

Abstract

This thesis aims to contribute to improving the quality of technological development cooperation interventions. Using the theoretical framework of the Capabilities Approach and Human Development, the research focuses on analysing the effects of four rural electrification projects implemented by the NGO Practical Action in Cajamarca (Peru).

To carry out the study, the thesis provides the design of an *ad hoc* methodology to analyse the effects of the projects on well-being and agency of people. The results confirm that electrification projects through renewable energy bring benefits to communities, primarily related to health (eg, reduced smoke in homes by replacing candles for electricity) or education (best study conditions, use of computers, etc...). However, there are other benefits not covered in advance by Practical Action but valued by the people: related, for example, with religion or community participation.

However, the research reveals the limitations of projects designed exclusively to provide a technology, electrification in this particular case, that do not take into account certain elements elements which can make the use of technology contribute unequally to the expansion of people's capabilities.

In this thesis it is proposed a view of the technology that, by reference to the main work of Amartya Sen - *Development as freedom*, has been called *Technologies for Freedom*. This approach aims to incorporate the central elements of the Capability Approach to technological interventions, so the projects can expand the real options people value under the principles of equity, sustainability, empowerment and agency. Finally, the study includes some recommendations to be taken into account when planning technological interventions from the perspective *Technologies for Freedom*.

The thesis is divided into three self-contained chapters complemented by an introduction and a section for discussion of results and conclusions. Each self-contained chapter is an article published in recognized scientific journals or prestigious publishing books.