and SEA: Mutual Benefits and Possible Synergies. Olena Borysova

Workshop C2.2

This second workshop session will be a facilitated discussion with the aim of drawing together the findings from the previous workshop and contributing to the development of a framework for integrated assessment

Session C2 abstracts (in order of presentation)

Integrating Impact Assessment into Decision-Making Processes for Global and Regional Trade Agreements

Clive George, Colin Kirkpatrick; The University of Manchester, clive.george@man.ac.uk

The paper draws on experience since 1999 of conducting sustainability impact assessments under the European Commission's SIA programme for WTO trade negotiations, and for regional free trade areas in which the EU is the major partner. The technical aspects of impact assessment and the issues of stakeholder participation are examined in relation to the aim of contributing to negotiating decisions, and to the development of parallel policy measures for mitigating or enhancing potential impacts. Some of the lessons learned apply equally to multilateral trade agreements and regional agreements, while others differ. In both cases, key methodological issues are identified which need to be addressed in order to achieve successful integration of impact assessment into policy-making.

Integrated Assessment and Planning for Sustainable Development

Antoni Minetti, Lorenzo Federiconi; Regione Marche Dipartimento Territorio e Ambiente, P.F. Autorità Ambientale Regionale; antonio.minetti@regione.marche.it, lorenzo.federiconi@regione.marche.it

Recovery Plan for the Area at High Risk of Environmental Crisis (Ancona, Falconara and Lower Esino Valley): An Integrated Governance and Planning Model

A portion of the territory of Marche Region, was declared a nationally relevant Area at High Risk of Environmental Crisis, due to a troublesome coexistence of high density settlements, highly hazardous plants, and internationally relevant infrastructures. Many environmental factors are in a critical condition.

After the declaration, a series of scientific studies was carried out by a joint work group including experts from universities, consultants and public officers belonging to different disciplines and sectors. These studies allowed identification of the main critical points and especially the high level of complexity of the environmental situation in which each problem has a feedback on the others.

So this has been the occasion to undertake a process of concerted governance in which all relevant stakeholders (public administrations at different levels, private-public consortia managing infrastructures such as transport, energy provision etc., private companies) are involved.

Such process led to the elaboration of the recovery plan for this area. The plan is an innovative, integrated instrument that steers the territorial transformations towards environmental sustainability. The Plan is the first in its kind to test a governance model at the local planning level with a view of the wider territorial context.

From Strategic Integrated Assessment Towards Strategic Integral Area Development

Inge de Kort, University of Twente, i.a.t.dekort@utwente.nl

Since space is scarce and most spatial functions are competitive, these functions have to be coordinated efficiently in order to make optimal use of the space. An integrated approach is needed to be able to develop areas. Integral area development is the alignment of different spatial functions leading to an overall solution for a specific area. It tries to make efficient use of coherence between the functions; e.g., the value of houses increase if located near a water stream with a wide view.

Traditionally, a strong hierarchical approach was assumed in spatial planning; the central government was responsible for long-term and strategic decisions. The current shift from government to governance implies a development of governing styles that entails a broad network of actors. An additional complicating factor is that actors operate on different government levels.

In finding coherence between the spatial functions and to use the existing interdependencies efficiently, the multiple functions (product) and multiple actors (process) have to be coordinated. Practice shows that this coordination is inadequate, for example because of problems with legal procedures and problems with public, private and public-private partnerships. Current literature focuses on either process management or integral/ comprehensive planning. Hardly any literature can be found on how to manage integral processes between spatial functions. This paper therefore describes the bottlenecks and defines solution directions.

WFD and SEA: Mutual Benefits and Possible Synergies (Case Study of Ukraine)

Olena Borysova, Academy of Municipal Economy, borysova@velton.kharkov.ua

SEA interrelations with other strategic processes such as, for example, implementation of integrated water resources management as required by the Water Framework Directive 2000/60/EU (WFD), could become one of the important drivers of SEA development.

WFD is a major piece of strategic European environmental legislation. It requires intensive involvement of non-EU countries in shared resources management, in particular of international river basins; introduces integrated approaches towards the management of water resources, and foresees strategic planning of water resources usage.

Both WFD implementation and the SEA process are relatively new environmental policy instruments designed to meet the needs of a democratic society with a market-based economy. If these two strategic approaches are linked together, their effectiveness and efficiency may be significantly reinforced. The research addresses existing practice and perspectives of WFD implementation and SEA process development.

Research is focused on Ukraine, which has recently ratified UNECE SEA Protocol (2003), declared European focus as a strategic development priority and is putting significant efforts into harmonizing its legislative and regulative framework with current European trends. Case studies based on the international river basins districts are used to illustrate research findings.

Session C3 SEA and Environmental Planning and Management

Topic chair: William Sheate, Envir. Policy & Management Group, w.sheate@imperial.ac.uk

The purpose of this session is to explore the evolving linkages and relationships between SEA and environmental planning and management tools, and to exchange experience of real examples where these tools have been or could be used together effectively. Key questions will focus on theoretical and practical issues, including:

- What are the benefits of making linkages between tools?
- Do we need new tools or can we make existing tools work better together?
- How do SEA and other tools working together fit with decision-making processes?

Workshop C3.1

Potential Benefits of Combining Different Environmental Management Tools. Sara Emilsson, Sara Tyskeng

Incorporating Strategic Environmental Analysis (SEAn) in Local Development Planning and Enhancing Decentralized Environmental Management: current efforts in Nicaragua. Amparo van der Zee Arias, Pablo Castillo, Martha Klein

The Challenge of Nuclear Decommissioning: The Role of SEA in the Planning Process. Lutz Blank

Contributions of Baseline Sustainable Zoning for SEA. I S D Oliveira, de Souza and Montano

Workshop discussion: This will revolve around a number of key topic questions, including those emerging from the papers.

Potential Benefits of Combining Different Environmental Management Tools

Sara Emilsson and Sara Tyskeng, Linkoping University, sarem@ikp.liu.se, sarty@ikp.liu.se

In response to the issues raised for the theme, we believe that there is no need for a new environmental management tool, since there already are so many tools available. In addition, environmental management concerns complex and multi-faceted issues, which means that there is no tool that can manage all environmental problems. It is hence rather a question of understanding how different tools can complement each other. This means that it is important to identify the needs in every situation and to match these with the strengths of the relevant tools.

In a published paper, we analysed the tools of SFA, EMS and SEA to study the possible advantages for local authorities to combine different environmental management tools. We suggest that EMS can facilitate continuity, structure and routines for environmental management while SEA add a structure for incorporating planning issues in to the organization's environmental management. SFA contributes with information about the environmental situation and identifies potential future environmental problems. The study concluded that using these tools together would promote a more comprehensive view of environmental problems and solutions. It also facilitates decision-making that does not duplicate efforts or ignore critical information and knowledge.

Incorporating Strategic Environmental Analysis (SEAn) in Local Development Planning and Enhancing Decentralized Environmental Management: current efforts in Nicaragua

Amparo van der Zee Arias, SNV-Nicaragua (Netherlands Development Organization), avanderzeearias@snvworld.net; Pablo Castillo (MARENA), MARENA (Ministry of Natural Resources and Environment); Martha Klein, SNV, mar2sami@yahoo.com

Hurricane Mitch, droughts, flooding, plaques and landslides have taught Nicaragua in the hardest way that a growing ecological vulnerability is undermining its development efforts. This was most clearly presented by Nicaragua's second environmental status report (GEO 2003).

In order to enhance Nicaragua's environmental governance, MARENA, the Ministry of Environment and Natural Resources, is pursuing a policy of decentralizing of its functions and mandatory towards its territorial delegations and the municipalities. Development of more local capacity and participatory environmental planning are important steps in this process.

The Netherlands Development Organization (SNV) has been assisting various municipalities and associations of municipalities in Nicaragua to integrate environmental issues in strategic planning processes using the so-called Strategic Environmental Analysis (SEAn) methodology.

