

NL INCLUSIVE INFRA MANUAL

INCLUSIVE IS THE NEW SUSTAINABLE



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SWECO

Social Impact Assessment in Infrastructural projects

Click here



This manual is the Dutch guideline for inclusive project management within international Infrastructure projects. This provides practical information on how to improve inclusivity in your projects and create a better world. The manual is a living document and will be updated regularly, as new insights and experiences appear. Please share your insights and best practices [with us](#).



Why this manual?
How to use it?

WHAT IS SOCIAL INCLUSION

"Everyone participates" is the slogan that best defines social inclusion.

Until recently, sustainability has mainly focused on the physical domain and environmental issues, while inclusion was a purely social issue. The layout of the physical space, however, does have many implications for the social domain. That is why the Building with People platform advocates for inclusivity.

The translation of inclusiveness to infrastructural development is a complex task. Building with People has identified a strong relation of inclusivity to Social Impact Assessment theory (SIA) and has developed a social impact design tool that helps promote social inclusion in infrastructural development.

Social impact assessment includes the process of analysing, monitoring and managing the intended and unintended social consequences both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring more sustainable and equitable biophysical and human environment.

Prof. Dr. Frank Vanclay, Professor of Cultural Geography, Rijksuniversiteit Groningen

[Click here for the:](#)

Definition of social inclusion by:



WORLD BANK GROUP

[Click here for the:](#)

IFC Performance Standards



[Click here for the:](#)

IAIA Best Practices on ESIA



International Association
for Impact Assessment



clickable

WHY IS SOCIAL INCLUSION IMPORTANT IN INFRA PROJECTS

As operators within the infrastructure sector we have a **high impact** on the world around us. This impact also gives us the power to create beautiful things, to build bridges between the old and the new and to be of influence in all parts of the world.

Our infrastructural projects can empower individuals and groups to take part in society.

Our projects give us the power to improve the ability, opportunity and dignity of those disadvantaged because of their identity to take part in society. **Let's use this power!**

The construction sector is globally known for its social challenges. In the construction phase they include health and safety issues for construction workers, informality of work contracts, payment below minimum wage and poor labor and site conditions. But the main social challenge in the sector concerns the planning and design phase of urban development, since this is the phase where most negative impacts can be prevented, and positive impacts can be enhanced.

Population growth, urbanization, as well as climate change adaptation and mitigation are developments with substantial impact on the construction sector. Every day, more people need to be housed, more people need to travel, and more people need goods that have to be transported. Demand is growing, but it is also becoming more complex.

The number of people dwelling in slums is set to increase to 3 billion by 2030, and with it, the number of people most vulnerable to climate change impacts in cities. According to the UN, 68% of people are projected to live in cities by 2050 – up from today's 55%. Furthermore, the bulk of this increase is set to take place in Asia and Africa.

This urban growth means that large investments will be necessary, but that at the same time **inequalities and vulnerability** will increase unless developers include marginalized population segments in their planning. Planners and designers play an essential role in inclusive urban growth: in the early stage of infrastructural project development impacts can still be influenced and inclusivity increased. Vulnerable groups need to have a say in this process.

UNEP (2017), Global Status Report 2017, Towards a zero-emission, efficient, and resilient buildings and construction sector. Global Alliance for buildings and constructions, International Energy Agency.

United Nations Department of Economic and Social Affairs. (2018). 68% of the world population projected to live in urban areas by 2050, says UN. Found on: <https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html>



BUILDING WITH PEOPLE *the role of business in inclusive development*

The Dutch private sector is a frontrunner in the field of addressing environmental and social challenges in infrastructure projects. They are also known for their experience with participatory decision-making processes .

However, past projects have also shown it can be challenging to apply these experiences in countries outside of Europe. By channeling the knowledge, good practices and the experiences, businesses in the construction sector can play an important role in leading the market transformation that is needed to make urban development in low and middle-income countries more effective and inclusive.

Building with People is a network of companies, committed to work together with local grassroot organizations and knowledge institutes on developing a more inclusive approach for urban development.

Pilot projects, an Inclusive Infra Manual and learning sessions are used to develop and share knowledge and experience by prototyping tools and methods for participative processes and solutions for upgrading human settlements.

Building with People intends to provide an answer to the growing demand of governments and investors for inclusive, participative infrastructure development by sharing and developing knowledge, by

implementing and improving existing tools for inclusive development, and by turning stakeholders into shareholders.

These shareholders will take responsibility for their own development, are actively involved in the development and have a say in the outcome of the process.

Building with People believes that real involvement will result in developments that meet multiple needs and take advantage of multiple opportunities.

Building with People has identified a strong relation of inclusivity to Social Impact Assessment theory (SIA) and has developed a social impact design tool that guarantees social inclusion.



HOW TO GUARANTEE SOCIAL INCLUSION IN PROJECTS

The process of social inclusion is presented in this Social Impact Design Tool and can be roughly divided into **4 steps: understand** the situation, **predict** impacts, develop **strategies** and **monitor** the outcome. These steps are related to SIA theory. The tool gives you a project framework for inclusivity.

1. UNDERSTAND

What?

Screening and scoping

Who?

*Fully inform
community
members*

Participation

2. PREDICT IMPACT PATHWAYS

Direct Impacts

*Indirect
Impacts*

*Cumulative
Impacts*

*Likely
Response*

*Prioritize
impacts for
action*

3. STRATEGIES

*Address
potential
negative
impacts*

*Develop and
implement
strategies and
feedback*

*Impact and
Benefit
Agreement*

*Social Impact
Management
Plan*

*Assist the
proponent in
ongoing social
performance
plans*

4. MONITOR

*Develop indicators
to monitor change
over time*

*Develop a
Participatory
Monitoring Plan*

*Implement
adaptive
management*

*Undertake
evaluation and
periodic review*

By **clicking** on the steps and sub steps, more detailed information will appear.



