MSc Thesis International Development Studies

# Facilitating Participatory Development: Tools and Typologies

A Case Study of Participatory Efforts in Bluefields, Nicaragua

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## Abstract

The aim of this research is to analyse participatory efforts in Bluefields, Nicaragua and to put forward a toolkit that will facilitate genuine participation. In doing so, this research outlines the important concepts, types, and pitfalls of participatory development. A case study of blueEnergy Nicaragua serves to investigate the use of participatory efforts in the field. On the basis of this case study, a toolkit is drafted that provides a number of tools that help facilitate participatory development. The toolkit is divided in seven categories: [1] Participant Observation, [2] Mapping, [3] Diagrams, [4] Matrix and Ranking, [5] Calendar and Timeline, [6] Stakeholder and Benefit Analysis, and [7] Games. Moreover, the research strongly advocates the ranking of participation through different typologies, and critical self-reflection as corner stones of participatory development.

Keywords: Nicaragua, Bluefields, blueEnergy, Participatory Development, Typology of Participation, Toolkit, Tools, Critical Self-Reflection.

# Acknowledgements

I am an optimist, always have been. But it is hard to be an optimist when the TVs and newspapers only seem to tell stories of international war and conflict, forced migration and environmental degradation. I can honestly say that my time in Nicaragua is fuel for optimism, fuel that was much needed. It is remarkable how much there still is to learn from "underdeveloped" isolated regions such as the Caribbean Coast of Nicaragua. The immaculate local cuisine, the breath-taking nature, the kind-hearted people, and the beautiful simplicity of life will stay with me for a long time.

With my stay in Nicaragua I concluded an exciting and interesting year of studies in International Development Studies at the University of Utrecht. This thesis is the product of a year of hard work, eye-opening fieldwork and, especially, a lot of beautiful experiences. The research would not have been possible without some help.

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## List of Abbreviations

ABCD – Asset-Based Community Development
ASH – Agua, Saneamiento e Higiene
bE – blueEnergy Group
BICU – Bluefields Indian and Caribbean University
CAWST – Centre for Affordable Water and Sanitation Technology
CGIAR – The Consultative Group on International Agricultural Research
CPR – Common Pool Resource
FDI – Foreign Direct Investments
GDP – Gross Domestic Product
ICS – Improved Cook Stoves
IICA – Instituto Interamericano de Cooperacion para la Agricultura
IO – International Organization
NGO – Non-governmental Organization
PD – Participatory Development
PO – Participant Observation
PRA – Participatory Rural Appraisal
PRGA – Participatory Research and Gender Analysis
RAAN - Región Autónoma del Atlántico Norte
RAAS – Región Autónoma del Atlántico Sur
URACCAN – Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense

## Introduction

In the last decades, the global development landscape moved from more traditional statist, top-down interventions, to a bottom-up decentralized form of development work. One of the flagships of this change is the concept of Participatory Development. However, ever since its birth, critics have found the concept to be an ambiguous political catchphrase, rather than a new method of development work. There is a need to clear this ambiguity and to propose clear methods through which participation can be attained.

The aim of the research is firstly to critically assess if the tools in use are genuinely participatory, and secondly to come up with a participatory toolkit that can guide development organizations to include participation in their projects. The research takes place in Bluefields, a city on the isolated Atlantic coast of Nicaragua. The organization at and with which the research is conducted is blueEnergy. The blueEnergy Group is one of the very few (international) NGOs in Bluefields. It specializes in energy, water, sanitation, and climate change projects. The organization works both in the city of Bluefields and in the surrounding communities.

Recently, blueEnergy has started incorporating a more participatory development approach in their projects. One of the key aims of this paper is to create a guiding toolkit. Most of the problems the organization addresses are related to natural resource management. Examples include constructing wells and filters to provide clean (drinking) water for domestic use, providing solar panels to meet an energy need, and constructing several different types of improved cook stoves to alleviate health problems and facilitate people to cook more efficiently. Most solutions are technology based, and with the focus on participatory development the organization is now aiming to tackle the social issue of governance. The relation between (natural) resources, technology and governance is instrumental to the development of any society.