Based upon these experiences, and in consultation with many actors at various levels, SEAn was used to develop new national guidelines for local environmental planning with clear indications on how environmental issues can be addressed in the municipal context and incorporated in its strategic planning process. The use of SEAn also facilitates a closer linkage between local environmental management and the national environmental information system (SINIA) which hopefully lead to a more effective monitoring and evaluation of changes in Nicaragua's environmental context.

The Challenge of Nuclear Decommissioning in Northwest Russia: The Role of SEA in the Planning Process

Lutz Blank, The European Bank for Reconstruction & Development, blankl@ebrd.com

The former Soviet Union built 250 submarines, warships and icebreakers, containing over 450 naval nuclear reactors. Subsequently, the Russian Federation reduced the size of the nuclear fleet, withdrawing approximately 140 vessels from service. This has resulted in significant amounts of spent nuclear fuel and radioactive waste accumulating in facilities in the regions of Murmansk and Arkhangelsk. Storage conditions are not in accordance with international standards, and the situation has degraded over time. This is a considerable risk to workers, local populations and environment, and is of concern to the international community.

Facing the complexity and the cost of the decommissioning programme, Russia requested international assistance, through the Northern Dimension Environmental Partnership (NDEP) to help develop an overall decommissioning strategy for the region, providing analysis on the existing situation

defining long-term objectives and setting priorities. To complement and enhance the Strategic Master Plan (SMP), the European Bank for Reconstruction and Development (EBRD) initiated a Strategic Environmental Assessment (SEA) of the SMP.

Part of the challenges that this SEA in Russia has raised are working with previously restricted information, providing sensitive information to the public, building relationships and trust, as well as dealing with highly complex and challenging technical and environmental issues.

Contributions of Baseline Sustainable Zoning for SEA

Marcelo Pereira de Souza, Marcelo Montaño; University of São Paulo, mps@sc.usp.br; Isabel Silva Dutra de Oliveira, Oxford Brookes University, beldutra@sc.usp.br

The present work introduces the Baseline Sustainable Zoning (BSZ) as an impact assessment tool for Strategic Environment Assessment (SEA) and also a link to project Environment Impact Assessment, emphasizing sustainability. BSZ of an action should, at an earliest time, show the carrying capacity and the influence area taken out from thresholds given by expertise and the society and, also previously, show technological alternatives and locations for different scenarios. The commitment with regulations, legal requirements, thresholds and other plans critical problems won't go further if the BSZ can point them out as a previous thinking for the discussion of the alternatives and targets with a widely open public participation. BSZ, as a sustainable baseline, identifying problems, linking to other plans and programs, showing previously alternatives and different scenarios surely helps other steps of SEA process and, with a special contribution, on mitigation and monitoring. Brazilian case study - Piracicaba landfill site - is shown to emphasize where BSZ fits into SEA, what are the out comes and the public participation experience. In conclusion, this case study with a BSZ indicates that the concepts and practices of the instrument can subsidize the decision makers with information to a better strategic action towards sustainability.

Session C4 SEA in Spatial Planning

Topic chairs: Ingrid Belcakova, Slovak Technical University; Peter Nelson, Land Use Consultants, belcakova@fa.stuba.sk

Workshop C4.1 SEA Experiences in Spatial Planning

Introduction to the topic. Ingrid Belcakova, Peter Nelson

SEA and Land Use Planning in China. Tao Tang, Tan Zhu, He Xu

SEA in South Africa Spatial Development Frameworks. E. Olivier

Application of EIA/SEA System in Land Use Planning – Experience from Serbia. B. Stojanovic

Workshop C4.2 SEA Experiences in Spatial Planning

SEA in the Urban Planning of the Municipality of Sao Paulo. I.C. Maglio, A. Philippi, T.F. Malheiros

Experience in SEA? The Case of the Autonomous Region of the Azores. H. Calado, J. Cadete, J. Porteiro

Workshop C4.3 Methodological Issues

Reasonable Alternatives. Orlando Venn

Transnationally Approved Indicator Set – SEA in Regional Planning. H. Helbron, M. Schmidt, H. Storch, H. Meyer-Steinbrenner

Environmental Vulnerability Analysis as a Tool for SEA of Spatial Plans. Vesna Koszak Miocic-Stosic, Butula Sonja

Integrating Strategic Assessment and Spatial Planning. Jan Nuesink

The facilitated debate will revolve around the following key issues:

1. What separates spatial planning and SEA practice?
2. What specific skills are required to undertake the SEA of spatial plans?
3. Should SEA be allowed to evolve as a largely unstructured and creative process for testing planning concepts or should it be more procedural and tied to specific targets and outputs?
4. What consitutes effective public participation in SEAs of spatial plans, as opposed to public involvement in plan-making?
5. What sort of objectives and indicators should be employed in SEAs of spatial plans?
6. Can the experience of particular countries provide role models for wider application?
7. What are the essential components of a successful SEA linked with spatial planning?
8. How far should SEA focus on the environmental dimensions of plans and programmes, given its role in integrating broader social and economic objectives?
9. How can the standards and performance of spatial planning SEAs be measured?

Session C4 abstracts (in order of presentation)

Strategic Environmental Assessment and Land-Use Planning in China

Tao Tang, Tan Zhu, He Xu; Nankai University, tangtaochina@hotmail.com

Strategic Environmental Assessment (SEA) is the environmental assessment process for strategic actions: policies, plans or programs (PPPs). At present, Plan Environmental Impact Assessment (PEIA), the plan level of SEA, is legally required in China and a recommended technical guideline (TG) for it has been published. According to Environmental Impact Assessment Law of the People's Republic of China (EIA LAW) which has been brought into effect since September 1st, 2003, PEIA is needed for the land-use master plans (LUMP) developed by municipal and higher level governments. Although the legal arrangement for conducting PEIA has been in place, some barriers still exist. Since EIA LAW and TG establish a basic framework for PEIA, the responsibility of developing a detailed procedure is left to the assessors. Specially, for the LUMP, as all the plans are being or going to be under revision, it is urgent for certain research on PEIA of the LUMP. Within this context, this paper aims to assist the assessors with decisions concerning the implementation of a PEIA process conforming to EIA LAW and TG by defining briefly some operational issues related to PEIA of the LUMP. The paper introduces the current legal and political basis of PEIA on the LUMP in China, focusing on assessor, assess targets, assess requirements, assess contents, assess methods and working procedure of PEIA on the LUMP. Finally, some recommendations for improving PEIA on the LUMP in China are presented.

SEA in South Africa Spatial Development Frameworks

Elsabeth Olivier, Ekurhuleni Metropolitan Municipality, oliviere@ekurhuleni.com

In terms of the legislation regulating the Municipalities in South Africa, each Local Authority must have an Integrated Development Plan (IDP) as well as a Spatial Development Framework (SDF), these are 5 year role out plans reviewed on a yearly basis. Both of these documents/plans are also approved on Provincial Authority level and become legally binding documents. One of the requirements for the SDF is that it must have a "strategic environmental assessment."

In terms of the proposed new regulations for the EIA procedure (drafted in terms of the National Environmental Management Act - NEMA) Chapter 5 deals with Environmental Management Frameworks (EMF). The purpose of these EMF's is, *inter alia:*

- to assess and document the environmental attributes of a defined geographical area in sufficient detail
- to make an informed decision regarding the need for environmental authorisation in respect of specific activities.
- to identify environmental considerations that should be taken into account in the formulation of strategic development frameworks (SDF) and integrated development plans (IDP)

Ekurhuleni Metropolitan Municipality is one of the first Local Authorities in South Africa, which in a joint partnership with the Provincial Authority, compiled such an EMF. The information derived from this EMF was used to inform the yearly revision of the SDF.

This process has its advantages, but obviously it is not without its problems.