1. UNDERSTAND

clickable ->



RESULT

Step 1. results in the following outputs:

- Communities profile (=local social context) of the proposed pilot area in data and in narrative: a narrative report with data as annex in excel, which includes:
 - ❑ a stakeholder analysis (what are the different vulnerable groups?);
 - ❑ an assessment of the differing needs, interests, values and aspirations of the various subgroups of the affected communities including a gender analysis;
 - ❑ an assessment of their impact history, i.e. their experience of past projects and other historical events.
- names and contact details of representatives for further participation activities and co-creation workshop(s);
- overview of prioritized social needs in the project area.



UNDERSTAND



1. UNDERSTAND

clickable ->



There needs to be a good understanding of the intended intervention. Understanding the (root of the) problem, studying available project documentation, area information and a site visit are mandatory. To understand the need for the intervention and considering possible **alternative solutions** is also part of this step. Too often the what and the location are already set in a project. It is up to us to question whether the what and the location have come up from an inclusive process and are best located? In addition, insight must be gained into the laws and regulations of the country where the intervention takes place, and of applicable international standards and conventions.

The problem analysis and insight in the laws, regulations and standards can be summarized as a **Screening** and **Scoping** activity which gives answers to the following questions:

Screening

- What are national **regulations** on environmental and social aspects/impacts, relevant for the intervention?
- What are the international **standards** or **conventions** on environmental and social aspects/impacts, relevant for the intervention?

Scoping

- What is the **main goal** of the intervention, what problem will the intervention solve?
- What are the **red flags** with regards to social and environmental impacts? Define these in an open process
- Are there any **alternative solutions** to the problem and have they been investigated in an open process?
- Who are the **main beneficiaries** of the intervention?



1. UNDERSTAND



The core element of a social impact assessment is a socio-economic baseline. The aim of this socio-economic baseline study is to reveal the situation of different groups within local communities. It will focus on the socio-economic situation and income generating activities of these groups, with specific attention for the most vulnerable groups who are often not included in data on income and livelihood.

This baseline provides an answer to the following questions:

- What is the **demographic composition** of the area impacted by the intervention/project(male/female, household composition)?
- What are the **main problems** in the area (e.g. sanitation, migration)?
- What is the **education level** of the people in the impacted area?
- Who are the **project affected persons**?
- Are there any **vulnerable groups** among the project affected persons and who can represent them?
- What is the **main source of income** for the people in the project area?

Aspect	Neighborhood 1	Neighborhood 2	Country's average
Life expectancy	70	70	75
Average income	20.000	21.500	24.000
Education level <i>low/average/high</i>	27/50/23	29/47/24	34/41/25
Male/Female	50/50	45/55	52/48

Example of a socio-economic baseline



Demographic data is not always available online, visit the city hall for additional info. Conduct interviews with representatives of all groups of affected people in the impacted area in order to get qualitative data.

1.2 WHO?





1. UNDERSTAND



For the socio-economic baseline statistic data - if available – must be collected.

Additionally, interviews with representatives of all groups of affected people in the impacted area is conducted.

Guidance for the development of questionnaires for interviews are the eight topics/ways of potential social impact, identified by [Vanclay et al. \(2015\)](#):





-  **Way of life** e.g.: how do you spend your day; how do you earn your money? Do you see any economic opportunities for yourself and/or your community when this intervention will take place?
-  **Culture** e.g.: what are important cultural expressions for you (material and non-material)?
-  **Community** e.g.: do people in your community help each other? Can you give an example?
Who are the most vulnerable people in your community?
-  **Political systems** e.g.: Do you participate in decision making? Do you trust your politicians?
Are there any democratic structures in your community?



1.2 WHO?

1. UNDERSTAND



5.  **Environment** e.g.: What are the main environmental issues in your community (waste, climate change, etc.)?
6.  **Health and wellbeing** e.g.: Do you have health problems, or mental problems? How far is the nearest hospital/doctor?
7.  **Personal & property rights** e.g.: Are you, or are you afraid you will be negatively economically affected by the intervention?
8.  **Fears & aspirations** e.g.: What future do you see for your children in this community?
What are you afraid of that might happen?

The questions in the interviews should also reflect the requirements of the International Finance Corporation (IFC) Performance Standards (PS) on environmental and social sustainability.

An example of possible questions for interviews is given in [Annex I](#).



1.2 WHO?



1. UNDERSTAND

In order to include those people influenced by the intervention, potential project affected people and representatives of different groups in the communities are listed during the socio-economic baseline. It is important to carefully identify representatives and if needed, to build capacity of these representatives. If possible, existing local structures will be used in this process. All (representatives of) project affected people should be informed about the intended intervention to make sure that they can express their concerns, share their knowledge of the area and its specifics, make suggestions for possible additional benefits, and be involved in the design process (see the next step: participation).



Examples of these representatives (non-exhaustive list):

- Individual members of the public
- Representatives of communities, representing a specific social group (e.g. slum dwellers)
- Representatives of communities, representing a specific socio-economic group/livelihood (e.g. fishermen)
- Environmental NGO's and other advocacy groups
- Trade union representatives
- Religious leaders
- Representatives of the business community
- Elected officials



1. UNDERSTAND



The aim of participation in the design phase of a project is improving the design by making use of or actively creating additional benefits.

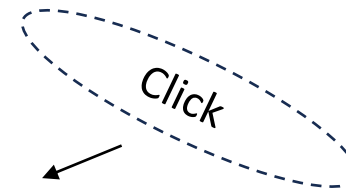
Participation of all stakeholders, including representatives of vulnerable groups in the design process is important, linking their needs to design alternatives.