Natural resources such as air to breathe, water to drink, land to cultivate, environment to live in, are vital to our development. The way in which we use, reproduce and distribute these natural resources partly defines how and if societies develop. Common pool resources (CPRs) such as water are difficult to manage; blueEnergy tries to improve the quality, quantity and distribution of CPRs like water. Van Laerhoven and Barnes (2014) discuss common pool recourses and the difficulty of managing them. CPRs are goods with 'rivalrousness' resources since you and I cannot consume the same, making the supply of drinking water finite.

Moreover, others cannot be excluded from using CPR's. Mismanagement of CPRs can cause overconsumption by individuals and cost for the collective. Garett Hardin (1969) termed this the "Tragedy of the Commons", wherein the rational behaviour of individuals would produce short-term individual benefits, and long-term collective costs. Hardin argued that due to increasing population and complexity, communities couldn't effectively govern the commons. The solutions Hardin preferred were a strong administrative state, or the privatization of the commons, such as the traditional development actors. This introduces the issue of governance.

Ostrom and Cox (2010) see these solutions as oversimplified models, and are not ready to abandon the governing potential of the community. Ostrom among others argued that communities could be effective governors of the commons. Ostrom argues that the type of governance model does not per se influence the outcomes of natural resource management, but rather if the particular governance arrangement fits the local socio-ecological context.[1] Dietz, Ostrom and Stern (2003) showed that community governance is a form of governance that can fit the local-context. One method of community governance is through participatory development.

In a nutshell, participatory development sees local needs, local materials, local capital as the basis on which development should be attained. The work of Robert Chambers is a cornerstone of participatory development. Chambers championed the Participatory Rural Appraisal (PRA) where the knowledge and opinions of the local indigenous community guided the development efforts.

The "arena of development" shifted to the (local) civil society, and citizen participation.[2] The two driving ideologies for civil society were post-Marxism and neo-liberalism.[3] Though the two schools of thought are at odds with each other concerning the actors of development – notably the marginalized vs. the private sector, both schools perceive civil society as the stage for change. Especially the rise of neo-liberal dominance in international development work, led to the mainstreaming of participatory methods in many facets of development. The top-down approach was replaced by a bottom-up, grass-root approach in different strands of development work. There are bottom-up climate change projects, projects focused on local natural resource management, efforts supporting grass-root advocacy, growing citizen

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[1] Ostrom and Cox (2010): 454
[2] Mohan & Stokke (2000): 248
[3] Mohan & Stokke (2000): 249

participation in development projects, and even the establishment of concepts such as locally appropriate technology.

The focus of blueEnergy for most of its existence was on technology. The organization worked on devising technological solutions for problems experienced by the population of the Bluefields region. Indeed, technology plays an important role related to resources and development. I agree with Clarence Ayres (1991/95)[4] who sees humans primarily as tool-users.

The use of tools can greatly simplify life and result in many benefits and ultimately contribute to human development. Ayres distinguishes between technology and ceremonialism, arguing that the innovation of technology equals economic growth. Tools result in possibilities for human development and the development of new tools, which in turn result in new possibilities etc. etc. Ceremonialism, on the other hand, constitutes social norms and cultural arrangements preventing the adoption and use of new technology. Yet, contrary to Ayres' beliefs, technology is always culturally and spatiotemporally embedded.[5] A simple example might explain the importance of context for technology.

Just imagine closing your pants with your iPhone, and calling your mother with your zipper.

In terms of development work, this has one pivotal implication: technology is not enough. Technological solutions to natural resource management or any other developmental issue will fail or will not have the optimal impact without addressing the question of governance. You cannot install solar panels or construct a well and expect it to be sustainable and equitable without addressing the question: who governance it?

It seems like blueEnergy has realized this, and has decided to focus on participatory development as a means to address the issue of governance. Now the question is: how do we accomplish participation?

This study will, besides arguing the importance of participatory development, investigate certain methods and tools that can facilitate participation. Moreover, the methods that blueEnergy already uses will be analysed to see if genuine participation is achieved. Lastly, a toolkit will be drafted to provide tools that can be used to achieve participation. The research

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[4] Ayres, Clarence. 1991/95 "Economic Development: An institutional perspective"
[5] Reddy (1975): 332

will answer the following question: Which tools can facilitate participatory development in development projects?