Application of EIA/SEA System in Land Use Planning? Experience from Serbia

Bozidar Stojanovic, Institute of Architecture and Urbanism of Serbia, bozas@iaus.org.yu

Provisions for EIA were introduced in Serbian legislation by the Environmental protection law (1991) and regulations on EIA (1992). During past decade EIA was closely connected to the processes of planning and building. The Spatial planning law (1995) required preparation of EISs for plans of main infrastructure corridors, water reservoirs, etc. EIA have been carried out in two steps: preliminary EIA (as part of spatial planning) and detailed EIA (as part of detailed plans and projects documentation). Main problems in EIA implementation were found in: inconsistency with planning regulations, shortcomings in institutional cooperation, unsatisfactory quality of EISs, and lack of public participation.

New EIA and SEA laws were introduced in 2004, which are in compliance with EU Directives 97/11/EC and 2001/42/EC. Of the many shortcomings identified in early stage of implementation of SEA, the paper concentrates on those elements considered crucial to effective integration of SEA in planning. These are: inclusion of SEA in hierarchy of planning process; relationship SEA/EIA, standardization of approaches and methods in SEA, and type of public participation. Current problems are analysed in the case of spatial plan of Valjevo municipality, which also involves town plan and spatial plan of water reservoir.

SEA in the Urban Planning of the Municipality of Sao Paulo

Ivan Carlos Maglio, Arlindo Philippi Jr., Tadeu Fabrício Malheiros; Universidade de São Paulo-Brazil, tmalheiros@usp.br

Environmental sustainability as a concept adopted after Rio 92 Summit sets forth that development master plan must be re-conceptualized to become a suitable tool to endorse sustainability, promote urban reform and the social functions of the city. The objective of this paper is to analyse the urban planning process concerning the insertion of sustainability in urban plans and in urban management actions carried out in the Municipality of São Paulo from 1971 to 2004. Elements of Strategic Environmental Analyses - SEA were used as method for analysis of master plans and urban strategic actions. The results highlighted inconsistencies of the urban master plans strategies and environmental protection policies. During 1991-2000 period, political problems and conflicts emerged concerning urban sustainability, however environmental protection issues and assessment of impacts were considered in the Strategic Master Plan 2002 for São Paulo City. This analysis showed that urban planning process has not considered sustainability in urban master plans in a consistent manner. Finally, efforts must be made to include Strategic Environmental Analyses- SEA in the Master Plan Review process in 2006. This paper also highlights that indicators of sustainable development must be used during SEA as well as for monitoring environmental impacts of urban process.

Experience in SEA? The Case of the Autonomous Region of the Azores

H. Calado, J. Cadete, J. Porteiro; University of the Azores, cadete@notes.uac.pt

In the Azores archipelago, the majority of the population and economic activities are concentrated on the coast mainly due to Territory constraints. It is also where the most valuable environmental areas are to be found. However, Spatial Planning faces major difficulties compared to the situation in the mainland, as the majority of the planning instruments are not in force. The non-existence of Municipal Master Plans in most municipalities and the lack of environmental concerns in the approved ones make the Coastal Zone Management Plans (CZMP) a possible bridge for gaps in spatial planning. As a great part of the CZMP are still to be elaborated, this can constitute a challenge to include Strategic Environmental Assessment (SEA) in their elaboration processes. Even though the Portuguese Government did not transpose yet the EU SEA Directive, the Azores Autonomous Region is innovative as it already presents a case of good practice. In fact, the Environment Secretary of the Regional Government asked for a SEA of the CZMP for the South Coast of São Miguel Island, facing all the dispositions of the Directive.

What is on analysis is the comparison of those requirements and the operative measures for SEA proposed by the planning team.

Reasonable Alternatives

Orlando Venn, Scott Wilson, orlando.venn@scottwilson.com

While it is now mandatory to generate 'alternatives,' recent experience has shown that UK planning authorities are struggling to produce genuine options for assessment.

This paper considers the development of 'alternatives' for local spatial plan production in three areas with different economic, social and environmental characteristics. Each authority has adopted a different approach to producing 'alternatives,' from a broad vision (growth scenarios) approach to a detailed investigation of different topic areas and broad localities for development. This paper will argue that alternatives were not necessarily 'reasonable' as they didn't address the range of key issues facing the area. In each case different tools and approaches were required to help the planning authority to develop and refine their alternatives.

Furthermore, this paper will

- detail the tools used to assist the alternatives development
- suggest a series of rules to gain the most from developing alternatives
- highlight that capacity building is needed to build these skills within planning authorities
- support the need to include an independent, detached party in the SEA process
- explain why the identification, description and evaluation of alternatives is such an important element in spatial planning.

Transnationally Approved Indicator Set: The Core Module in SEA for Regional Planning

Hendrike Helbron, Michael Schmidt, Harry Storch; Department of Environmental Planning; Brandenburg Technical University (BTU), helbron@tu-cottbus.de; Harry Meyer-Steinbrenner, Saxon State Ministry of the Environment and Agriculture

The paper presents first significant experience of a pilot project on SEA at regional planning level co-financed by the Interreg IIIa programme of the EU. The objective is to develop a transnational assessment and procedure concept for Germany (Region of Upper Lusatia-Lower Silesia in the East German State of Saxony), Poland (Wojewodztwos Dolnoslaskie and Lubuskie) and the Czech Republic (Krajs Liberecky and Ustecky). Responsible institutions in Germany are the Leibniz Institute of Ecological and Regional Development in Dresden, the Regional Planning Authority Upper Lusatia-Lower Silesia in Bautzen and the Brandenburg Technical University in Cottbus. The project runs from June 2004 till June 2006 under the supervision of the Saxon State Ministry of the Environment and Agriculture (SMUL) and in cooperation with the Saxon State Ministry of Interior (SMI).

This contribution outlines the methodology of an indicator-based impact assessment. SEA's core module is an indicator set approved by the above-mentioned three EU-states, which adapts to a formalised plan preparation procedure.

Benefits of the indicator-based approach contribute to a systematic procedure in a partly unstructured regional planning culture. Methodological problems or difficulties in complying with a set time schedule emphasize the demanding nature of such a transnational indicator set, that has to be provided with adequate spatial data.

Environmental Vulnerability Analysis as a Tool for SEA of Spatial Plans

Vesna Koscak Miocic-Stosic, Butula Sonja; University of Zagreb, vkoscak@public.srce.hr;

The term and the concept of environmental vulnerability analysis is known from early 70s when it was defined by C. Steinitz as 'vulnerability to impact' and has been used since then for assessing the potential impacts of planned interventions or activities on the environment.

Unfortunately, the contribution to the reduction of the environmental impacts was limited due to already defined activity location. It could only recommend measures how to mitigate impacts that could not be avoided.

The use of the same concept at an earlier phase of a planning process in assessing the alternative proposals for spatial development could reduce the environmental impacts by choosing the alternative plan which has less impact on the environment. The paper will acknowledge a platform of three

value systems incorporated within the vulnerability concept, as one of the appropriate modes to cope with the impacts and uncertainty within planning process.

The procedure for assessment of alternative proposals of development plan of Mura region in Croatia developed for educational purpose, as a Studio work within Landscape Architecture Programme at the University of Zagreb, will be presented.

Integrating Strategic Assessment and Spatial Planning: Best Practices According to the Dutch Polder Model

Jan Nuesink, DHV Environment & Infrastructure, jan.nuesink@planet.nl

The Dutch planning system has a tradition of achieving sustainable development by incorporating environmental goals and prerequisites in spatial planning and decision making. Long before the EU Directive 2001/42 was adopted, environmental impact assessment was prescribed for concrete spatial decisions contained in municipal physical plans and certain regional development plans.

EIA being already in place for some areas of spatial planning posed implementation and transposition problems regarding the EU Directive 2001/42. Nevertheless planning authorities on the (macro-)regional level started preparing SEAs for those higher level and often abstract spatial plans which where not already subject to assessment before. Since guidance and national coordination was limited an array of creative approaches and methods evolved in order make the spatial plan benefit from the assessment process.

