Guidelines for customization of the *Integrated Environmental Assessment and Reporting Training Manual*

Introduction

The Integrated Environmental Assessment and Reporting Training Manual (IEA Training Manual) is produced by UNEP in collaboration with the International Institute for Sustainable Development (IISD) and is available for users worldwide. The Training Manual is intended to be a guide for people designing and running training workshops in Integrated Environmental Assessment (IEA) at the regional, national or ecosystem level. The IEA Training manual is available on the IEA Community Platform www.unep.org/ieacp.

The customized versions of the IEA training Manual in 5 UN languages should be available at the IEA Community Platform by December 2009. Each region selected its own approach to the customization of the Manual. These Guidelines identify core concepts and central elements of the Training Manual that must be retained in an adaptation and provide directions on how to structure the customization process to optimize the benefits. It should be noted that these are not obligatory Guidelines – it is a set of general recommendations which can be applied to make your customization process most efficient.

The Customization Guidelines are intended to assist users with adapting the Training Manual for applications that accept the overall IEA approach, but need to follow some alternative methodologies. Users are encouraged to use the skeleton of the Modules, consider the guidance offered below, and develop region specific, workshop-specific and application-specific tools that will allow participants to benefit most.

The Guidelines will also be useful for to a topic specific customization of the IEA Training Manual, e.g. Climate Change, Environment and Health, Resource Efficiency, etc.

General approach for customizing the *Integrated Environmental Assessment and Reporting Training Manual* for maximum utility

The *Integrated Environmental Assessment and Reporting Training Manual* is a global resource, intended for direct use in different parts of the world in guiding assessment processes at different levels (global, regional, national, etc.) and for guiding decision making at the regional and international levels. The content of the Training Manual is generic (i.e., it leads participants through all the steps required to carry out an effective Integrated Environmental Assessment). As such, the tool can be locally adapted, allowing it to serve very effectively as guidance for national or sub-national (e.g., city, watershed, ecosystems) scale assessments. This *Training Manual* will be most effective if it is customized for your specific application.

Customization could involve adding new methodological elements that are not included or not sufficiently emphasized in the *Training Manual*, but required by a specific assessment. While retaining core elements, such customization could contribute to the evolution and gradual improvement of IEA methods. Often the most effective way to customize the training materials is addition of case studies that provide a local context, and that provide detailed examples and data with which participants can work during a session. Legal frameworks governing reporting on the state of the environment may also need to be taken into account. The catalog of training exercise (below) identifies locations within the modules where local context and case study development will be valuable, and provides guidance for such adaptation.

Retaining components of the IEA Training Manual

Integrated approaches to environmental assessment

There are many approaches to environmental assessment as outlined in UNEP's Overview of Types of Environmental Assessment by Jill Jaeger. UNEP has chosen to adopt an approach called IEA, Integrated Environmental Assessment for its comprehensive environment assessment processes such as the Global Environment Outlook (GEO). The core of IEA is the DPSIR framework. That is, the environment is characterized by a state (S), described by a series of attributes. That state is controlled by pressures (P) (direct influences on the state, such as erosive effects on a water body) and driving forces (D) (indirect effects such policies intended to control erosion). Pressures exert influence, changing environmental state, and changes in environmental state affect human well-being directly or through their impact (I) on socio-economic or other environmental determinants. Responses (R) are formal and informal adaptation to and mitigation of environmental change by altering human activity and development patterns. The DPSIR framework is integral to IEA and should be retained in any customization of the *Training Manual*.

The policy linkage

Policies normally imply a systemic set of actions and measures that institutions develop and apply to achieve environmental goals. Policy analysis is a critical component of the IEA. Environmental assessments intended to be a status report (e.g., State of the Environment reports) and may not address policy because they focus on environmental conditions of a place at a particular point or points in time (i.e. a snapshot), leaving interpretation to a separate social dialogue. In contrast, IEA is a dynamic approach that intends to identify and examine the relationship between behaviour (including government policy) and environmental quality. This policy component should be retained in any customized applications of the *Training Manual*.

The temporal perspective of environmental assessment

In order to understand emerging environmental risks and policy options, we also need to understand trends that lead to today's situation. IEA therefore should always combine a retrospective examination of environmental trends and their interconnections with human well-being. IEA may also include a forward looking component. This "outlook" component is commonly based on scenarios, postulated future states of the environment and human well-being that help participants envision possible future conditions, and the relationships between today's actions and those conditions. Customized applications of the Training Manual should make sure that both of these temporal perspectives are included.