The first chapter will be the theoretical framework and it will discuss further the concept of participatory development. Moreover, related concepts such as Asset-Based Community Development and Appropriate Technology will be outlined. Lastly, different typologies of participatory methods and the importance of recognizing these differences will be described.

The second chapter will provide a regional framework. First the history of Nicaragua will be discussed, afterwards some facts and figures concerning the economy and development of the country will be presented. We will, moreover, take a look at the human development plan of the government and at the possible development implications of the Nicaragua channel. Lastly, the city and history of Bluefields and the organization of blueEnergy will be outlined.

The third chapter critically analyses the practices of blueEnergy, and will outline whether or not blueEnergy is utilizing participatory means in their projects. Several different aspects of the work of blueEnergy will be discussed such as [1] staff and working method; [2] the workshops related to projects; [3] Events organized by blueEnergy; [4] cooperation with other NGOs and institutions; and lastly [5] cooperation with beneficiaries on project related tasks. The chapter will be concluded with a lesson-learned section in which the findings are discussed.

The fourth and final chapter will present general tools that can help in different stages of innovation projects. Some tools will tackle certain issues experienced by blueEnergy, whereas other tools are tools that can be used by other organizations as well. Moreover, the strengths of blueEnergy approach will also be reflected in the toolkit. Lastly, a tool will be provided to differentiate between the different types of participation, and to self-evaluate and rank the participatory efforts of a development organization such as blueEnergy.

Finally, the conclusion will summarize the main findings of this research. Moreover, policy advice will be given to blueEnergy on how to improve the use of participatory methods.

# Chapter I: Theoretical Framework

## Participatory Development

More traditional development approaches have focused on top-down state actors such as governments and international organizations as primary agents of development work. Moreover, the traditional approach perceived the results of projects as more important than the process of these projects. To use a cliché expression, the traditional approach provided the fish; it did not teach how to fish. Participatory development moved the "arena of development" towards civil society, process-orientated projects, and empowered self-help.[6]

Chambers' work shifted the locus for development intervention to the local and to the valorisation of local knowledge.[7] Through personal (i.e. behavioural change of practitioners), professional (i.e. take-up of PRA methods) and institutional change (i.e. culture of local-international partnership), development practitioners would move away from top-down interventions.[8] This would result in a more open power structure, and a bigger role in development for the local. This change is needed since understanding, and consequently addressing the realities of the 'lowers' (i.e. poor locals) by the 'uppers' (i.e. wealthy western professionals) will inevitably lead to biases and misunderstandings.[9] Participatory approaches are meant to enable the lowers to express, develop and analyse their own realities, and act on the basis of this.[10] In doing so, collaboration between the local and the international development practitioners could effectively address and improve the realities of the poor. In a nutshell, Chambers argues for empowering the local to have ownership over its own development process. The outside professional only have a supporting role, the local decides the direction. One can speak of a refusal of learning, the development professional are no longer the educators, but the students – learning from the local. Participatory development rejects the notion the "experts know best."[11] The following points might characterize participatory development.

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[6] Mohan & Stokke (2000): 248
[7] Mohan & Stokke (2000): 248
[8] Glyn Williams: (2004) 560
[9] Chambers (1997a): 162
[10] Chambers (1997a): 163
[11] Mohan& Stokke (2000): 252

1. *Building on locally felt needs:* projects need to strive for local concepts of well being and development. Whereas economic growth might be considered as development in the west, this might not be the case elsewhere. Concepts such as poverty might have very different meanings locally.

2. *Improving and complementing local knowledge and practices:* development efforts need to understand local processes and knowledge, and built on this. Do not try to change worldviews or values, but try to add to them through intercultural understanding.

3. *Increasing local control:* Development should not rely on externally development innovations; rather the processes and methods used should be those that are familiar to the local community. This way the local community can exert more control over the development process.

4. *Identifying local development niches:* Rather than seeing the local as consumers of externally produced goods and services (or producers of externally consumed goods and services), the local can be a producer of locally added value. These local producers can add to the well being of the community.

5. *Selective use of external resources:* First try to solve problems with local resources. External resources need to be selected carefully, in order to avoid dependence of the local.