To disseminate experiences, the association of Dutch Provinces (IPO) initiated a survey of SEAs in preparation , including workshops with stakeholders. Best practices regarding tiering with EIA, optimising the role and level of integration of SEA in the spatial planning process and the impact on final decision making will be identified and shared. Emphasis in this contribution is on practicality and successfulness of SEA approaches and net result in terms of better planning and sustainable development.

Session C5 Linkages Between SEA and Landscape Planning

Topic chair: Marie Hanusch, UFZ - Centre for Environmental Research Leipzig-Halle, marie.hanusch@ufz.de

Session C5 focuses on tools related to landscape planning and their existing or potential benefits for SEA. These benefits reach from technical aspects, like making available environmental baseline data and addressing cause-effect relations, to political aspects, like overcoming communication gaps. Moreover related legal provisions and critical issues, like public participation and health aspects, will be addressed. Thereby different ways of how to consider the issue of 'landscape' within SEA will be discussed.

Each workshop will start with a short introduction on the topic (5-10 min) and end with a concluding discussion.

Workshop C5.1 Innovative Tools for an Effective Consideration of the Dynamic Landscape in SEA

Landscape Heritage Sustainable Development Indicator Assessment Using GIS in Conjunction with Clare County Council. Lianda d'Auria

Future Solutions: Integrated Models for SEA and other land-use decision-making. Ruth Waldick

Workshop C5.2 Linkages of SEA and Landscape Planning in Germany

SEA and the Tools of Landscape Planning Pursuant to the German Federal Nature Conservation Act. Stefan Lütkes

Landscape Planning and SEA – A Complex for an Environmentally Compatible Urban Land Use Planning of Municipalities? Maren Regener

The Impact of 'Landscape' Within SEA Law and Practice in Sweden. Ebbe Adolfsson

Considering Health Aspects in SEA and Landscape Planning. Erik Skärbäck

Session C5 abstracts (in order of presentation):

Landscape Heritage Sustainable Development Indicator Assessment using GIS in conjunction with Clare County Council

Lianda d'Auria, University College Dublin, Lianda.dauria@ucd.ie

This project proposes to improve understanding of the way in which natural, cultural and aesthetic heritage is integrated in the dynamic landscape by documenting changes and trends in it, and explaining these changes and their causes.

Indicators have long been identified as 'measuring rods' to assess and monitor progress towards sustainable development. However, there are many difficulties in using indicators on an individual basis, thus an overall view is required on a spatial scale that is compatible for effective environmental planning and management. This project will follow the Driving Forces, Pressures, State, Impacts, Responses (DPSIR) framework. A GIS framework will be developed to integrate and amalgamate indicators geographically allowing spatial analysis.

The theoretical tools developed will be tested and validated in a real-word environment allowing real planning at a county level. Furthermore, the project will highlight gaps in information and would be the basis for the identification and development of appropriate landscape indicators for tracking/monitoring changes in the state of the natural, cultural and aesthetic environment in the future.

Future Solutions: Integrated Models for SEA and other Land-Use Decision-Making

Ruth Waldick, Canadian Wildlife Service, National Wildlife Research Centre, Ruth.Waldick@ec.gc.ca

Co-authors Denis White, Environment Canada; Kathryn Lindsay, Environmental Protection Agency (USA); Ian Campbell, Policy Research Initiative; David Biggs, Envision Sustainability Tools; Brad Stelfox, Forem Technologies

SEAs require an integrated understanding of place-based issues; they are thus highly linked to integrated land-use or integrated water resource decision-making. In practice, however, a lack of suitable tools and an often fragmented community of expertise have made place-based integrated decision making more difficult and less common than is desirable.

Analytical tools and community capacity are needed for SEAs and other land-use decision processes to: (1) rapidly and reliably evaluate the long-term and often multi-jurisdictional economic, environmental, and social costs of the policy and management options that SEAs are intended to evaluate; (2) identify interactions and cumulative effects that cross sectoral and jurisdictional lines; (3) provide opportunities to explore ways to mitigate negative effects on the environment, society, and the economy, and (4) involve non-expert community members in the SEA process as early and as thoroughly as possible in order to reduce or avoid conflict. Integrated landscape management models (ILMM) bring communities and experts together in the course of developing integrated place-based models suitable for SEAs, and may thus be the solution.

In this paper, we present the key conclusions reached at a workshop of over 60 modeling and policy experts from across Canada and the United States regarding the potential use of integrated landscape management models for SEAs and sustainable land-use planning. Technical and logistical constraints that currently limit their use include the lack of a coordinated community of experts and a degree of "early adopter anxiety" on the part of potential users. Through examples of ILMM from across Canada, we show how these barriers are gradually eroding as ILMM become more powerful and more accepted. Finally, we describe a potential institutional framework for promoting the development and use of ILMMs to address the gaps in communication and knowledge transfer between policy, management, researchers, and public stakeholders.

SEA and the Tools of Landscape Planning Pursuant to the German Federal Nature Conservation Act

Stefan Lütkes, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Stefan.Luetkes@bmu.bund.de

The act implementing the EU SEA Directive on the federal level (SEA Act) came into force on 29 June 2005. According to the new act, SEA is required for plans and programs listed in Annex 3, which includes the instruments of landscape planning pursuant to the Federal Nature Conservation Act (FNCA). Therefore SEA is mandatory for plans and programmes prepared and adopted for landscape planning. Landscape planning serves to describe and substantiate the requirements and measures of nature protection and landscape conservation and to implement its objectives and principles in plannings and administrative procedures. The general provisions for the instruments of landscape planning are laid down in the FNCA. However the FNCA does not cover any directly applicable provisions. The binding requirements of landscape planning are provided by the relevant laws of the 16 Federal Laender. This Laender legislation must be in line with the basic requirements provided in the FNCA.

The new SEA Act is supplementing these provisions. It stipulates that protected assets named in the SEA Act are to be taken into account when establishing or modifying landscape plans or programmes. This means that future landscape planning must also be expressly orientated towards humans and human health.

The report will focus on aspects relating to both content and procedures of implementing SEA in landscape planning instruments and decisions. The issue of the binding nature of landscape plannings and decisions will also be addressed in this context.

Landscape Planning and SEA – A Complex for an Environmentally Compatible Urban Land Use Planning of Municipalities?

Maren Regener, Leibniz Institute of Ecological and Regional Development (IOER), M.Regener@ioer.de

Since July 2004 the SEA for municipal urban land use planning is adopted in German law. In order to ensure that environmental consequences of certain plans and programmes are taken into account every urban land use plan has to be assessed as prescribed in article 1 of the EU SEA Directive.

According to the German nature protection laws landscape planning has a function similar to SEA. Both instruments shall contribute to environmentally compatible planning. Consequently, the question arises whether former experiences with landscape planning could be used for SEA. To elucidate this subject a research project was started in late 2003 which analyses the feasibility of a current landscape plan (of the administrative collectivity Rothenburg) for the SEA of the preliminary land use plan. The first results show that the taking of inventory and the appraisal of nature und landscape for the landscape plan is a good source of data for the SEA. For the assessment of the environmental effects of the preliminary land use plan on the issues fauna/flora/biodiversity, soil, water, air/climatic factors and landscape the digital data of the landscape plan are entirely adequate. Therefore, the expenses for the SEA could be reduced and methodical uncertainties could be avoided by using established methods and standards of landscape planning.

The practical experiences show that landscape planning as an early instrument is suited as a basis for SEA. Nevertheless, it doesn't cover the issues humankind, material assets and cultural heritage, which are required for SEA and therefore have to be added. Thus, the function of SEA can be concentrated towards being an instrument to accompany the planning process with public participation and consultation of the municipality for environmentally compatible planning and is thereby able to take over the demands of the SEA Directive concerning participation.