Participation

A core aspect of an IEA is participation by both scientists and other / policy-making stakeholders and should be retained in any customization effort. Involvement of a wide range of stakeholders ensures that the assessment includes a wide range of perspectives, and increases the probability that the final results will be accepted as legitimate, useful to and used by a range of stakeholders. Comprehensive peer review of the assessment drafts and consultations with governments, non-governmental organizations, the private sector and scientific institutions are other integral components of the assessment process.

Retaining an information rich approach to assessment

Scientific perspectives allow IEA to be quantitative, scientifically sound and credible. IEAs are based, to the degree possible, on well-researched, well documented information, recognizing at the same time that most environmental decisions will still be faced with the prospect of

information limitations. The central concept being advanced in IEA is 'informed decision making'. As such, IEA workshops are preceded by an intensive data collection effort that allows participants to have access to as much information as practical. Many analyses use quantitative data (e.g., trend monitoring or GIS analyses) and others rely on qualitative information. Any customization of the *Training Manual* should retain this information-rich, fact based and scientifically credible approach.

For the report to be relevant to the decision making process, the scope for information gathering should take into account the priority development issues in the country and how the integrity of environmental resources would influence the development agenda.

Authorship and branding

Authorship

The *Integrated Environmental Assessment and Reporting Training Manual* is a UNEP publication that was prepared by many authors, under the guidance of IISD. Local adaptation of the Modules and teaching materials, local adaptation of case studies, and development of supplementary materials is strongly encouraged. Any use or adaptation of the original materials should properly cite the *Training Manual* (proper citation here). It also is highly appropriate for authors of adapted materials to retain credit for their work. Authors may release adapted or newly developed materials using the format:

> **Gonzalez, A.** 20xx. Case studies of the Rio Plata Basin: an integrated approach to water resource decision making. Supplement to *Integrated Environmental Assessment and Reporting Training Manual*. Original document published by UNEP, Nairobi. This supplement published on-line at http://www.somewhere.in.space

Future contributions to the global GEO resource

Authors also are encouraged to submit their case studies to the Integrated Environmental Assessment and Reporting Training Manual Case Study Bank. Submissions should be sent to http://www.UNEP.GEO.CaseStudyBank.org Authors will receive full credit for their work. All submissions will receive proper citation and use of those citations will be required in any future use of the materials.

Things to pay attention to

Language adaptation

During language adaptation terminology used in the Integrated Environmental Assessment should be harmonized with the existing terminology in a particular language. Due to differences in terminology in different language and cultural contexts exist, a glossary highlighting the term in English and the language of adaptation is advisable.

Secondary sources of information

- **Overview of Types of Environmental Assessment** This short guide aims to provide a succinct overview of the many different types of assessment (UNEP/GC.25/INF/12).

- **GEO Data Portal (geodata.grid.unep.ch)** The GEO Data Portal contains data ranging from the global to the national scale, with a few data sets (e.g., river basin delineations) at a finer scale than national.

- **PEARL (www.unep.org/pearl)** Prototype Environmental Assessment and Reporting Landscape – this website describes various assessment processes, individual assessments and associated reports from the global to the district level. Where available, the full text of assessments reports is available for downloading.

Table 1: Catalog of Integrated Environmental Assessment and Reporting Training Manual training exercises and guidelines for local adaptation

