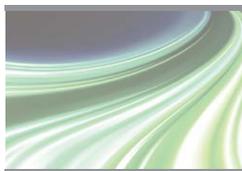




IAIA
International Association
for Impact Assessment

Mitigation is an integral part of impact assessment; mitigation aims to enhance positive impacts and avoid, reduce, remediate or compensate for negative impacts.



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FASTIPS

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Mitigation in Impact Assessment

Environmental Impact Assessment (EIA) is a decision support tool employed to identify and evaluate the environmental (in a broad sense, not just biophysical but also social and cultural) consequences of planned developments in order to facilitate informed decision-making and sound environmental management.

The *IAIA Principles of EIA Best Practice* states that:

- One of the objectives of EIA is to anticipate and avoid, minimize or offset the adverse significant biophysical, social and other relevant effects of development proposals.
- The EIA process should provide for mitigation and impact management—to establish the measures that are necessary to avoid, minimize, or offset anticipated adverse impacts and, where appropriate, to incorporate these into an environmental management plan or system.

Mitigation is a key component and one of the aims of EIA and other impact assessment tools.

Mitigation was first defined in regulations (40 CFR 1508.20) related to NEPA (United States National Environmental Policy Act) as any activity that includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

European Union Directive 2011/92/EU (the current version of the 1985 EIA Directive) defines mitigation as “measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects.”

Incorporation of local knowledge and considerations of sustainability in the development of alternatives, evaluation prior to selection of an alternative, and inclusion of mitigation measures in the project design are upstream ways of mitigating negative impacts.

Although not included in the original concept of mitigation, the enhancement of positive impacts is an issue of growing importance and should be a priority of IA.

Mitigation is also used with different meanings in other contexts:

- In climate change, mitigation is taken to be the measures required to reduce greenhouse gas emissions, directly or indirectly.
- In the context of non-planned actions like disasters and conflicts, mitigation is the effort to reduce the impact of disasters and conflicts, by taking action before the event to reduce consequences later (e.g., by analyzing risk, reducing risk or insuring against risk).

FIVE IMPORTANT THINGS TO KNOW

1. The hierarchy of mitigation:
 - Enhance positive impacts
 - Avoid negative impacts to the greatest extent possible
 - Minimize (or reduce) what cannot be avoided
 - Remedy (or restore) what cannot be reduced
 - Compensate for what cannot be remedied

Example A: The application of the no net loss of biodiversity should apply the following approach:

- Seek opportunities for enhancement of biodiversity
- Avoid irreversible losses of biodiversity.
- Seek alternative solutions that minimize biodiversity losses.
- Restore biodiversity resources.
- Compensate for unavoidable loss by providing substitutes of at least similar biodiversity value.

Example B: Mitigation of the impact of traffic noise on a given community from a proposed highway should apply the following approach:

- Seek opportunities for enhancement (e.g., converting sections of roads from which motor traffic could be diverted into pedestrian precincts).
- Consider routing the highway so that it is inaudible to the community.
- Consider the possibility of building the highway (or some portion thereof) in a tunnel.
- Apply measures that could reduce the noise (e.g., noise barriers, speed control).
- Compensate for unavoidable significant impacts (e.g., pay for double glazing, relocation of a school)

2. The focus of mitigation should be on the significant impacts (it is not effective or a good use of resources to have 100 mitigation measures for minor impacts and none for the most significant ones).
3. Knowledge about the type of project and previous similar assessments, and also the success of mitigation measures—or their side effects—in previous similar cases is important to enable the definition of adequate mitigation measures.
4. Along with creativity, local/indigenous knowledge plays a key role in the mitigation process. Citizen or community mitigation committees should play an important role as part of the overall mitigation strategy.
5. Mitigation should be linked to monitoring and management systems for the proposed development. Follow-up and adaptive management of the impacts help to deal with uncertainty. Monitoring should always be conducted to determine if mitigation measures, which can be costly, are having their intended effect, i.e., are successful. If not, they should be modified.

FIVE IMPORTANT THINGS TO DO

1. Start thinking of mitigation measures as early as possible: Influencing the location, design, and technology of a project is the best way to avoid adverse impacts. Include IA professionals in the feasibility teams. IA, planning, and design teams should work together.
2. Challenge the project—if there may be better ways of doing it—press the proponent and the project team to be creative in developing alternatives. Decision-making occurs throughout the design of the project, not only at the end.
3. Involve the local communities and other stakeholders in the definition and design of mitigation and enhancement, at the earliest possible stage. Consider local/indigenous knowledge important.
4. Take into account cumulative impacts from other projects or actions (past, present, or reasonably foreseen in the future).
5. Link mitigation to follow-up (monitoring, management, and communication) and to management systems (e.g., environmental, health, social, cultural heritage). Include strong mitigation language in the management plans, namely in the Environmental Management Plan. Make sure mitigative measures related to construction are placed in tender or bid documents and construction enterprises are held to account.

Want to know more?

www.iaia.org/publications-resources
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Do you have a suggestion or a request for a FasTips on a different topic?
Contact Maria Partidário (mpartidario@gmail.com), FasTips Series Editor.

FURTHER READING

Business and Biodiversity Off sets Programme (BBOP), 2012. Standard on Biodiversity Off sets. <http://bbop.forest-trends.org/guidelines/Standard.pdf>

João, E, F Vanclay and L Broeder, 2011. Emphasising enhancement in all forms of impact assessment: introduction to a special issue, *Impact Assessment and Project Appraisal*, 29:3, 170-180.

Rajvanshi, A 2008. Mitigation and compensation in environmental assessment, in Fischer, T B, P Gazzola, U Jha-Thakur, I Belčáková and R Aschemann (Eds.), *Environmental Assessment Lecturers' Handbook*: p. 167-183. <http://www.twoeam-eu.net/handbook/05.pdf>