The Impact of 'Landscape' within SEA Law and Practice in Sweden

Ebbe Adolfsson, Swedish Environmental Protection Agency, ebbe.adolfsson@naturvardsverket.se

In Sweden Directive 2001/42/EC concerning the assessment of the environmental impact of certain plans and programmes (SEA Directive) is legally transposed. However there are no experiences of the 'real use' of the laws referring to the Directive yet. But there have been regulations stipulating assessments in the spirit of the Directive before. There have even been assessments carried out due to these earlier regulations in the light of the coming Directive.

In the chain of these assessments and decisions it is important to involve the public and NGOs, not least in environmental issues. The public sees nature often from a holistic point of

view: the 'result' is seen and it is not worried about the complicated system behind it. It is the landscape that is seen. Therefore it is proposed that the landscape could be a good connection between experts and the public – in that way it is a challenge to develop landscape as a theme in SEA.

In Sweden some interesting experiences with the public involved in EIA/SEA-processes and landscape planning took place that will be presented:

- Conservation planning of the landscape at the countryside and ways to involve people at the local level.
- Procedures for how people can be stimulated to participate in the planning and assessment of wind power stations in the mountains.
- Public involvement in the processes of landscape–agriculture management and road planning.

Considering Health Aspects in SEA and Landscape Planning

Erik Skärbäck, SLU, Erik.Skarback@lpal.slu.se

There has been a rapid increase in knowledge regarding the importance of the external environment to our health. People reduce their stress significantly when exposed to health-promoting nature and landscape values. A high level of traffic noise increases stress. Eight characteristics of outdoor environments that correspond to people's needs/demands have been developed at the Department of Landscape Planning, Alnarp (Grahn, P. et al.). Development plans for city planning and infrastructure planning in four different municipalities in southern Sweden have been evaluated concerning impact assessment. Two cases deal with planning in preparation for permit applications including EIR, and an additional two cases deal with more strategic pre phase studies corresponding to an SEA phase. The eight characteristics have been applied to assess the landscape under study, both before and after the planned development. Mitigation and compensation measures in landscape planning have been created to achieve environmental quality goals with a focus on the health function of the landscape.

My paper focuses on how we can balance the health functions of nature and landscape values to achieve sustainable development through planning. The concept 'balance' implies discussing measures to mitigate, minimize and compensate for negative impacts. In this context, a negative impact is understood as a disturbance by development projects of resources and values of importance to the health function. Such resources may include both existing nature and landscape values and potential, i.e., as yet undeveloped, landscape qualities.

Evaluations of health functions of the landscape are an important part of strategic decisions in all kinds of spatial planning. They are also important in the process of analyzing impacts, in designing mitigation measures and in reaching agreement on conditions for granting permits.

Session C6 SEA Practice and Biodiversity

Topic chairs: Jo Treweek, SES, Jo@treweek.fsnet.co.uk; Helen Byron, European Programmes & Training Department RSPB, helen.byron@rspb.org.uk; Dave le Maitre, Environmentek CSIR, dlmaitre@csir.co.za; Martin Slater, Environment Agency UK, martin.slater@environment-agency.gov.uk

Session C6 looks at SEA and biodiversity. The Convention on Biological Diversity and other biodiversity-related Conventions promote SEA as a tool for mainstreaming the conservation and sustainable use of biodiversity into development. We will explore the kinds of biodiversity information needed to support effective SEA and also the benefits that SEA can bring to effective planning for biodiversity. Workshop C6.1 draws on examples where spatial biodiversity planning has been integrated with strategic planning for development. We then explore practical aspects of integrating biodiversity considerations with SEA in Workshop C6.2. We will spend a third session (C6.3) refining the latest CBD guidance on SEA and biodiversity before discussing how SEA can be used to promote the Millennium Development Goals and to make critical links between biodiversity, poverty and development needs (Workshop C6.4). Finally we will discuss how SEA might streamline environmental assessment with a particular focus on biodiversity (C6.5).

Workshop C6.1 Planning for Biodiversity and Development: SEA as a Tool

Topic chair: Jo Treweek, SES, Jo@treweek.fsnet.co.uk

Ekurhuleni Metropolitan Municipality Report Outlining Possible Methods of Entrenching Biodiversity Principles into All Aspects of the Ekurhuleni Integrated Development Plan. Elisabeth Olivier

Systematic Conservation Planning in the Cape Floristic Region and Succulent Karoo, South Africa: Enabling Sound Spatial Planning and Improved Environmental Assessment. Susie Brownlie

Biodiversity Inputs to Strategic Environmental Assessments: Integrating Insights from Advances in the Science of Systematic Conservation Planning. Dave Le Maitre

Integrating Biodiversity Issues into Strategic Environmental Planning. A Case Study of the Umlathuze Municipality, Richards Bay, South Africa. Thea Jordan

Strategic Environmental Assessment of the Dai Tu District Socio-Economic Development Plan Bruce Dunn

Workshop C6.2 SEA and Biodiversity in Practice

Topic chair: Martin Slater, Environment Agency UK, martin.slater@environment-agency.gov.uk

Inclusion of Environmental Risk Assessment within Strategic Environmental Assessment (SEA), As a Way to Ensure the Biodiversity Conservation in Brazilian Oil and Gas Exploration & Production (E&P) Offshore Areas. Katia Cristina Garcia, Emilio Lebre La Rovere, Alvaro Bezerra de Souza Junior

Strategic Environmental Assessment as a Tool to Implement Shell's Biodiversity Standard. Susana Muhamad, Shell, The Netherlands

SEA of the India Ecodevelopment Project: A Review of Prospects and Challenges for Biodiversity Conservation. Asha Rajvanshi

Integrating Biodiversity Considerations in SEA of an Irrigation Project in Central India. Vinod Mathur

Workshop C6.3 International Guidance and Principles on SEA and Biodiversity

Facilitated Group Work

Facilitators: Helen Byron, RSPB; Roel Slootweg, SEVS- Slootweg en van Schooten Consultancy

CBD Guidelines on Biodiversity in SEA - International Guidance and Principles on SEA and Biodiversity: Refinement from Experience. Roel Slootweg, Robert Hoft, Arend Kolhoff, Rob Verheem

Draft guidelines will be provided prior to the Conference. Participants are requested to consider how the guidelines could be applied, based on their experience.

Workshop C6.4 Panel Discussion

SEA and Biodiversity: Delivering the Millennium Development Goals

"A good practice is an action, approach or process that introduces or catalyzes changes in local or national attitude, policy, or pro-MDG action. A good practice leverages resources, policies, or the interests of constituencies, and enables partners to put in to place programmes that advance the MDG."

This panel discussion will focus on how SEA can help to catalyse capacity building and action to promote the MDGs, taking a regional focus. The panel will have representatives from Central America, Southern Africa, South and South East Asia, who will make brief presentations to focus the discussion. We will examine how biodiversity fits into the MDGs and how SEA can be used to help make critical links between biodiversity, poverty and development needs.

Panel Members:

Susie Brownlie (chair)
Dave le Maitre
Ian Campbell
Ahmad Saeed
Juan Carlos Garcia de Brigard
Kareh Zahedi

Workshop C6.5 Facilitated Group Work

Facilitators: Arend Kolhoff, Development Co-operation NCEIA, akolhoff@eia.nl; Dave le Maitre, Environmentek CSIR, dlmaitre@csir.co.za

Streamlining Assessment and Management for Biodiversity Using SEA: The Case of the Waddensee and Other Stories. Introductory Presentation by Arend Kolhoff

Relevant cases and examples will be requested from participants, who should prepare brief summaries of cases where SEA could have streamlined environmental assessment requirements or would have enhanced outcomes for biodiversity.

Session C6 abstracts (in order of presentation)

An SEA of the Ekurhuleni Metropolitan Municipality's IDP

Elsabeth Olivier, Ekurhuleni Metropolitan Municipality, oliviere@ekurhuleni.com

In terms of the legislation regulating the Municipalities in South Africa, each Local Authority must have an Integrated Development Plan (IDP) to be informed by a Spatial Development Framework (SDF). These are 5-year role out plans reviewed on a yearly basis, to inform the yearly municipal financial budget. Both of these documents/plans are also approved on Provincial Authority level and become legally binding documents.