6. *Retention of benefits to the local:* The (economic) benefits that result from projects should be retained to the local, and reinvested in the local. E.g. profits from tourism are often exported rather than reinvested.

7. *Intercultural learning:* both locals and development practitioners can learn from one another.

8. *Learning and capacity building:* Development practitioners need to be de-schooled so that are willing to learn from the local, rather than train them.

9. *Networking:* the locals need strategic partnerships with regional, national and/or international actors. Examples are linking the local with like-minded NGO's.

10. *Understanding forms of knowledge:* Accepting that the Western knowledge system has its limitations. Traditional forms of knowledge might be based on different assumptions. Notions such as time, intuition, quantification, measuring, and more general the ways of knowing, might differ for the local community.[12]

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[12] Compas (2007): 14-18

In essence, participatory development tries to discard centralized decision-making processes and western centrism in terms of knowledge and values.[13] Apart from the obvious advantage of having a more democratic, people-centred development approach, participatory development has other advantages. In terms of natural resource management, participatory development can lead to more equitable, efficient and sustainable management.[14] Accordingly, not including the local realities through e.g. participatory methods can cause the failure of development projects due to poor coordination with the community, resulting in poor management and inappropriate systems and products.[15] Lastly, participation in development work can lead to a higher sense of ownerships of projects and products received.[16] The following everyday example can help clarify the importance of the sense of ownership.

Imagine walking down to street to find €20. Of course you will be happy; you can buy some extra food or take that girl from school to the movies. However, you have not invested any time in earning the €20, and might not feel the same sense of ownership over the money as with €20 from a paycheck. Losing the €20 you just found could not terribly upset you, whereas losing money from a paycheck could. Gift are welcome extras but lack a sense of ownership, and therefore might receive less care and dedication. Presented a project as a gift, and not something participants realize they need, have worked hard for, and have a sense of ownership over, would lack the care and dedication to the project that will influence the success of the project.

Related to participatory development is the notion of Asset-Based Community Development (ABCD). Mathie & Cunningham (2003) writing for the Coady Institute, which is renowned for its work in community-based development, speak of as shift from "clients to citizens."[17] Rather than perceiving communities in terms of needs, ABCD emphasizes the strengths and assets of communities. McKnight & Kretzmann (1993) speak of counterbalancing the traditional needs-based approach to development. A negative discourse by development practitioners and community leaders to attract funding might actually be internalised by the community.[18] However, community development ought to work as a stimulus for confidence in the community's abilities. Participation of the community should focus on the strengths of

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[13] Kapoor (2005): 1203
[14] Sandino (2009-2010): 13 & Sehring (2009)
[15] Sandino (2009-2010): 27
[16] Sandino (2009-2010): 14
[17] Mathie & Cunningham (2003): 1
[18] Mathie & Cunningham (2003): 5

the community and utilize them to reach development. All members of the community have something to add to the development process of the community, all people have their merit. Uncovering and mobilizing this merit is an important objective of community development. Therefore, addressing constraints on merits is pivotal – i.e. gender constraints, lack of education, class differences, or inequalities along ethnic or religious lines.

The negative representation of communities as 'needy' can be internalized in the community and can cause a downward spiral. What is required of development work is the affirmation that locals have assets, are not helpless, and can be agents of change. They are citizens, not clients.[19] Participation can lead to higher self-esteem of individuals and community, which fuels a sense of ownership and a right to development, which in the end leads to more efficient cooperation between community and development organizations. This special emphasis on social and human capital in a community – i.e. issues of trust, self-confidence, and believe – determine the sustainability of development projects.[20]

Since its emergence in the 1970s, participatory development has gained popularity and has been applied in many development-related fields such as natural resource management and technology. In the field of technology, participatory development is related to the concept of 'appropriate technology.'

