

Abstract

EIA has played an important role in incorporating environmental factors in development decisions. Sustainable development provides a different conceptual approach and has received increased significance with UN member states agreeing to the achievement of sustainable goals and targets. Sustainable development covers a broad range of social, economic and environmental issues as well as peaceful and inclusive societies and global partnerships. Impact assessment was originally focused on environmental issues. However, the impact assessment methodology (of screening, project description, existing environment, impact prediction, impact mitigation and conditions of approval) is being expanded to cover a much wider range of issues. The conceptual differences between impact assessment and sustainable development are explored. Impact assessment is based on the concept of “effects-based management” – the management of the effects of actions rather than the actions themselves. Sustainable development is based on the concept of “outcome-based management” – developing actions to achieve outcomes. This means that there is a complementary but subsidiary role for impact assessment in the achievement of sustainable development. To achieve sustainable development there is a need for proactive approaches to achieve sustainable development targets. However, there is also a need for the assessment of the impacts of these proactive approaches on other sustainable development goals and targets.

Introduction

Sustainable Development Goals (SDGs) are part of the 2030 Agenda for sustainable development that was agreed by 193 member states of the United Nations in 2015 (United Nations, 2015). There are 17 SDGs and 169 targets associated with the SDGs. The SDGs continue the priorities of the Millennium Development Goals such as poverty eradication, health, education, and food security and nutrition. SDGs also include a wide range of economic, social and environmental objectives. Furthermore, it includes goals for more peaceful and inclusive societies and global partnerships for sustainable development. SDGs are seen as a blueprint for peace and prosperity for people and the planet now and into the future. They are designed to stimulate action for a transformation to sustainable development. They are proactive and outcome-focused.

In contrast, Environmental Impact Assessment (EIA) is a process rather than a set of goals. EIA is designed to reduce the adverse effects of development proposals and Strategic Environmental Assessment (SEA) is designed to ensure that environmental considerations are incorporated in policies, plans and programs. EIA is initiated by a decision to undertake a proposed action and makes information available about the environmental consequences of that action. The EIA process enables the environmental consequences of the proposed action to be taken into account. The initial focus of EIA was on avoiding, remedying or mitigating adverse environmental effects. The process is reactive (i.e. it is initiated by a proposed action) and effects-based.

Evolution of Impact Assessment

The success of EIA has led to the application of the basic steps of impact assessment (IA) to issues other than environmental issues, e.g. social and health effects. The basic steps of IA comprise (1) identifying aspects of a project that could have an adverse on an issue of concern (screening); (2) describing the actions within a project that can potentially cause an adverse effect (project description); (3) describing

the baseline condition of the issue of concern (existing environment); (4) predicting the effect of the action on the issue of concern (impact prediction); (5) assessing the significance of the effects and incorporating measures to avoid, remedy or mitigate adverse effects (impact mitigation); (6) setting conditions on project approval to undertake actions to mitigate adverse effects (conditions of approval).

As well as the increasing coverage of issues, other evolutions include (1) the introduction of IA earlier in the decision process to consider policies and programs, i.e. strategic assessment; (2) the identification of environmental objectives for environmental factors; (3) the requirement for neutral or beneficial effects (rather than keeping adverse effects to a minimum) when cumulative effects exceed sustainability limits; and (4) greater community involvement in the IA process (not just as submitters in a formal process).

Comparison of IA and SDGs

Table 1 sets out the 17 SDGs and compares them with the increasing coverage of issues of IA. The first comparison is with biophysical factors¹ where 4 of the 17 SDGs and 11 of the 169 targets are addressed. The second comparison adds the social factors² where 7 SDGs and 18 targets are now covered. The third comparison is with the addition of session proposals for IAIA19 that represent an expansion of coverage of impact assessment. There are now 10 SDGs and 25 targets covered.

It is noteworthy that some of the session proposals to extend the coverage of issues addressed in impact assessment are in relation to issues where there does not appear to be a matching Sustainable Development Goal or Target. One aspect is indigenous rights and first nations health and well-being, that are the subject of several session proposals, are not directly reflected in Sustainable Goals and Targets which are focused on people in hunger and poverty. Another aspect is psycho-social impact as a tool for exposing the real cost of change for which there does appear to be an associated Sustainable Development Goal or Target.

The Role of Impact Assessment and Sustainable Development Goals

Table 2 sets out a comparison of the original concept of environmental impact assessment, where the broader concept of impact assessment is evolving, and sustainable development goals. The comparison is based on purpose, focus, application, timing, community participation, and outcome.

With respect to purpose, the original concept of environmental impact assessment was to establish an action-forcing mechanism for considering environmental factors in development decisions. This is evolving to defining environmental objectives to be achieved by developments. This is heading the direction of establishing targets that are a key element of the agenda for sustainable development. However, there is a key difference between impact assessment and sustainable development. Impact assessment is undertaken as a reaction to a proposed development whereas sustainable development is the proactive undertaking of development to achieve sustainable outcomes.

¹ Environmental factors identified by the Western Australian Environmental Protection Authority (WAEPA, 2018) that need to be considered in assessments.

² Based on New South Wales Planning & Environment (NSWP&E, 2017) social impact assessment guidelines.