Participation also facilitates local ownership and increases the chance of replication, both within the communities as with cooperation of local governments.

Participation is an ongoing process, that starts in the phase of understanding the situation and continues throughout the whole process.

In this phase, participation includes analyzing, classifying and prioritizing needs.

The socio-economic baseline will result in a list of needs, either overlapping for the different social groups, or to be classified in separate needs. Based on an assessment of severity multiplied by size (number of people), a list of priority needs can be made.



IAIA – international best practices on Public Participation

IAIA – Fasttip: Effective stakeholder engagement

1.4 PARTICIPATION



1. UNDERSTAND



RESULT

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 - ❑ an assessment of the differing needs, interests, values and aspirations of the various subgroups of the affected communities including a gender analysis;
 - ❑ an assessment of their impact history, i.e. their experience of past projects and other historical events.
- names and contact details of representatives for further participation activities and co-creation workshop(s);
- overview of prioritized social needs in the project area.



2. PREDICT IMPACT PATHWAYS

RESULT

Step 2. results in the following outputs:

- assessment of potential risks and benefits of the proposed intervention:
 - ☐ identify the preliminary 'social area of influence' of the project;
 - ☐ identify the likely impacted and beneficiary communities (nearby and distant);
 - ☐ identify (other) stakeholders;
 - ☐ undertake an assessment of likely direct and indirect social impacts;
 - ☐ **Prioritize the impacts for action:**

After step 2 the project has an overview of most potential (in)direct impacts. Both positive and negative. This overview is never exhaustive and must be updated during the project. But at this point it is necessary to list and **prioritize the impacts for action.**

Which impacts must be immediately mitigated, which have to be compensated and which have to be enhanced (positive)?



2. PREDICT IMPACT PATHWAYS

In order to understand the social changes that your intervention can bring about, you identify **direct, intended and unintended negative and positive impacts** of the development/design on local communities in the project area, with a special focus on vulnerable groups.

This is done for all **eight** social aspects that might be impacted.

Examples of direct social impacts are (non-exhaustive list):

- involuntary resettlement: people must leave their houses or business to make place for the development
- Loss of income
- Loss of cultural habitat
- Loss off communities' cohesion due to decreased accessibility of common places
- Fear of decreasing [ecosystem services](#), i.e. air or water quality

In this project phase **participation** is a crucial part of the assessment. Stakeholders identified in Step 1 must be interviewed and asked about their concerns for themselves and/or the communities in the social area of influence.



2. PREDICT IMPACT PATHWAYS

In order to understand the social changes that your intervention can bring about, you identify **indirect, intended and unintended negative and positive impacts** of the development/design on local communities in the project area, with a special focus on vulnerable groups.

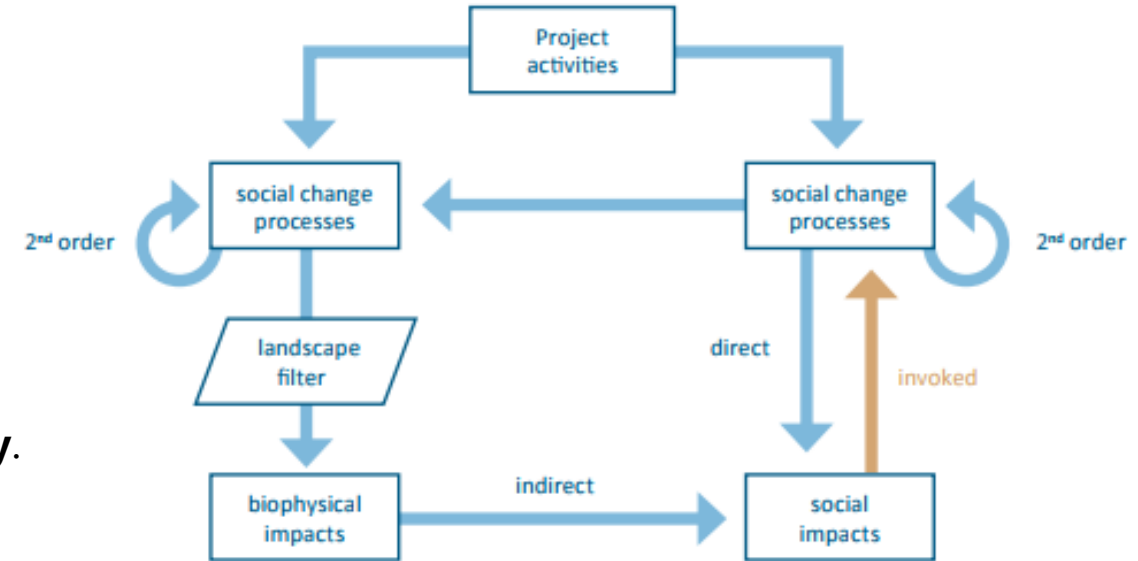
This is done for all eight potential social aspects that might be impacted.

Examples of indirect social impacts are (non-exhaustive list):

- Business interruption: temporary loss of income
- Reduced social participation
- Fears for future jobs in traditional professions

Indirect impacts are impacts that are not a direct result of the project, often produced away from or as a result of a **complex impact pathway**.

The sub-step of identifying (in)direct additional benefits is very important at this phase.