## Appropriate Technology

Amulya Reddy (1975) describes a dual society in India. Much like Chambers sees lowers and uppers, Reddy distinguished between the rich 10% and the poor 90%. On the basis of this divide, Reddy argues, different technological needs arise. Reddy describes western technology primarily as capital intensive and labour saving, which would benefit the elite (i.e. rich 10%). However, the vast majority of the population is in need of employment, labour-saving technology thus is not based on their needs. Western technology would therefor polarize a society rather than aid it. Technology possesses genetic material of the society where it is produced, and reinforces those societal norms. Appropriate technology is thus based in the culture of the users rather than of the producers. Reddy terms technologies that

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[19] Mathie & Cunningham (2003): 5
[20] Mathie & Cunningham,(2003): 6/7

focus on the realities of the poor and try to alleviate poverty "inequality-reduction technologies."[21]

Appropriate technology is based on: (1) local (low) skill; (2) local (small) scale; (3) labour-intensive; (4) consumer goods production; (5) usability of local materials; (6) energy-saving; (7) locally available energy; (8) small machinery; (9) rural empowerment; and (10) environmental sustainability.[22] We witness a similar trend as with participatory development: a strong emphasis on the local, and a decentralization of solutions. In a nutshell, appropriate technology is technology based on local needs, local skills and local materials. Appropriate technology promotes equality.[23]

Related to appropriate technology is the need to correctly understand the local in order to match innovations with the local realities. Eric Dudley in his book *The Critical Villager* (1993) makes the case for what he terms the Three R's: Is it reasonable? Is it recognizable? Is it respectable?[24] In order for an innovation to be adopted by the users, these three questions need to be answered. To do so one must understand the realities of the users. Dudley sees community participation as the method to achieve this understanding. The Three R's are defined as follows.

Reasonable entails the innovation or action to be reasonable to the beneficiary. An example will clarify. A sanitation project required the recently installed latrines to always be sealed and dark, in order to avoid insects or fungi to breed in the latrines. Using the latrine in absolute darkness was not considered reasonable and the latrines were adapted to let some light in. This resulted in unhygienic latrines, and the project failed. Therefore, technology needs to be reasonable.

The second criterion is recognisability. Problems addressed and actions proposed need to be recognizable. Nobody wants a solution to something they do not perceive as a problem. Moreover, new ideas need to fit in with the present structure of knowledge. Training of new techniques needs to be comprehensible. Only through truly understanding the beneficiaries' realities "can one design an intervention with a recognized purpose and place."[25]

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[21] Reddy (1975): 331
[22] Reddy (1975): 333-334
[23] Reddy (1988): 298
[24] Dudley (1993): 164
[25] Dudley (1993): 167

Lastly, one needs to consider if proposed technology or action is respectable. People want to be respected by their peers, so it is pivotal to understand what norms and values are. This aspect can be easily overlooked if the primary focus is on results rather than process.[26] The following example will clarify respectability. Biogas installations or bio-digestors predominantly run on cow dung and other organic waste. Night soil or human faeces could also be used to generate energy, and it is readily available. However, there might be stigmas preventing the generation of energy by use of night soil. In order words, a possible solution to lack of energy is not considered respectable behaviour, and thus will not be widely adopted. Interventions need to assess the social acceptability of their proposed actions.[27]

Rammelt et al. (2014) introduces another problem related to technology projects. In investigating water technology projects in Bangladesh, it was found that installing appropriate technology is only half the solution. Governance of the technology is just as important. As a result of low implementation, community solutions became private solutions because the elite of the villages privatized the technology.[28] The problem Rammelt et al. discovered is related to one of the most common criticism of participatory development – intra-community inequalities.

## Criticism of Participatory Development

Turning now to the two main criticisms on participatory development proposed by scholars such as Chambers. First, we will discuss the point of intra-community power relations and inequalities. People are different, also in how they conduct themselves within a community or group. For instance public speaking is one of the biggest fears; some even fear public speaking more than death, whereas others have no problem at all with speaking in public. This difference can have a great impact on the power relations within a group. Those who do not speak will not be listened to. Imagine a group of 10 people needing to choose between zippers or buttons. If 4 very outspoken, influential people want zippers, and the other 6 want buttons but are not very eloquent in voicing their opinion, or are afraid to voice their opinion, the group might pick zippers even though more people desired buttons.