TABLE 1: Comparison of Impact Assessment Issues with Sustainable Development Goals³

SUSTAINABLE DEVELOPMENT GOALS	BIOPHYSICAL		PLUS SOCIAL		PLUS IAIA19 TOPICS	
	SDGs	Targets	SDGs	Targets	SDGs	Targets
1 No Poverty		0000000	X	000XX00	X	000XXoX
2 Zero Hunger		00000000	X	00000000	X	00000000
3 Good Health and Well-Being	X	00000000X000X	X	00000000X000X	X	00000000XX000X
4 Quality Education		0000000000		0000000000		0000000000
5 Gender Equity		000000000		000000000	X	00000000X
6 Clean Water and Sanitation	X	00X00X00	X	00X00X00	X	00X00X00
7 Affordable and Clean Energy		00000		00000	X	00000
8 Decent Work and Economic Growth		000000000000	X	000000000000	X	00000000X0000
9 Industry, Innovation and Infrastructure		00000000		X0000000		X0000000
10 Reduced Inequalities		0000000000		0000000000		000X000000
11 Sustainable Cities and Communities		00000X0000		000XXXX000		000XXXX000
12 Responsible Production and Consumption		000000000000		000000000000		00000000X00000
13 Climate Action		00000		00000	X	00000
14 Life below Water	X	XX00000000	X	XX00000000	X	XX00000000
15 Life on Land	X	XoXXX0000000	X	XoXXX0000000	X	XoXXX0000000
16 Peace, Justice and Strong Institutions		000000000000		00000000X00000		0000XoX00000
17 Partnerships for the Goals		000000000000000000		000000000000000000		000000000000000000

Note: "X" indicates issue covered, while "o" not covered.

³ For detailed analysis of the comparisons, refer Jenkins (2019).

Table 4: Comparison of Original and Evolved Impact Assessment with Sustainable Development Goals

Original Impact Assessment	Evolved Impact Assessment	Sustainable Development Goals
	PURPOSE	
Process for considering environmental factors in development decisions	Defining environmental objectives to be achieved by development	Establishing targets for proactive development to achieve sustainable outcomes
	FOCUS	
Primary focus on adverse effects on the biophysical environment	Expansion to include social, health and other impacts of development	Achievement of sustainable development based on social, economic and environmental outcomes
	APPLICATION	
Application to proposed development projects	Strategic assessment of policies, plans and programs	Agenda for transformational change to achieve sustainable development
	TIMING	
Timelines set by proposed development schedule and assessment process	Timelines set by program or development schedule and assessment process	Targets and timelines set by sustainable development agenda
	COMMUNITY PARTICIPATION	
Formal process of submission on EIS, and, appeals on project decision and conditions	Community consultation in impact assessment	Goal of inclusive society and participation in decision making
	OUTCOME	
Avoid, remedy or mitigate adverse environmental effects of projects	Require neutral or beneficial effect where cumulative effects exceed sustainability limits	Actions to achieve targets for social goals, economic prosperity, and environmental improvement and restoration

In relation to focus, the primary focus of the original impact assessment was on adverse effects on the biophysical environment. This has expanded to cover social and health impacts. The impact assessment methodology is being considered for a much wider range of issues. There is a much broader range of issues covered by the SDGs and their associated targets covering social and economic outcomes as well as environmental outcomes. However, it is interesting to note that the impact assessment methodology could be expanded to many issues and is not restricted to current uses. It is also noteworthy that there are environmental factors and issues which are being considered for impact assessment (e.g. maintaining coastal processes and well-being of indigenous people) that have not been included in the targets for sustainable development.

The application of impact assessment was originally to proposed development projects. This has expanded with strategic assessments to policies, plans and programs. However, the application of SDGs is to facilitate an agenda for transformational change.

With respect to timing, timelines for impact assessment, both in its original application to projects, and in its evolved form, applied to policies, plans and programs, are dependent on the proposed

development or program schedule. This is in stark contrast to the Sustainable Development Goals which have timelines and targets set by a sustainable development agenda.

In relation to community participation, the original concept of impact assessment was part of a formal process which enabled public submissions on a proponent's environmental impact statement and usually a public appeal process on the development decision and the conditions placed on approved developments. This is evolving to community consultation during the impact assessment process. Whereas there is a fundamental shift for sustainable development with a SDG including an inclusive society with public participation in decision-making.

The outcome of the original impact assessment process was primarily the mitigation of adverse environmental effects of projects. This has been inadequate where cumulative effects have led to sustainability limits being exceeded. There is now provision for requiring neutral or beneficial effects associated with proposed developments. SDGs go much further with defining actions to achieve not only environmental improvements (e.g. halving the proportion of untreated water by 2030 as part of Target 6.3) but also actions for social goals (e.g. adequate sanitation for all by 2030 as part of Target 6.2) and economic prosperity (e.g. substantially increasing water use efficiency as part of Target 6.4).

There is a conceptual difference between impact assessment and sustainable development. Impact assessment is based on the concept of "effects-based management" – the management of the effects of actions (rather than the actions themselves). Sustainable development is based on the concept of "outcomes-based management" – developing actions to achieve outcomes.

This conceptual difference means that there is a complementary but subsidiary role for impact assessment in relation to the achievement of sustainable development. To achieve sustainable development there is a need for proactive approaches to achieve the sustainable development targets. However, there is also a need for the assessment of the impacts of these proactive approaches on the other sustainable development goals and targets.

References

- Jenkins B R (2019) Comparison of Sustainable Development Goals and Environmental Impact Assessment, unpublished paper, University of Adelaide.
- New South Wales Planning & Environment (2017) Social impact assessment guideline - For State significant mining, petroleum and extractive industry development. Department of Planning and Environment, Sydney.
- United Nations (2015) Transforming Our World: The 2030 Agenda for Sustainable Development. <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>.
- Western Australia Environmental Protection Authority (2018) Statement of Environmental Principles, Factors and Objectives. EPA, Western Australia.