Module	Paragraph reference	Exercise from the *Training Manual*	Opportunity for Local Adaptation
I	**1.3.0 (pg 7)**	Using an exemplary environmental issue, discuss why an integrated approach is needed. What policy sectors are involved? How is the problem linked to global events? How could this issue evolve in the future?	Bring data about a specific, local environmental issue. Identify key national processes where environmental information could be provided strategically such as the PRSP, UNDAF etc. Simulate policy sector discussion through role-play. Link problem to national events, and discuss a future for the scenario.
I	**1.3.0 (pg 10)**	Use environmental issue from above; identify drivers, pressures, state (and trends), impacts and responses. Discuss spatial scale, impacts on human well-being, and impacts on ecosystem services.	Using those data prepared in advance, estimate drivers, pressures, states, impacts and responses as quantitatively as possible.
I	**1.7.1 (pg 19)**	Describe in detail a past or ongoing environmental reporting initiative in your country	Identify a specific initiative at the local scale that has been implemented. Prepare details about the implementation and the factors that most impeded and most advanced its success.
II	**2.3.5.2 (pg 28)**	In your country, identify the principal stakeholders and their respective organizations that should be included in an integrated environmental assessment process.	Present a specific, local environmental issue. Ask participants to identify organizations and individual representatives of those organizations, to make a local, integrated approach successful.
II	**2.3.5.2 (pg 28)**	Develop a stakeholder map, a shared understanding of the main stakeholders, their relationship with key environmental issues and their relative importance.	Pose a specific, local, environmental issue. Ask participants to name individual stakeholders and estimate their importance to resolution of the issue at the local scale.
III	**3.2.3 (pg 6)**	What was the context for your previous assessments (e.g., legal, policy)? Are they part of a programme for government accountability? Why your assessments were mandated, directed or commissioned? How were the findings received?	Discuss the institutional context for that local scale assessment; what were the reasons the assessment was instituted? What do you feel were the impacts of that assessment?
III	**3.2.4 (pg 8)**	What issues are of most concern to citizens in your country right now? How is your political leadership responding? How might you align findings from your assessment with these concerns?	You each are familiar with the most important and emerging issues in your community. What political factions and/or leaders are involved and interested and how might you inform them?
III	**3.3.1 (pg 12)**	Share a story about communicating assessments to decision-makers and the public.	Consider a local assessment that has been completed and released. How and to what audiences was it communicated? Do you feel

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		Who was responsible for delivering the final report; who was their target audience; who handled release to the general public, using what channels? Were you satisfied with responses to the assessment?	the responses to the assessment were appropriate?
III	**3.3.2.1 (pg 14)**	How would you like to see your assessment used? What government policy or practice could be improved as a result of your assessment?	What do you feel is the proper role of your local assessment? What situation would it improve if it were optimally received?
III	**3.3.2.5 (pg 17)**	What indicators would suggest that the assessment findings and recommendations are influencing your key actors? In small groups, work together on developing an impact strategy.	Design an impact strategy, to be locally implemented, that would help you measure the impact of your assessment. How would you know if the assessment made the desired impact? What would you measure to indicate that? How will your assessment be communicated to influence those measurements? (Detailed steps are available as guidance starting on page 17 of the *Training Manual*)
IV	**4.3.4 (pg 22)**	Using the GEO Data Portal, explore regional and national themes regarding Population Indicators and Making Globalization Visible	A wide range of geographically specific data sets would be useful in any given assessment. The GEO Data Portal contains data ranging from the global to the national scale, with a few data sets (e.g., river basin delineations) at a finer scale than national. A local assessment will rely on data sets with relatively fine scale data and will target questions to local interests. Identify 3-5 publicly available data bases that contain data relevant to your local assessment. If environmental indicators are already incorporated in your national statistics system, use this as the starting point. Frame a broad, integrated question that is relevant to your assessment (e.g., How will global climate change affect local, water-limited agricultural production?). Use those data sets to explore at least 5 nested sub-questions (e.g., what are the economic trends of the ag sector over the last 15 years, how much water is used annually in the ag sector, what are cropping patterns, what changes in temperature and precipitation are expected in 50 years, how might cropping patterns change given climate changes, what might be the water demands of those new crops, what might be the changes in agricultural economics given those changes)? Use visualization tools (e.g., line graphs and histograms in Excel) to portray those