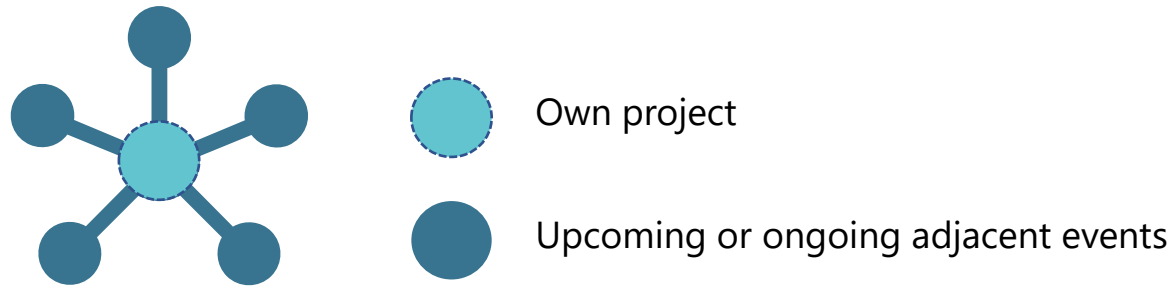
Model for thinking about (in)direct impacts ([Vancley, 2015](#))



2. PREDICT IMPACT PATHWAYS

Planned and/or parallel ongoing developments, besides the proposed project, may also have intended or unintended negative and positive social impacts on local communities in the project area. With help of local stakeholders, make an overview of these **upcoming or ongoing adjacent interventions** and an assessment of their possible social impacts.

Consequently, make an **analysis** of how these impacts may affect - strengthen or weaken- the direct and indirect impacts predicted in the earlier sub steps.



2. PREDICT IMPACT PATHWAYS

By talking about and predicting the **likely response** of the communities on the proposed project's impacts it is possible to create impact pathways. These pathways help predict response and prepare community members on potential future scenarios.

After the **likely response** is estimated, prioritise the impacts for action.



2. PREDICT IMPACT PATHWAYS

RESULT

Step 2. results in the following outputs:

- assessment of potential risks and benefits of the proposed intervention:
 - ☐ identify the preliminary 'social area of influence' of the project;
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After step 2 the project has an overview of most potential (in)direct impacts. Both positive and negative. This overview is never exhaustive and must be updated during the project. But at this point it is necessary to list and **prioritize the impacts for action.**

Which impacts must be immediately mitigated, which have to be compensated and which have to be enhanced (positive)?



3. STRATEGIES

RESULT

Step 3. results in the following outputs:

- Identified improvements:
 - ❑ identify possible improvements to the project that could mitigate negative and enhance positive social impacts;
 - ❑ make suggestions on how to avoid, reduce, repair and/or compensate the adverse impacts;
 - ❑ draft a strategy on how to enhance positive benefits - this strategy gives input for possible innovative concepts and is to be further detailed and discussed during co-creation workshop(s).
- Input for the data gathering tool on relevant innovations (as a result of brainstorm sessions with experts and communities' representatives).



Click for BwP case study SEMARANG



3. STRATEGIES

The first sub-step in developing strategies is drafting a **mitigation plan** for all potential negative social impacts. Typical components of such a mitigation plan are:

- [Livelihood restoration plan](#)
- [Resettlement and compensation plan](#)

If a project involves physical or economical displacement or resettlement, **livelihood** restoration is mandatory.

Involuntary **resettlement** refers to both physical displacement (relocation or loss of shelter) and economic displacement (loss of access to assets that lead to loss of income sources and other means of livelihoods).

The mitigation hierarchy:

1. Avoid

2. Reduce

3. Repair

4. Compensate in kind

5. Compensate by other means

Guidelines for drafting livelihood and resettlement and compensation plans can be found in [Annex II](#).



3. STRATEGIES

In order to identify direct additional benefits that can be created by adapting the design -with a focus on the needs of the most vulnerable groups – take the following sub-steps :

➤ **Match needs with opportunities**

This sub-step will lead to a first identification of possible spin-off/additional benefits for people living in the implementation area. This matching needs to be done together with input from the (technical) design team.

➤ **Community based workshop on additional benefits**

The information gathered in step 1 (understand) and step 2 (predict) is shared with the communities, in a small workshop in the communities. Here decisions will be made on the prioritization of additional benefits. The workshop will be held in the local language and the outcomes will be further developed and refined by the (technical) design team.

➤ **Feedback loop to communities**

In this stage it is important to keep the communities, and local government/other relevant stakeholders, updated and involved and if needed do some additional work on strengthen structures and capacity. Data will be shared and preferably entered into a data gathering tool, with access for the local communities.

➤ **Larger stakeholder workshop**

*Using the outcome of the previous steps, it is time to bring together all stakeholders. In this process, there remains a key role for the communities affected by the future program implementation. The core objective of this workshop is to reflect upon the inclusive process, **identify successes and lessons learned** and means for local embedding and replication*



3. STRATEGIES

An option in the process of developing strategies is signing an **impacts and benefit agreement** or a community development agreement.



Impacts and benefit agreements are:

“Legally binding private contracts between signatories, attempting to define and evaluate unforeseen or unavoidable impacts, and offset them by providing benefits to those whose lives will be affected in all the stages of an infrastructural development, while at the same time offering access and opportunity to the benefits of economic development. ”

The outcomes of the mitigation plans and feed-back sessions with the communities will be formalized in an impact benefit agreement that provides the communities with tangible measures and legal instruments (rather than vague promises) with clearly established expected outcomes that can be monitored.

More information can be found in Section 4 of this [document](#).



3. STRATEGIES

A **social impact management plan** is intended to be used during the full project life cycle to ensure that the project is actually implementing the proposed measures aimed at mitigating social risks and impacts and creating additional social benefits.

Major **responsibility** of implementing this plan **lies** with the **developer** and the civil contractors (during the construction phase).

The plan has to contain:

- All measures
- Responsible bodies and persons for implementation
- A clear management structure
- Capacity building and training

The social environment is constantly changing. Therefore, a social impact management plan is **flexible** in management and monitoring of social impacts. Use [monitoring data](#) to review and update the social impact management plan. Make sure stakeholders have a role in this process.