The legislation guiding the IDP process used many of the principles of the Agenda 21 that was compiled at the Rio Earth summit.

In an SEA of the Ekurhuleni Metropolitan Municipality's IDP, it was found that to a great extent it complies with the Agenda 21 and Johannesburg Plan of Implementation objectives. In terms of sustainable development, the economic and social aspects, receive substantial attention, however the biophysical environmental aspect of sustainable development is not sufficiently integrated into all aspects of the IDP.

The Council of the Ekurhuleni Metropolitan Municipality has approved a report outlining possible methods of entrenching biodiversity principles into all aspects of the Ekurhuleni IDP. The directorates responsible for the IDP and Environment respectively are presently exploring ways of implementing these recommendations.

Systematic Conservation Planning in the Cape Floristic Region and Succulent Karoo, South Africa: Enabling Sound Spatial Planning and Improved Environmental Assessment

Susie Brownlie, deVilliers Brownlie Associates, dbass@icon.co.za

The Cape Floristic Region (CFR) and Succulent Karoo are global biodiversity hotspots, lying mainly within South Africa. Land use has a major impact on biodiversity in these biomes, and sound environmental assessment (EA) in land-use planning is thus a critical factor to ensure that decision-making supports biodiversity conservation.

Environmental Assessment in South Africa is mandatory at project, not strategic level. Since 2000, however, municipalities have had to prepare Spatial Development Frameworks (SDFs) and carry out an associated Strategic Environmental Assessment.

Systematic conservation planning identifies priority areas for conservation action by determining quantitative and scientifically defensible targets for conservation, and looking at options to achieve those targets. Systematic conservation planning can make a significant contribution to the sound preparation of SDFs,

and to effective EA at plan and project levels: broad-scale planning provides a reliable 'red flag' mechanism at both strategic and project level EA, assists in screening and scoping, and directs subsequent investigations; fine-scale planning outputs effectively provide a biodiversity scoping surrogate. At all levels of land-use planning and EA, systematic conservation planning products encourage proactive and positive planning.

A number of examples are provided. Based on these examples, the main lessons and challenges for the future are drawn out.

Biodiversity Inputs to Strategic Environmental Assessments: Integrating Insights from Advances in the Science of Systematic Conservation Planning
David le Maitre, Jeanne Nel, Caroline Gelderblom, Environmentek, CSIR, dlmaitre@csir.co.za

Biodiversity assessment is now a recognised component of environmental impact assessments and guidelines are available or under development for use by both EIA project managers and assessment specialists. The guidelines generally recognise that to be effective biodiversity impact assessments need to address biodiversity at both the species and the ecosystem level and to address compositional, structural and functional aspects of the systems.

Systematic Conservation Planning has been developed to guide decision makers in choosing an optimum set of areas to select for formal protection, or conservation-compatible management, to meet predefined targets.

Historically, SCP like biodiversity assessment, also focused on the compositional and structural aspects of biodiversity (which are combined in the term biodiversity pattern), typically at the community or habitat level.

The SCP approach is now being adapted and expanded to deal with issues of biodiversity function and process because communities can only persist and be sustainable if the evolutionary processes that sustain that community are provided for. These developments are driving the development of new insights and tools which can be used as the conservation inputs for SEA. The outcomes are in the forms of sets of land areas (and river reaches) which can then be used in the decision process. Choices on whether or not to include a particular unit can then be used to update the information with a new optimal set of areas.

Integrating Biodiversity Issues into Strategic Environmental Planning: A Case Study of the Umhlathuze Municipality, Richards Bay, South Africa
Thea Jordan, Umhlathuze Municipality, tjordan@richemp.org.za

Cities have been recognised worldwide as important "sites" of national development and, as urbanisation in South Africa increases, so the demand for its cities to perform in a sustainable and efficient manner escalates. Therefore, it is imperative that cities are planned and managed in a manner that enable a balanced utilisation of resources and the opportunity for an improved quality of life.

Consequently, environmental issues are becoming a major concern in urban development. In many cases the demand for environmental services or biodiversity exceeds supply and consequently results in:

- More frequent flooding with damage to roads, homes and stormwater infrastructure
- Unacceptable air pollution and communities opposed to new industrial developments
- Sedimentation of our estuaries with less ability to produce fish
- Poor water quality in rivers and the sea with costs to health, food production and tourism
- Less resources for the poor, who often rely on environmental services for their livelihoods

The above illustrates a city wherein the human systems and the natural systems are not aligned, and are generating costs, which somebody or a community in the region must and will bear. It also highlights a situation where conflict between "economists" and "ecologists" is prevalent.

It is within this framework that the Umhlathuze Municipality undertook to extend its municipal open space system into the new and expanding municipal area, in accordance with emerging new approaches. It needed to move beyond merely identifying the open space "footprint," and required an elevation of the status of open space as a vital and valuable physical, social and economic asset that is fundamental to the creation of livable cities.

A Strategic Assessment of the environmental assets and services were undertaken within catchment boundaries, since river catchments are becoming widely accepted as appropriate spatial units within which planning and sustainable development should take place. It is estimated that the environmental services within the City of Umhlathuze is worth R1,757 million per annum. Since the study originated in the Town Planning Department of the Municipality, it was also important to ensure that the outcomes of the study directly inform or influence other local and regional plans, development programmes and land use controls.

This case study examines the process followed by the Umhlathuze Municipality to incorporate biodiversity or environmental services into strategic and spatial planning. It will also show how the original aim of the project changed to not only inform open space planning, but also assist in alleviating conflict between developers and environmentalist during Environmental Impact Assessment's (EIA's), since the Municipality "would have done its homework" in terms of the importance of certain areas for biodiversity and ecosystem functioning.

Strategic Environmental Assessment of the Dai Tu District Socio-economic Development Plan

Bruce Dunn, German Technical Cooperation (GTZ), gtz-tdmp@hn.vnn.vn

The GTZ-funded Tam Dao National Park and Buffer Zone Management Project (TDMP) assists stakeholders to develop and implement plans and programs that balance economic, social and environmental interests within the park's core zone and buffer zone.

TDMP is providing technical assistance to Dai Tu District's Department of Planning and Investment (DPI) to conduct a strategic environmental assessment (SEA) of DPI's upcoming 5-year socio-economic development plan. TDMP chose to support an SEA of this plan because about half of the communes in Dai Tu district are located within the park's buffer zone. Therefore, the plan will have a substantial impact on development in the buffer zone.

In applying this tool, four major points were considered:

1. The socio-economic development plan for Dai Tu district is a key planning document for the buffer zone. Environmental considerations that are woven into the plan will then be considered for support within the annual implementation plans.
2. The GOV's policy framework for SEA is quite modest, and therefore there is little procedural guidance on how GOV should undertake an SEA
3. The park and the communes hold a number of environmental values. However, the current socio-economic development planning process does not have a clear mechanism to incorporate these values or consider their sustainability limits
4. Stakeholder knowledge on SEA is very limited in Dai Tu district.

Notwithstanding these challenges, SEA has excellent potential as a planning tool in Vietnam because the nation's major sectors and political jurisdictions operate under a centrally-controlled planning system. In this system, the 'master plan' and the 'socio-economic development plan' guide the design and implementation of investment throughout the nation. Lessons learned from the TDMP SEA will be very helpful to the GOV as it finalises the new Law on Environmental Protection and prepares to develop the decrees, circulars, and guidelines to implement the Law.

Inclusion of Environmental Risk Assessment within Strategic Environmental Assessment (SEA), as a Way to Ensure the Biodiversity Conservation in Brazilian Oil and Gas Exploration & Production (E&P) Offshore Areas

K.C. Garcia, LIMA/PPE/COPPE/UFRJ, garciak@ppe.ufrj.br

The 3.5-square-km Brazilian shore areas include coral reefs, dunes, mangroves and estuaries, some of them endemic, contributing to appoint the country as the largest biodiversity on Earth. However, these ecosystems are being lost, damaged or threatened by the risk of oil spills from E&P activities.

