

Technology projects assessment framework

Assessing the Effectiveness of Community-Based Appropriate Technology¹ Projects

Organisation: _____

Technology: _____

Length of time since technology installation: _____

Please provide a brief description of your chosen project including the problem that it met, its desired outcomes and end-users:

This questionnaire should be answered in relation to the specific community-based appropriate technology project you have chosen. It contains questions both on general factors affecting effectiveness of appropriate technology (answered by scoring your agreement with the statement on a scale from 1 to 7) and factors specific to local ownership (answered by ticking the most relevant statement to your project). Local ownership has been found to be a key element in effectiveness (particularly of community-based projects) that can be more clearly distinguished through specifically defining different levels, however there are similar numbers of questions between the different sections. 'End user' designates the community/ individuals/ group of individuals who are planned to operate and benefit from the technology.

General Factors

Please enter your agreement with each statement based on the scale below.

<i>Very strongly agree</i>	<i>Strongly agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly disagree</i>	<i>Very strongly disagree</i>
7	6	5	4	3	2	1

Element	Score	Comment(s)
The technology solved the identified problem as effectively as it could.		

¹ Some key definitions are available on page 9

The project brought about the desired change in the lives of the end-users, meeting or exceeding its targets.		
The technology is benefiting at least the target number of end-users		
The technology has taken account of and given space to groups with different vulnerabilities.		
The technology has no/ minimal negative environmental impact in its creation/ running.		
The technology was adapted to meet specific requirements of the physical/ geographical/ social local context.		
The project was implemented in a way that was sensitive to local culture/ social structures.		
The intervention benefited the entire community to an equal extent (including the most vulnerable). OR The intervention benefited a group selected for their especial vulnerability with no negative social impact as a result. OR The intervention was offered to everyone and community members were given equal choice whether to take part and access the technology or not.		
The local political situation and perspective on similar projects was considered when choosing the technology.		
Other alternative technologies were considered and discarded based on their suitability.		
This technology was cost-effective in comparison to alternative solutions:		<p><i>If you are able, please give the approximate:</i></p> <p>- Cost per direct beneficiary:</p> <p>- Cost per indirect beneficiary (if different):</p>

Assessing the Extent of Local Ownership

Based on a literature review and input from experts in relevant fields, local ownership is key to determining the success of community-based appropriate technology projects. Those same sources identified each of the following as elements that can contribute to local ownership. However, not every element is required/ relevant to generate a high level of ownership that maximises project effectiveness. The seven statements below each of these are different indicators of that factor; they are not exhaustive and so please use your own judgement to select the most appropriate statement and use the comments section to provide additional detail.

Indicators	✓	Comment(s)
Project initiation: <i>the extent to which the end users desired the project and set it in motion</i>		
The end users sought out an NGO with whom they had no previous contact regarding this particular technology.		
The end users initiated the project around this particular technology with an NGO that they already had a relationship with.		
The end users chose this technology from a range of options to answer a need that they had identified.		
The technology answered a need identified by the end users.		
The end users were offered the technology and agreed.		
Community leaders were offered the technology and agreed on behalf of the end users.		
The end users were not consulted before the technology was provided.		
Technology creation: <i>the extent to which the end users conceptualised, designed and built the technology</i>		
The idea and design of the technology was entirely the end users.		
The idea for the technology was the end users', it was designed in partnership with external experts.		

The end users incorporated their own ideas and experience into the design and building of the technology.		
The end users built the technology under their own leadership.		
The end users built the technology under their own leadership with support from the NGO as needed.		
The end users were involved in the building of the technology.		
The technology was built without end users' involvement.		
Investment in the building/ maintenance of the technology: <i>the extent to which the technology was bought/ built and is maintained using resources provided by the end users (including money, time, labour, natural resources)</i>		
The technology was built/bought and is maintained using only the end users' resources.		
The technology was built/bought using mainly the end users' resources and is maintained solely by the community.		
The technology was built/bought and is maintained using mainly the end users' resources.		
The end users and NGO equally contributed time and resources towards the building/purchase and maintenance of this technology.		
The end users contributed some of their own time and resources towards the building/purchase and maintenance of this technology.		
The NGO provided all resources for the building/purchase of the technology.		
The NGO provided all resources for the building/purchase of this technology and still solely maintain it.		
Technological understanding:		