IFC released a Handbook on Environmental and Social Management System Implementation in the construction sector; see [Annex III](#)



3. STRATEGIES

RESULT

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- Identified improvements:
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- Input for the data gathering tool on relevant innovations (as a result of brainstorm sessions with experts and community representatives).



Click for BwP case study SEMARANG



4. MONITORING

RESULT

Step 4. results in the following outputs:

- ☐ A participatory monitoring process
- ☐ Social Performance indicators developed with local stakeholders
- ☐ Gathered monitoring data
- ☐ Data analysis and the implementation of adaptive management
- ☐ A periodic review of the monitoring process
- ☐ An audit/review of the project's inclusivity.



4. MONITORING

Participatory Monitoring is the systematic recording and periodic analysis of information that has been chosen and recorded by **insiders** with the help of **outsiders**. The main purpose of Participatory Monitoring is that it provides information during the life of the project, so that adjustments and/or modifications can be made if necessary.

The critical feature of the monitoring process is its emphasis on **who** measures change and who benefits from learning about these changes. A company doesn't do this monitoring all by itself, but instead it should actively involve impacted or benefited community members within their monitoring system.

Participatory Monitoring :

- measures progress;
- provides information for decision makers;
- analyses the information periodically;
- builds an Agreement with the communities on the objectives and activities is necessary;
- makes insiders choose the terms of measurement;
- broadly examines progress towards objectives and activities.

The Food and Agriculture Organisation of the United Nations gives practical guidance on how to set up a participatory monitoring plan a participatory evaluation, see this [link](#)



4. MONITORING

Stakeholders directly involved in a programme take part in selecting **Social Performance Indicators**, collecting information and evaluating findings. They are often better aware of the changing impact of a project overtime and the consequences for their social structures.

Social Performance Indicators - a set of operational indicators that measure the different elements of social performance – are developed and implemented together with locals. The outcomes are used to adapt the strategies, if needed. Social Performance Indicators have to be linked to the expected social impacts.

It must be clear what the indicators are, how they relate to the identified social issues, how each indicator is defined and operationalised, how each indicator will be measured and at what frequency.

If, for example impact is expected on gender inequality, the Social Performance Indicator can be: number of women with employment or number of women following education, updated every year.

Gathering data can be done quantitative or qualitative through interviewing, focus groups, counting, mapping, valuing and scoring.



4. MONITORING

Data analysis takes place throughout the data gathering phase. Analyzing is done by involving relevant stakeholders and reflect on critical problems and/or successes, understand the impacts and act on what they have learned.

Adaptive management is innate to social impact management. The social environment adapts constantly to changes. It is therefore important to be flexible when considering the management and monitoring of social impacts



4. MONITORING

Evaluating your own work and looking for lessons learned is the most important way to improve the processes of more inclusive projects. Questions that help guide your process of evaluating inclusivity are added in [Annex IV](#). These questions are taken from the IAIA publication by [Vanclay et al. \(2015\)](#).

By answering these questions for your relevant project you will get a good idea of how inclusive you have been.

Questions are for example:

Is there a discussion of the extent of the area likely to be affected in social terms (the social zone of influence, or impacted zone)?

Were lists of the groups who were approached as part of the SIA provided?



4. MONITORING

RESULT

Step 4. results in the following outputs:

- ☐ A participatory monitoring process
- ☐ Social Performance indicators developed with local stakeholders
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END

Thanks for using this manual



ANNEXES

ANNEX I.



ANNEX II.



ANNEX III.



ANNEX IV.



LINKS

How to use this manual

Buttons

Return



Advance



Home



Links (external and internal)

Throughout the document several [links](#) are available. These links either link internal (to another page in the manual or an appendix) or external (to a website or other document).

Recognise a link by the [blue line](#) or try clicking squares/pictures, i.e.:

What?

These are indicated as:

clickable

Why this manual?

We, as Building with People, noticed that there is a lot of information available on inclusivity and social impact assessment. But where to find it?

By making this manual we collect and combine all the relevant information/tools/guidelines/best case examples we know of. By making it an open source platform we aim at making relevant information easily available for the entire sector.

This manual is meant for everyone involved in infrastructure development.

Click here to return home



NL Inclusive Infra Manual
Inclusive is the new sustainable

WHAT IS SOCIAL INCLUSION



The [World Bank Group](#) defines social inclusion as:

1. The process of improving the terms for individuals and groups to take part in society, and
2. The process of improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity to take part in society.



WHAT IS SOCIAL INCLUSION

IFC Performance Standards

Other than the social impact assessment tool, which is focused on the design process, the increase of participation and co-creation and improvement of living conditions of vulnerable groups, the **IFC Performance Standards** are a tool to benchmark the management of environmental and social risks. The Performance Standards are applied by the majority of international financing institutions.

The standards have substantial attention for Social aspects, including involuntarily resettlements, socio-economic issues, compensation strategies and grievance mechanisms. These issues are not fully covered in the all national regulations.

IFC Standards typically demand that a project is designed and evaluated in a holistic approach, hence including all directly related activities, also those performed before. If for instance involuntarily resettlements have been performed prior to the current development, this has to be included in the analysis.

The Performance Standards are directed towards developers, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure

obligations of the client in relation to project-level activities. Additionally, the Performance Standards are designed to manage environmental and social risks and impacts so that development opportunities are enhanced.

The eight Performance Standards are (*clickable*):



https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards

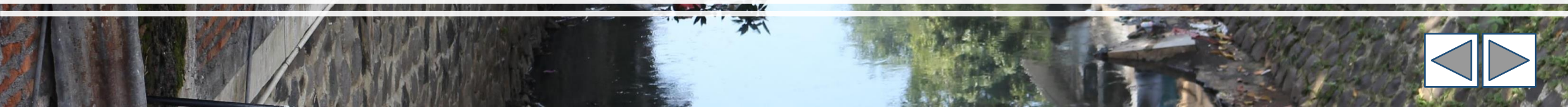


What is the main goal?