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[26] Dudley (1993): 167
[27] Dudley (1993): 168
[28] Rammelt et al. (2014): 9

In terms of participatory development, we can witness essentialising and romanticising the local community as *grand* solution.[29] There is a tendency to see the local community as singular and unproblematic.[30] This results in an "uncritical celebration of the community" as Williams (2004) calls it. The fact of the matter is though, that a community much like any group of individuals is inherently heterogeneous. And the differences between people determine the social mechanism and power relations that govern a group. These differences can for instance be along the lines of gender. To get quick results of groups processes, group differences are downplayed for instance gender differences.[31] If participation remains uncritical, it is not truly participation, but merely a means to legitimize policies of a few for a larger whole.[32]

Andrea Cornwall (2003) explains this as the difference between participation and influence. Cornwall argues that there is a big gap between passive participation (e.g. women just silently being present) and influence (e.g. women are listened to, and their opinions *can* shape decisions). In order to achieve true participation, interventions need to understand the power inequalities in the community and need to counter or neutralise them – create a level playing field. Cornwall concludes that "[u]nless efforts are made to enable marginal voices to be raised and heard, claims to inclusiveness made on behalf of participatory development will appear rather empty."[33] Participatory development programs need to include strategies that address the power differences, and that provide amble opportunity for participants to recognize and use their own agency.[34] Without this aspect, Parpart (2000)[35] argues, participatory development is gender-biased, and might reinforce the present patriarchal structures. Gunchinmaa et al (2011) provide evidence for this gender divide in participatory processes. Even though women constitute the majority of farmers and water users in Uzbekistan's Zerafshan river region, women constitute a miniscule proportion of the water user associations governing water. The consequences are gender-biased water policies.

Related to this lack of regard for inequalities, is the fact that biased participatory processes are used to legitimize decisions and actions. This might result in the 'tyranny of participation' wherein locals are empowered to participate in already biased projects, thereby providing

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[29] Mohan & Stokke (2000): 249
[30] Williams (2004): 562
[31] Williams (2004): 562
[32] Williams (2004): 564
[33] Cornwall (2003): 1337
[34] Cornwall (2003): 1338
[35] Kapoor (2005): 1204

legitimacy for the biased projects.[36] This way, locals are not stimulated to come up with their own solutions or initiatives. Participatory development is basically hijacked by the local elite or by outsiders. It is important to ask with participatory projects, using Crewe & Harrison's (1998) words, "who is in the driver seat?"[37]

This brings us to the second problem of participation. The local community is too often seen as isolated arena without interference from larger structures. Mohan & Stokke argue that this is a key flaw of Chambers' approach; the political use of 'the local' by state, IOs and NGOs needs to be analysed.[38] For instance the formation of social capital is considered instrumental for community development, however the state's desire to create and destruct local social capital is not taken into account.[39] States' interest such as nation building can greatly influence the events and circumstances on the local level and thus the local development efforts. In the case of Bluefields, Nicaragua, the state might want to expand the Spanish language and culture to the Atlantic coast, while some of the indigenous communities there would like to stick to their African-Caribbean / Creole culture. This is turn might result in intra-community divisions that might hamper the participatory process. Agarwal (2001) states that participation is determined by a number of aspects, being rules, norms, and perceptions. The fact of the matter is these rules and norms are not only the product of the local level, but of regional, national and international levels. Bypassing these levels of analysis would lead to misunderstanding participation as a whole.

Ilan Kapoor puts forward an additional noteworthy criticism: desire and complicity. It is important to realize the positionality and complicity of development workers in shaping the expectations and content of participatory development. Kapoor (2003) emphasizes the fact that participatory development can never fully be participatory. Development practitioners 'desire' to empower the locals and to improve the livelihoods of their target group. These desires, mostly based on Western norms of what it means to be developed, shape the projects and programs targeted towards the local population. E.g. focusing on gender equality is founded on a (Western) belief that men and women are equal, and that equality is desirable. Projects championing participation of men and women are thus inherently shaped by the desires of the interventionist. These inherent desires result in development practitioners to be complicit in shaping the outcomes of projects. Therefore, a participatory project is never fully

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[36] Williams (2004): 563
[37] Crewe & Harrison (1998): 155
[38] Mohan & Stokke (2000): 254
[39] Mohan & Stokke (2000): 257

participatory, because we cannot neglect our own participation in projects. But how can we cope with this? It is important to recognize one's own positionality and how one's desires shape our expectations of outcomes. An honest and transparent communication between practitioners and beneficiaries can help address these desires and can help create a shared desire.