Module	Paragraph reference	Exercise from the *Training Manual*	Opportunity for Local Adaptation
			relationships in a way you feel would be clear to local decision makers. Use 'What if' scenarios to portray the potential impact of at least three climate scenarios.
IV	**4.4.1 (pg 37)**	Consider a fictional country called "GEOland." You are part of the team charged with setting up the first IEA reporting process for this country.	Consider the scenarios developed in the last exercise. Carefully target at least three distinct decision makers who would receive your results. What indicators would each of those people find most useful? Plot at least one indicator for reach of the three decision makers, showing changes predicted over the next 50 years.
IV	**4.4.2 (pg 42)**	Calculate a national air quality index using the GEO Data Portal	Identify at least two accessible data bases that contain locally-relevant environmental quality data. Identify one decision maker and frame a decision metric for that person (i.e., what are their interests and perspectives?). Build an environmental quality index that would be used by that person. Build in at least 5 levels of quality where at least two are actionable (e.g., warning level, a level where a management practice is instituted or stopped)
IV	**4.5.2 (pg 55)**	Understand spatial data. Using maps, comment on changes that have occurred in a landscape.	Use maps (or GIS tools if available) to examine land use changes over the last 25 years in the landscape surrounding your community. Where feasible use a pair of satellite images from different years, at least five years in between, to visualize the change. Discuss what you see to be the relationship between those changes and the environmental quality index you developed in the previous exercise.
V	**5.3 (pg 11)**	Choose any national or regional environmental issue. Specify *state*, *pressure*, *driver*, *impacts* and policy instruments relevant to that issue.	Choose a specific environmental issue that is relevant to your community. Specify *state*, *pressure*, *driver*, *impacts* relevant to that issue. Identify the policy instruments and the individual decision maker that has influence over that issue.
V	**5.4.1 (pg 13)**	Identify as many national scale environmental state variables as possible; categorize them by theme	List the variables that best describe the state of the environment in your community; develop overall themes into which those state variables can be grouped.
V	**5.4.1 (pg 16)**	Use that national categorization to assign action priority to each of the themes and *state* variables.	Develop a metric for deciding how action priorities should be established for environmental issues in your community. Use that metric to prioritize the themes and *state* variables from the previous exercise.
V	**5.4.3 (pg 20)**	Choose a single national environmental issue, specify its state. Use that information to identify *pressures* and *drivers* for that *state*.	Using the table developed above, specify *drivers* and *pressures* for the three highest priority *state* variables.

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V	**5.4.3 (pg 21)**	Identify interlinkages among environmental *states*, *pressures*, and *drivers*	Choose a *driver* from the previous exercise; identify at least two local *pressures* that are related to that *driver* and then identify at least two resulting *states* that could result from those *pressures*. Express those relationships graphically.
V	**5.4.4.1 (pg 23)**	Identify indicators for each of the highest priority issues identified above.	For each of the three highest priority issues in your community (as specified above), identify at least one indicator and a data source for that indicator.
V	**5.5.1 (pg 27)**	Identify *impacts* that might result from the environmental *states* you have identified.	For each of the three highest priority issues, list the associated *state* and the local scale *impacts* of that *state*.
V	**5.5.2 (pg 31)**	Describe the changes in ecosystem service that will result from the *impacts* identified above, and the indicators that identify those changes.	Associate each of those three high priority issues with local scale ecosystem services; identify indicators for those changes in ecosystem service. If possible, associate one ecosystem service with human health.
V	**5.5.3.1 (pg 34)**	Identify and discuss costs and benefits associated with changes in ecosystem service.	For each ecosystem service listed above, discuss what you see as benefits and as costs to human society. Describe an indicator for at least two costs and two benefits (i.e., would these be expressed in monetary terms or some other metric?).
V	**5.6.3 (pg 47)**	Plot the change through time of the indicators for at least one of the environmental issues discussed above.	Using local scale data, plot the trend through time for at least one indicator. Has the trend been linear? Do you feel there were policy actions that influenced any inflections in the curve?
V	**5.6.4 (pg 50)**	Develop a Policy Report Card for the highest priority issues	For each of the three highest priority issues, using the analyses developed above, identify at least one policy goal, a strategy or action plan and a status indicator for that policy (e.g., newly implemented, completed, in progress).
V	**5.6.5.12 (pg 56)**	Using the trends above, identify policy instruments that are helping rectify an environmental problem, or are helping society adapt to the new *state*. As specifically as possible, identify performance criteria for the indicator.	Using the local scale trend data from above, specify targets for environmental indicators, policies that will help achieve those targets and performance criteria for the environmental *state* and the indicators for *drivers*, *pressures* and *impacts*.
V	**5.6.6.1 (pg 59)**	Choose one driver-pressure-state-impact chain and identify all possible policies relevant to that chain. Assess policy effectiveness for each of those policies.	Use one of the high priority environmental issues identified above. Identify all local scale policies associated with that issue and its indicators. Judge the effectiveness of each of those policies and identify any areas you feel represent policy gaps.
V	**5.6.8 (pg 65)**	Develop a policy narrative sheet	Choose any policy relevant to one of the highest priority issues; develop a policy narrative that documents the ways policies