MAIN GOAL EXAMPLE: There is an urgent need to clean up the urban waterways and find mechanisms to prevent waste from entering them.





Who are the main beneficiaries?





What is the demographic composition?





What is the main source of income?





What are the main problems?



3. STRATEGIES:

1

STRATEGY ONE: LOCAL DENSIFICATION

**FACILITATE / PROMOTE
2-3 STOREY MODULAR
RETAIL UNITS**

**COMMUNICATE,
CONSULT, CO-CREATE**

2

STRATEGY TWO: OPEN SPACES

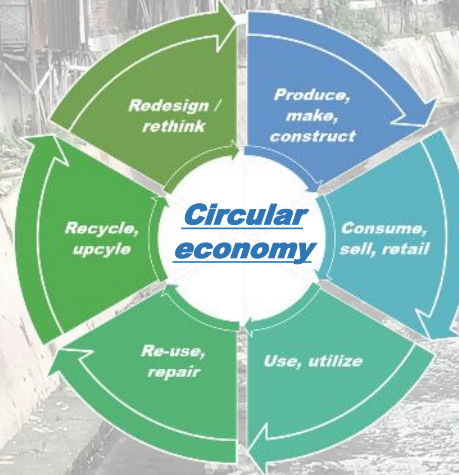
**MORE AND BETTER-
QUALITY COMMUNITY
FOCUSED SPACES**

3

STRATEGY THREE: WATER QUALITY AND SAFETY

**PERMEABLE EDGES,
REED FILTERS, SPONGE
CITY PRINCIPLES**

**> VISUALISATIONS OF POSSIBLE
STRATEGY DESIGNS**



3. STRATEGIES:



COMMUNICATE, CONSULT, CO-CREATE



3. STRATEGIES:

STRATEGY ONE: LOCAL DENSIFICATION: MODULAR UNITS FOR RETAIL, FOOD & DRINK

Currently the waterside on one side is dominated by single level retail units that form a barrier between roadside and the water ways. On the other side there is underutilized open space.

Facilitate and promote local densification. Create two and three level structures for retail, food and drink units.

Develop a construction toolbox that shows how waste can become building materials; how energy can be generated locally; how rainwater can be collected and purified etc.

3. STRATEGIES:

STRATEGY TWO: OPEN SPACES

Local densification can help to free-up space for other functions such as urban food production, recreation and environmental improvements.

Work with local community and retail organisations to develop a program for productive open spaces.

Develop a toolbox that shows how waste can become building materials for the open space development; how rainwater can be collected and purified, how food waste can be inputs for biogas and fertilizer production; how urban food systems can be part of a circular economy; how productive urban spaces can become valuable parts of the local community etc.



3. STRATEGIES:

STRATEGY THREE: WATER QUALITY AND SAFETY

Embrace sponge city principles.

Create more permeable canal edges to allow for rainwater to pass in a controlled way from roofs and roads, into the waterway.

Introduce reed filters to improve water quality.





3. STRATEGIES:

LOCAL DENSIFICATION

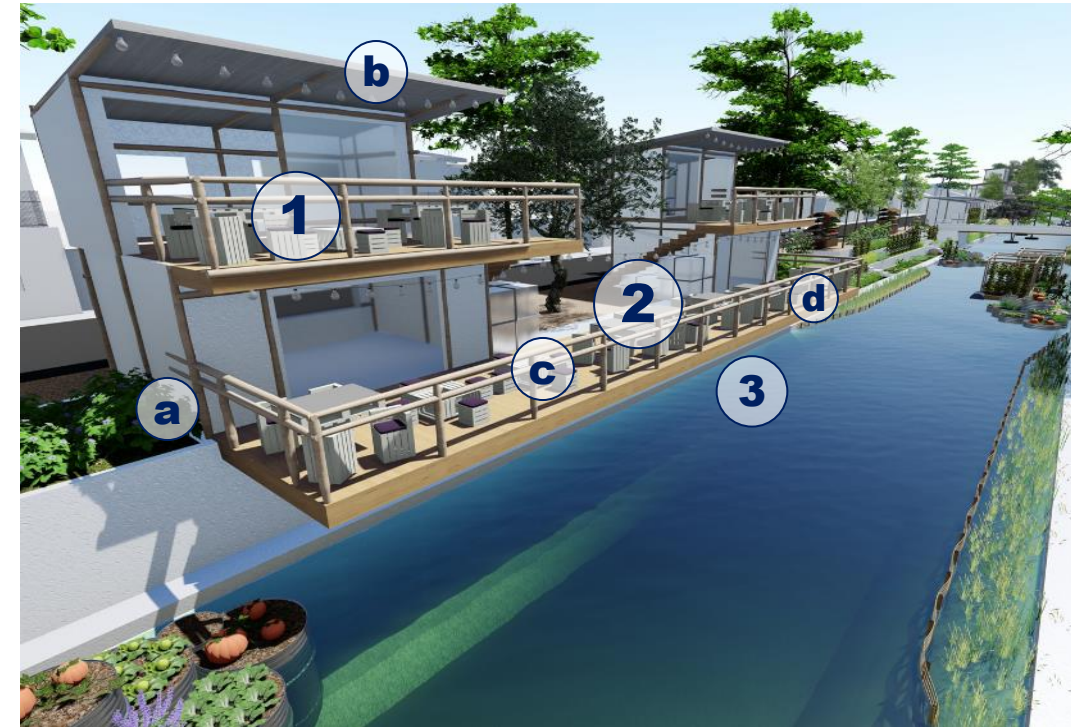
Stacking and clustering commercial units offers many advantages. It allows commercial floor area to be retained whilst also freeing up space for street level and waterside open spaces. But it also offers opportunities for enhanced interaction between built functions and open spaces.