<i>the extent to which the end users understand how the technology works and the science behind it</i>		
End users have improved/ scaled up the technology's design or use within their own/other households/communities.		
End users are using the technology to its full potential and are able to train others to understand and fix the technology.		
End users understand in some depth how the technology works and would be able to fix it if it broke.		
End users know how to do basic maintenance of the technology if it breaks.		
End users know who to ask to fix the technology if it breaks.		
End users know how to use the technology.		
End users do not know how to use the technology.		
<p>Decision-making control:</p> <p><i>the extent to which the end users have control over any decisions related to the project: its creation; the use of technology; its day-to-day running; its future development etc</i></p>		
The end users have complete decision-making control.		
The end users take day-to-day management decisions, but consult the NGO over bigger issues.		
The opinion of the end users and NGO has equal weight in decision-making.		
NGO approval is required for all decisions.		
The end users are consulted in decision-making.		
Only selected end users/community leaders are consulted in decision-making.		
All decision-making is done by the NGO.		

<p style="text-align: center;">Active responsibility: <i>the extent to which the end users hold themselves accountable and take responsibility for the continued maintenance of the technology</i></p>		
The end users are training others, especially younger generations, to use and maintain the technology.		
The end users have an organised system for maintenance, care and management of the technology.		
When/if the technology broke, the end users fixed/would fix it using their own resources, either by themselves or by contacting the relevant experts.		
When/if the technology broke, the end users fixed/would fix it using their own resources upon prompting by the NGO, either by themselves or by contacting the relevant experts.		
When/if the technology broke, the end users contributed/would be willing and able to contribute some of their own resources towards fixing it upon prompting by the NGO.		
The end users expect the NGO to manage and maintain the technology.		
The end users do not take care of the technology or want it to be maintained.		
<p style="text-align: center;">Value placed on technology's usefulness: <i>the extent to which the end users expend time and effort to use the technology to its full potential and consider it important enough to prioritise and share with others</i></p> <p style="text-align: center;"><i>NB if an end user does not have enough knowledge to use the technology to its full potential, then that inhibits their ownership and understanding of its value</i></p>		
The end users have expended significant effort to maximise their use of the technology. End users attended any training voluntarily without receiving remuneration. They have shared what they have learnt, supported and trained others to have and use the technology.		
The end users have expended significant effort to maximise their use of the technology. End users attended any training voluntarily without receiving		

remuneration. They have recommended the technology to others.		
The end users have expended significant effort to maximise the use of the technology/requested further training to improve their ability to use the technology. End users attended any training voluntarily without receiving remuneration.		
The end users use the technology in every situation where it could be helpful. End users attended any training voluntarily without receiving remuneration.		
The end users use the technology regularly. End users may have asked for money to cover expenses when attending any trainings.		
The end users use the technology infrequently. End users demanded a stipend to attend any training provided.		
The end users do not use the technology and/or refused to attend any training		
<p>Additional factors that increase the project's likelihood of being equitable, sustainable and effective: (please answer using the same scale of agreement from 1 to 7 that was used above for general factors)</p>		
The technology only used local resources.		
The technology design incorporated elements of traditional community technologies.		
The technology is working now after NGO involvement with the project has concluded. (please leave this blank if the NGO is still involved in sustaining the project/technology).		
All aspects of technology creation and implementation fully involved and engaged with relevant government stakeholders <i>(This should be answered on a 1 corresponds to no government engagement, 4 means the intervention complied with all necessary regulations but no more, and 7 corresponds to proactively involving government beyond the necessary regulations)</i>		

Definitions:

Appropriate Technology: Any tool, technique, system/organisation (of techniques), product or combination of these that together meet the specific needs in solving a problem in the most suitable way for the local situation and environment². It will often be small-scale, labour-intensive, energy-efficient, environmentally sound, people-centred and locally controlled³.

Examples of appropriate technology (from Appropedia's 'Appropriate Technology Portal'⁴) include:

- Water pumps (often human-, wind- or solar-powered) such as treadle or rope pumps
- Solar drying
- Machines/techniques for processing produce (small-scale vegetable oil extraction)
- Affordable telecommunications (the Grameen Phone)
- Irrigation (again solar-, wind-, water-powered or by hand)
- Improved cook-stoves
- Shelter (Hexayurt)

Community-based: This distinguishes those projects with a focus of meeting the needs of a specific community or subset of a community; taking place within and involving the community.

End users: These are those who will use the technology and could be the whole community, one or more specific group(s) or some number of individuals.

² <https://answers.practicalaction.org/our-resources/item/what-is-appropriate-technology>

³ <https://www.pachamama.org/appropriate-technology>

⁴ http://www.appropedia.org/Portal:Appropriate_technology