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			influence environmental state, and identifies policy gaps.
VI	**6.1 (pg 4)**	Picture and describe any situation that has different possible futures.	Identify an environmental issue in your community. Describe three alternative futures for that issue, using 25 years forward as a time frame.
VI	**6.2 (pg 6)**	Discuss scenarios used in the literature	Consider any element of society where scenarios have been used and made available. Discuss your perception of those scenarios (i.e., who developed them, for what purpose, were they successful?).
VI	**6.4.3 (pg 12)**	Identify trends in the four GEO scenarios	Consider any environmental assessment that has been completed for your community. Did they use scenarios or other expressions of possible futures? Do you see the current situation in your community as being more similar to one or another of those possible futures?
VI	**6.5 (pg 14)**	Discuss the objectives, proposed process design and content of an environmental scenario exercise	Build a draft design for a scenario exercise for your local community
VI	**6.6 (pg 19)**	Develop lists of policies relevant to a scenario exercise for your country	Consider that local scenario exercise. Identify the local policies that should be addressed as you consider those possible futures.
VII	**7.1 (pg 24)**	Identify stakeholders relevant to that scenario exercise	Who are the local stakeholders you would involve as you examine the policies affected by that scenario analysis?
VII	**7.1 (pg 25)**	Build a detailed framework for a scenario exercise. Include policies, stakeholders, targets and indicators.	Develop a more detailed framework for the local scenario analysis, specifying time frame, issues, policies, stakeholders, environmental targets and indicators.
VI	**7.2 (pg 29)**	Identify principal *drivers* and hypothesize their trend through time	For the scenario analysis detailed above, identify local and coarse scale *drivers*. Plot the expected trend through time for each *driver*.
VII	**7.2 (pg 30)**	Categorize each *driver* based on importance and uncertainty	Which of the *drivers* identified above are high versus low uncertainty, and which are high versus low importance? Those that are high on both scales demand most attention.
VII	**7.2 (pg 31)**	Create a scenario framework based on uncertainties and importance	Identify the factors in your community and others emanating from outside the community that will most influence the high importance and high uncertainty *drivers*. Discuss the role of those *drivers* in each of your scenarios.
VII	**7.3 (pg 34)**	Develop textual stories for each scenario	Describe each scenario as a story line, describing the situation that might cause it to arise, and the significance for environmental quality if it does.
VI	**6.4.3 (pg 12)**	Frame possible futures using the International Futures model (IFs)	(IFs) works only at or above the national scale. Use IFs and the GEO scenarios to pose futures for your country, then discuss

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			the significance of those futures for your community.
VII	**7.3 (pg 35)**	Discuss the policy significance of the scenarios framed above.	Consider the scenarios you developed above. Discuss the local scale policy implications for each scenario. Which policies would have to change and what new policies would be required?
VIII	**8.1.3 (pg 5)**	Summarize your previous experiences with monitoring and evaluation	Discuss who in the group has had experience with monitoring and evaluation, the spatial scale at which that occurred, and how you understand local scale monitoring and evaluation to be conducted in your community today.
VIII	**8.1.3 (pg 5)**	Identify constraints to IEA monitoring and evaluation	Can you identify any environmental assessment that has occurred in your community? If so, did it (one) follow the logic of an IEA? What do you see as the constraints facing monitoring and evaluation of an IEA in your community?
VIII	**8.2.2 (pg 9)**	Identify the users of IEA monitoring and evaluation results	Who in your community would use monitoring and evaluation results of an environmental assessment? How would they use those results?
VIII	**8.2.3 (pg 10)**	Identify the evaluators, the people who would conduct IEA monitoring and evaluation	Given your estimation of the function of monitoring and evaluation results, what skill level and perspective would you seek in nominating someone to complete monitoring and evaluation of an IEA for your community?
VIII	**8.4.3 (pg 23)**	Develop a self assessment matrix	Consider a complete IEA for your community. Identify targeted outcomes for each stage of the IEA process, reflecting on all of the exercises conducted so far. For each stage, identify outcomes that would be part of a monitoring and assessment plan.
VIII	**8.5.1 (pg 23)**	Reflect on the learning that has occurred through this series of exercises	Consider all of the exercises and discussions in this program. What of this content was new to you? How will you use that new information and how will you pre-existing information have different utility in your community?
VIII	**8.5.3 (pg 27)**	Design a monitoring meeting for a national IEA	Consider an IEA for your community; assume that the process will be commissioned and you will be involved. Design the structure, agenda, timeframe and participants of a series of meetings to monitor the progress of the IEA.