In order to reduce such environmental pressure, the regulatory agency (ANP), together with the Brazilian Environmental Institute (IBAMA), published, in the last three concession rounds of E&P blocks, environmental license guides and studies, emphasizing the environmental sensibility of the E&P areas. However, this approach only takes into account the plan-level of the decision making process, when politics, plans and programs (PPP) should be addressed; and, furthermore, this is not sufficient to guarantee the incorporation of all environmental issues.

This paper proposes a novel methodology, by utilizing the Environmental Risk Assessment within SEA, as a way to efficiently incorporate all the environmental issues, including the reduction of the risks of oil spills, and its catastrophic consequences to the biological diversity and to the communities of the E&P areas. Moreover, the proposed approach can determine the exclusion (or postponement) of concessions areas with extreme environmental sensibility, as well as the choices for biodiversity-friendly E&P technologies.

Strategic Environmental Assessment as a Tool to Implement Shell's Biodiversity Standard

Susana Muhamad, Shell Global Solutions, susana.muhamad@shell.com

The Shell Group committed to respecting biodiversity in 2001 by adopting the Shell biodiversity standard. The standard focuses on:

- Working with others to maintain ecosystems
- Respecting the basic concept of protected areas
- Seeking partnerships to enable the Group to make a positive contribution towards the conservation of global biodiversity.

For that effect Shell companies will:

- Conduct environmental assessments, including the potential impacts on biodiversity, prior to all new activities and significant modifications of existing ones
- Bring focused attention to the management of activities in internationally recognised hotspots, including the identification of, and early consultation with, key stakeholders.

The standard has been rolled out and projects have been implemented in different companies and operations around the world. After 5 years of the commitment a review has been made in order to inform the formulation of a strategy for the next 5 years. This paper will explore how SEA could be a valuable approach to implement the next 5-year strategy, based on the learning's of implementing biodiversity projects in the past. This is a practical experience from the energy sector in addressing biodiversity aspects and the potential use of Strategic Impact Assessment as a tool to improve performance.

Strategic Environmental Assessment of the India Ecodevelopment Project: A Review of Prospects and Challenges for Biodiversity Conservation

Asha Rajvanshi, Wildlife Institute of India, ar@wii.gov.in

As the evidence and experience of applications of diverse forms of Strategic Environmental Assessment (SEA) is rapidly growing across the globe, consensus over its usefulness as a diagnostic and prescriptive tool for mainstreaming biodiversity into decision making is also increasingly emerging. Due to lack of policy guidance and thrust on SEA in the national EIA framework, the applications of SEA in India is being largely inspired by various global initiatives.

This paper presents the findings of the SEA of the India Ecodevelopment Project (IEP), a GEF funded national priority project implemented in seven protected areas in India. The core objective of the project was to strengthen biodiversity conservation in all the seven sites by establishing critical links between conservation and community well being. The project was designed to address threats to biodiversity resources and ecosystem functioning by optimizing benefits to local communities, improving livelihood opportunities and reducing dependencies on PAs' biodiversity resources.

The SEA of this community oriented conservation project of national significance was conducted to review the success of enabling strategies, interventions and financial investments planned under the project and to improve the performance of the project in all the sites.

The SEA process appropriately captured the major impacts of the project activities and was successful in generating the evaluation framework for reviewing the key strengths and weaknesses of the project. This SEA was helpful in identifying two major shortfalls in the planning of this community oriented conservation project. These included failure to identify some important drivers of changes in biodiversity and neglect of some of the external threats that were more real in the final analysis of threats to biodiversity resources of the PAs. This SEA output provided useful guidance for refining the project plan for improving the biodiversity conservation prospects in future sites of project implementation.

Integrating Biodiversity Considerations in SEA of an Irrigation Project in Central India

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In the last three decades of EIA practice in India and in many other countries, integration of biodiversity considerations in impact assessment has made a steady progress. The same is however not the case with the Strategic Environmental Assessment (SEA) for a variety of reasons. Notwithstanding the fact that SEA does not have a universally agreed definition and also a legally binding framework, it provides an excellent diagnostic tool for the evaluation of proposed policies, plans and programmes to facilitate informed decision-making. Incorporation of biodiversity considerations in SEA is still at a nascent stage.

This paper describes the experience of conducting a 'biodiversity driven' and 'EIA inspired' SEA for an irrigation project in Central India, where an earlier EIA had failed to steer the decision-making. The SEA was adopted as a tool to supplement the deficient information and make value additions in critical information needs on biodiversity issues for aiding improved conservation planning and decision-making. The SEA was based on a combination of 'bottom-up' approach involving independent review of the project level EIA and initiation of further assessment for upgrading information on biodiversity issues. This 'biodiversity driven' SEA highlighted the importance assigned to the evaluation of impacts on ecosystem components valued as habitat links and movement corridors for tigers and ecosystem functions and features that characterized habitat suitability for conserving and managing prey base for tiger. The outcomes of SEA played a meaningful role in deciding a new course of impact mitigation and conservation planning which led to the grant of environmental clearance to the project that was first mooted nearly two decades ago.

CBD Guidelines on Biodiversity in SEA

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The Secretariat of the Convention on Biological Diversity (CBD) has requested the Netherlands Commission for Impact Assessment to assist in preparing Guidelines for the Integration of Biodiversity Considerations in Strategic Environmental Assessment. In close consultation with the Biodiversity & Ecology and the SEA sections of IAIA a document has been drafted and reviewed. Inputs from the trade section have also been solicited. The guidelines are based on lessons learned from good quality cases in which biodiversity was an important issue. To further ensure the new guidelines fully reflect the experience of IA practitioners, the draft document has been discussed at the annual IAIA conference in Boston. Further discussion on an advanced draft of the guidelines is proposed for the SEA conference in Prague. The activity is part of IAIA's Action Programme for Biodiversity in Impact Assessment; case studies have been solicited through IAIA's Capacity Building on Biodiversity in Impact Assessment (CBBIA) project. The final document will be presented at a technical meeting (SBSTTA) of the CBD in December 2005, in order to present the guidelines for adoption by the CBD Conference of Parties in 2006.

Session C7 SEA and EIA Tiering: The Missing Link

Topic chairs: Jos Arts, Ministry of Transport, Public Works & Water Management, NL, e.j.m.m.arts@dww.rws.minvenw.nl; Paul Tomlinson, Centre for Sustainability, TRL, ptomlinson@quista.net; Henk Voogd, University of Groningen, h.voogd@frw.rug.nl

This topic will include discussion of notions of tiering of SEA and EIA, case studies, with the aim to discuss ideas and exchange experiences to identify common issues and principles, lessons and useful future directions. The following themes merit attention:

- Applicability, usefulness of tiering in planning practice (strengths and weaknesses)
- Multi-level governance and consequences for tiering (dealing with planning and decision-making at various levels of government and across various sectors)
- Participation and tiering (dealing with different stakeholders and interests in tiering)
- Tiering and quality control in SEA and EIA (enhancing quality of EAs throughout the planning process)
- Tiering and scoping of SEA and EIA (defining adequate scope at different tiers)

- Role of SEA follow-up and EIA follow-up (tiering for tracking adequate implementation of mitigation measures and risk management)
- Role of dynamic planning context in tiering (doing useful tiering in a dynamic planning context, time lag issues, shelf-life of SEAs and EIAs)

Workshop C7.1

Introduction: EIA and SEA Tiering, the Missing Link? Jos Arts, Paul Tomlinson, Henk Voogd

Successful Tiering of Policy-Level SEA to Project-Level EIAs. Charles Alton

Tiering Environmental Assessment in the Swedish Energy and Waste Sectors. Sara Tyskeng

Workshop C7.2

SEA-EIA Tiering for Better Consideration of Impacts on Indigenous People. Merrell-Ann Phare

SEA of Multiple Spatial Plans? Can it Work? Emma James

Is There Life after SEA? Linking SEA to EIA. Ross Marshall, Jos Arts

Discussion and conclusions:

- What are do's and don'ts in tiering?
- What are common principles?
- What are useful future directions?