Creating the commercial units can also be part of upcycling and sustainable building projects whereby (locally grown) bamboo frames and upcycled material infilling combines to create robust and efficient buildings. Solar energy, water collection and purification, food production etc. can all be part of this integrated community-based redevelopment.

Waterway neglect has many causes from a lack of waste disposal options to a feeling that the waterways are out of sight, out of mind. This latter is in part the result of the buildings backing on to the water with no one feeling ownership. Stacking the units creates street level open spaces and also opportunities for terraces facing on to the water at both street and elevated levels thereby placing the waterways back at the heart of communities rather than allowing them to be hidden waste dumps.

Click on the numbers and letters on the illustration opposite to reveal the text. Click on the same number to hide the text. >

STACKING LOCAL RETAIL WOULD ALLOW FOR A BETTER MIX OF STRUCTURES AND OPEN SPACES ALONG THE WATERWAY.



1. Multi-level commercial unit
 2. Open space created by stacking commercial units
 3. Active terrace overlooking waterway: surveillance and ownership
-
- a. Structure made from locally grown bamboo and upcycled waste materials
 - b. Roof used for rainwater collection, purification & solar energy generation
 - c. Rainwater storage tanks
 - d. Mini-Biogas digester: use local organic waste to produce energy & fertiliser



3. STRATEGIES: STREET FOOD MARKETS

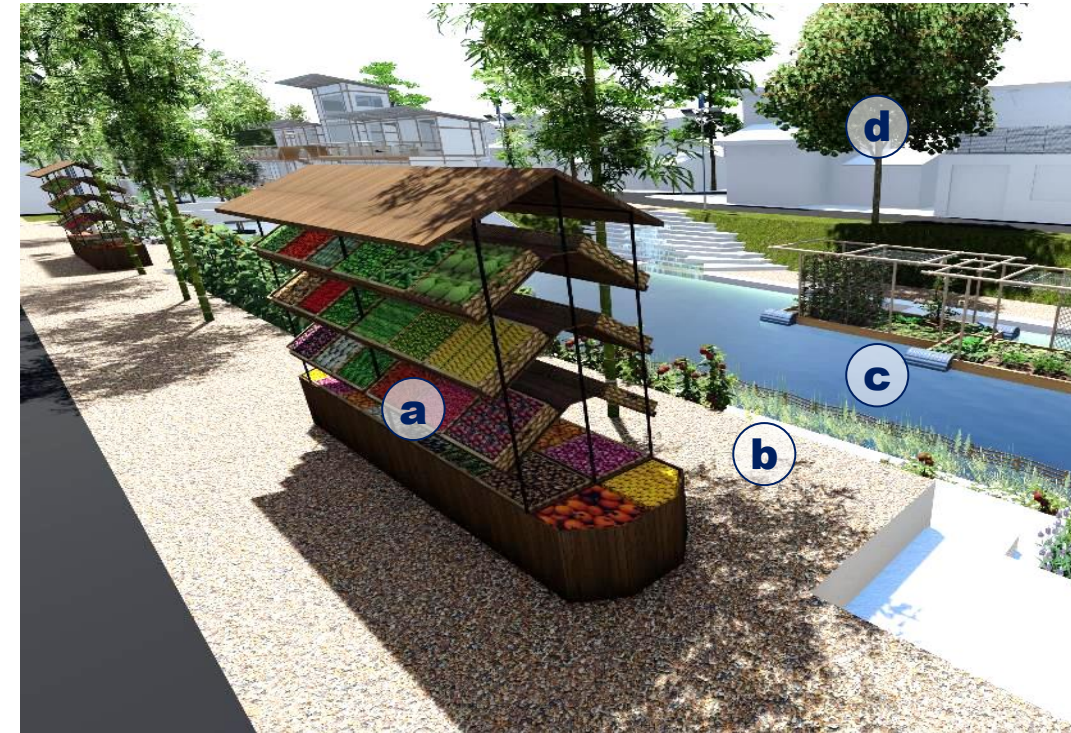
Street food sales, roadside restaurants and mobile food stalls are typical features of the local area. This tradition offers great opportunities to close loops between production and consumption. Regenerating waterside open spaces for food production landscapes can allow local people to build new businesses with direct sales of produce to local food outlets and also to the public through local food market stalls.

It is important to carefully plan such food systems in order to assess and understand local food patterns and requirements. There must be an understanding of where demand lies, where locally grown food could be competitive versus imported food and thus what types of fruit, vegetables and herbs might be most viable to be locally grown.

Growing locally as part of a community based urban development strategy has proven to be a highly effective tool in engaging and empowering people to become actors for positive change in their own areas.

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STREET FOOD MARKET STALLS CAN SELL LOCAL GROWN PRODUCE



- a. Street market stalls sell locally grown produce from the waterway strip and other local producers.
- b. Terraced waterside food gardens
- c. Floating food gardens
- d. Street trees (bearing fruit / nuts)



3. STRATEGIES: TERRACED FOOD GARDENS

These images illustrate a community waterside landscape for food production, recreation and enhanced environmental quality. The idea is to project an image of a productive and commercial community open space where there is an incentive to clean up the waterway and surroundings and to maintain the quality of this space.