Session C7 abstracts (in order of presentation)

EIA and SEA Tiering: The Missing Link?

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Early in the development of the Strategic Environmental Assessment (SEA) concept, the idea of tiering of environmental assessment at different planning levels was put forward as a key element. Moreover, the idea of tiering can be even considered as one of the major drivers for the development of SEA (see e.g., Therivel et al. 1992, UNECE 1992, Wood & Djeddour 1992, Therivel & Partidario 1996, Sadler & Verheem 1996, Partidario 1999, Fischer 2002, Wood 2003). Many spatial decisions that have a bearing on environmental quality are taken at a higher level of decision making than the project level; as Partidario (1999, p.60) indicates "The reasons [for SEA] are various but initially related to the timing of project EIA, i.e., it enters the decision-making process at too late a stage to be able to influence the final decision in a satisfactory way." Tiering means that by preparing a sequence of environmental assessments at different planning levels and linking them, foreclosure may be prevented, postponement of detailed issues may be permitted and assessments can be better scoped. A tiered approach minimise the problem of Environmental Impact Assessment (EIA) being only a 'snapshot in time'. Accordingly, the EU SEA-Directive (2001/42/EC) explicitly assumes tiering of SEAs and EIAs at different planning levels and the SEA- and EIA-Directive are directly linked (e.g., article 3(2) of Directive 2001/42/EC requires SEA for those plans and programs, which set the framework for future development consent of EIA projects).

Although tiering is an important notion to SEA and EIA in academic literature, it is hardly discussed in a critical manner (Tomlinson & Fry 2002). Surely the concept of tiering might provide a means to address the complexity of planning and decision-making, which environmental assessments must operate. However, its implicit assumption of a linear planning process does not fit well with the dynamic nature of planning and decision-making in practice. For instance, there may be still a considerable gap between a strategic plan subject to SEA and project development with EIA. In planning practice all too often project decisions and EIAs may precede strategic plans and the SEAs that should provide the framework for project decision-making. Nevertheless, it is clear that good coordination between planning levels and between SEA and EIA is needed to achieve sound (sustainable?) planning, efficient and effective de-

cision-making. The question is: how can the link between SEA and EIA that is all too often missing made operational and what is the actual and potential role of tiering?

Case Study: Successful Tiering of Policy-Level Strategic Environmental Assessment to Project-Level Environmental Impact Assessments

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Too often, project-level environmental impact assessments (EIAs) worldwide have been reduced to instruments validating a *fait accompli*. As a consequence, environmental practitioners and agency experts often feel pressured to justify a preordained outcome than to actually plumb the depths of alternative actions. Similarly, the general public feels that their ability to influence strategic boardroom decision making is futile so they focus their efforts instead on influencing decisions via the courtroom causing expensive delays in implementation.

The Bonneville Power Administration, United States Department of Energy, successfully implemented a policy-level and project specific actions tiering process. The case study, based on the electric energy utility industry in the Western United States, demonstrates how to effectively and efficiently integrate policy-level SEA and project-level EIA. The process illustrates how the technical and strategic (e.g.,, political, social, cultural and basic health) information can be used at the time when actions are ripe for consideration by all parties.

Tiering Environmental Assessment in the Swedish Energy and Waste Sectors

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In my opinion, one of the advantages of tiering is that it helps to make sure that (inter-) national environmental ambitions and strategies are implemented at all levels of decision-making as it sets the frames for future development projects.

Preliminary results from studies of the scope of and tiers between environmental assessments in the Swedish energy and waste sectors show that at the project level, environmental assessments merely focus at local emissions aspects. Furthermore local plans seem only to discuss and assess national environmental strategies and ambitions to some extent. Tiers between the planning and project levels seem also to be very weak as the local plans give the impression of being just paperwork and could easily be adjusted to make room for new projects. The studies also showed that authorities that function as project decision-makers feel they lack legal rights to demand project developers to tier to plans and national policies in their environmental assessments.

It is therefore important to consider factors like what impact different planning levels have on projects and what possibilities decision-makers and other actors actually have to tier. First then could tiering work and contribute to effective decision-making.

SEA-EIA Tiering for Better Consideration of Impacts on Indigenous People

Merrell-Ann Phare, Centre for Indigenous Environmental Resources,

In Canada, a government decision to approve a project can be greatly effected by the rights of nearby indigenous peoples; they have constitutionally-protected rights that require certain government protections. EIA processes do not include the assessment of possible project impacts on indigenous rights; this analysis occurs within government, and appears to be guided by legal and policy considerations to which the public and indigenous peoples are generally not privy.

Consequently, programs, plans or other measures (such as impact-benefit agreements) prescribed to mitigate or compensate indigenous peoples for project impacts on rights can have their own environmental quality impacts that are not subject to the scrutiny of the EIA process.

This paper will suggest that tiering SEA and EIA may present a solution to the problem of how to consider the protection of legal rights, such as indigenous rights, within the context of EIAs. Conducting an SEA that includes an analysis of the existence of and likely impact of any projecton indigenous rights within a geographic planning area may greatly benefit scoping of subsequent project EIAs. A model demonstrating the staging of the SEA, rights analysis and linkages to EIA will be presented, as well as any remaining concerns or limitations of this approach.

SEA of Multiple Spatial Plans? Can It Work?

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The paper will form a response to C4: SEA and spatial planning and will specifically address methodological and procedural aspects of carrying out simultaneous SEA of multiple plans.

The intention of SEA is to strengthen the environmental/social evidence base - and this is most effective when organised as an ongoing cycle rather than a one-off activity. Even in the first year of the SEA Regulations in England examples have emerged of authorities attempting to streamline efforts carrying out simultaneous SEA of multiple plans. In recognition of this, the paper will address:

- SEAs for multiple plans – why and how?
- Examples from England since July 2004 – the practical challenges
- A glimpse of the future

Authorities that have carried out simultaneous SEA on multiple plans and have found benefits such as reduced consultation burden and more joined up approach to measuring progress towards sustainable development. However, there are challenges inherent in the process including compatibility in the breadth of issues, lengthening of timescales and the question of who pays for joint mitigation?

The paper will address both the benefits and challenges with a view to stimulating discussion on possible solutions.

Is There Life after SEA? Linking SEA to EIA

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The tiered model for SEA (with its ordered progression through policy, plan, or programme to project EIA) has become an established concept within environmental assessment. This model, with its delineated tiers assumes an ordered succession of activities and decision-making until the final end-point is reached. Many comments can be given on the practical relevance of this model.

A fundamental question is how SEA tiers can be linked with subsequent EIA processes in practice? At the conclusion of a SEA, a number of decisions and pre-determined criteria for future action will have been reached and which will require some form of follow-up, e.g.: aspects regarding the determination of environmental and sustainability objectives, decisions regarding the elaboration of alternatives, uncertainties and gaps in knowledge left, future monitoring and mitigation programmes, or public concerns. Accepting that the decisions and information developed at an higher tier of SEA represent essential precursors to the future development of a subsequent EIA, there is a clear need for a structured process to capture and control the delivery of this information and the implementation of decisions into subsequent EIA activity stages. SEA follow-up may provide for this structuring and linking of SEA to EIA as a process management tool.

Recent studies and publications have presented a substantial argument in favour of EIA follow-up in directing and controlling the monitoring, evaluation, management and the communication of impacts arising from EIA.

This paper examines whether there is a practical role for follow-up post-SEA and prior to the start of subsequent EIA processes. Can follow-up experience in EIA be applied to SEA and can it perform a process management function in SEA? The paper will address briefly current status of follow-up in SEA regulations and guidance, and discuss practical issues of its application when bridging the gap between SEA and EIA.