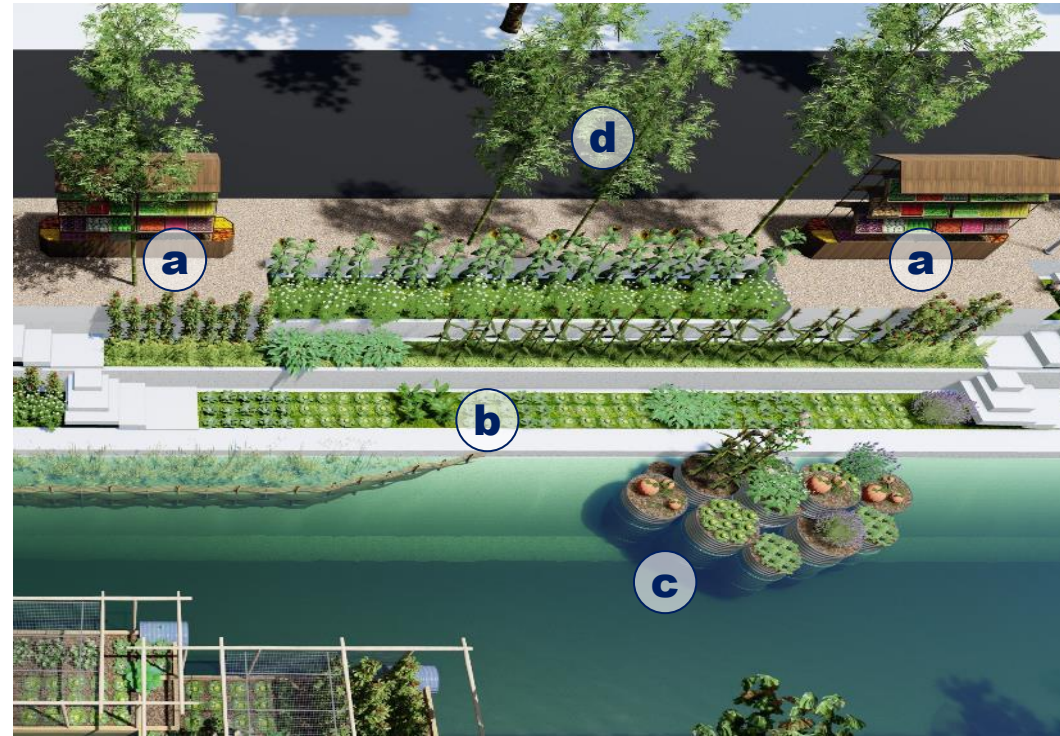
The waterways can become innovative, exciting and creating places that provide communities with an outlet for creativity that also contributes massively to urban and environmental upgrading.

Food systems lie at the heart of circular urban systems and there are many opportunities for utilizing various synergies. Organic waste from the gardens and also from nearby homes, restaurants etc. can become compost and even the inputs for small biogas digesters. The output of biogas digesters being cooking gas and fertilizer. Cooking gas to cook the grown produce and fertilizer helping to grow the local food.... That then is sold, cooked and served locally with the biodegradable waste becoming compost, biogas input ...

Click on the numbers and letters on the illustration opposite to reveal the text. Click on the same number to hide the text. >



TERRACED FOOD GARDENS ARE PRODUCTIVE AND CAN HELP TO CONTROL RAINWATER RUNOFF INTO THE CANAL



- a. Street market stalls sell locally grown produce from the waterway strip and other local producers.
- b. Terraced waterside food gardens
- c. Floating food gardens
- d. Street trees (bearing fruit / nuts)



3. STRATEGIES:

FLOATING FOOD GARDENS

When considering how to maximise the potential of the waterways, it is important to be creative and to consider the various functions of the waterways. A key consideration is the storm water management function of the waterway; it needs to be able to deal with peak water surges and thus the landscape design must take fluctuating water levels into account.

In part this will be achieved by making terraced watersides that can cope with periodic or occasional flooding and in part it can be embedded into the design using floating structures and gardens that also allow the waterways to be utilized on many levels.

Floating gardens can be created using upcycled materials and can be created for commercial use or as floating allotment gardens adopted by households or private individuals for their own production. This addition can bring extra activity to the open spaces and enliven the open space improving safety and also ownership and responsibility for the ongoing upkeep of the area.

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FLOATING FOOD GARDENS WOULD ALLOW FOR OPTIMAL USE OF LIMITED OPEN SPACES AND ALSO ALLOW WATER LEVEL CHANGES



- a. Floating food gardens
- b. Permeable edges for rainwater infiltration
- c. Seating areas



3. STRATEGIES: REED FILTERS

Improving the water quality of the waterways will be achieved through a combined approach to preventing pollution, improving water flow and introducing additional vegetation. Reed bed filters at the edges could help to establish a better water quality and potentially over time, the waterways may be able to support a variety of aquatic life. When it is possible to introduce fish to the waterways, then an additional layer of circularity can be introduced into the food system, namely aquaponics, utilizing the historic practice of fertilizing food growing through fish.

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REED BED FILTERS AT THE CANAL EDGES CAN HELP TO IMPROVE AND MAINTAIN THE WATER QUALITY



- a. Street market stalls sell locally grown produce from the waterway strip and other local producers.
- b. Terraced waterside food gardens
- c. Floating food gardens
- d. Street trees (bearing fruit / nuts)
- e. Stacked commercial units with waterside open space
- f. Reedbeds



3. STRATEGIES: INSPIRATION



The strategies need to emerge from local characteristics, skills, materials... they must be aligned with people's skills and budgets.

3. STRATEGIES: *INSPIRATION*



The strategies should allow people to easily and quickly become involved in making change that brings about multiple benefits. Here for example, buildings are improved whilst waste is cleared.

3. STRATEGIES: *INSPIRATION*



Upcycling, recycling and embracing circular (economy) design can allow people to reduce their financial outgoings whilst also offering new business opportunities.