The main criticisms of participatory development – being intra-community relations and extra-community intervention – are academically widely accepted. One way of coping with these criticisms is through further study of participation processes and different types of participation. There is no one form of participation. Individuals, groups, and communities can participate in projects in multiple degrees and capacities. As Cornwall stated, there is a difference between participation and influence. The different types of participation will results in different levels of influence of the target group. It is important to understand these different stages or types of participation. Furthermore, in projects it is important to always wonder, "who decides?"[40] If a project targets local coconut farmers, you want to research the type of participation of these coconut farmers. If you desire to empower women through improved cook stoves, you need to investigate to what extent these women participate and decide on the design of the products and the project. Participation is not as Rahnema (1997) says a "political buzzword"[41]; it is not singular or static. Participatory development is the collection of different types of participation that will lead to different impacts. Being honest and nuanced about the types of participation and its benefits can help tackle the image of participatory development as empty, politicized concept.

### Typology of Participation

Table 1. *Typology of participation*

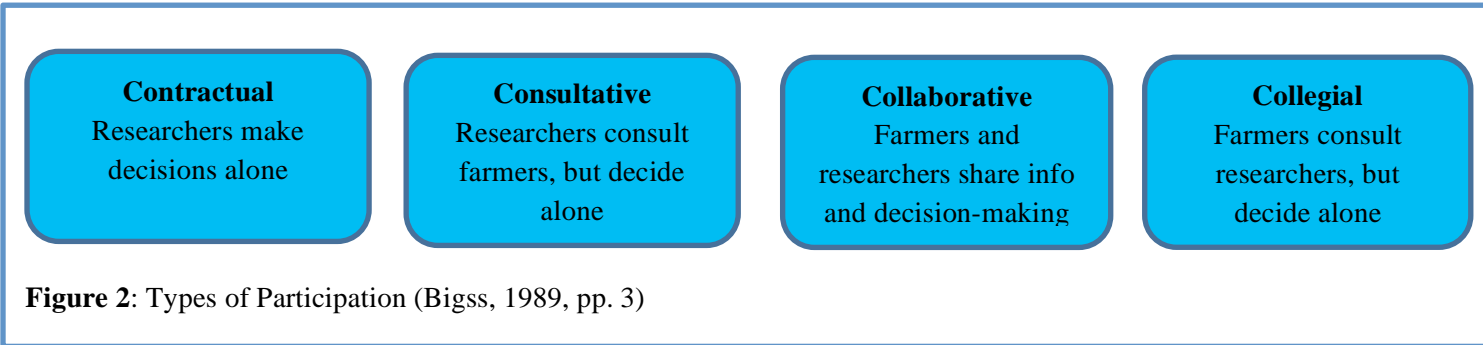| Form/Level of participation | Characteristic features |
| --- | --- |
| Nominal participation | Membership in the group |
| Passive participation | Being informed of decisions *ex post facto*; or attending meetings and listening in on decision-making, without speaking up |
| Consultative participation | Being asked an opinion in specific matters without guarantee of influencing decisions |
| Activity-specific participation | Being asked to (or volunteering to) undertake specific tasks |
| Active participation | Expressing opinions, whether or not solicited, or taking initiatives of other sorts |
| Interactive (empowering) participation | Having voice and influence in the group's decisions |

**Figure 1:** Typology of Participation (Agarwal, 2001).

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[40] Lilja & Ashby (1999): 8
[41] Williams (2004): 558

As already outlined, there a different degrees of participation such as passive participation and actual influence. There are many different typologies of participatory development. All share the emphasis on a spectrum along which the power differences between farmer-research or beneficiary-interventionist is portrayed. Agarwal (2001) proposed one typology of participation. This includes nominal participation, passive participation, consultative participation, activity-specific participation, active participation and interactive participation. The definitions of the different forms can be found in figure 1.

Biggs (1989) presented another widely used typology ranging from contractual to collegial, differing in the power of 'farmers' as opposed to the 'researchers'. Biggs uses the term 'farmers' to refer to all beneficiaries whether farmers, fisherman, women, or a local community. The term 'researchers' signifies all interventionist forces such as researchers or development practitioners, such as staff from organization like blueEnergy Nicaragua.

| **Contractual** Researchers make decisions alone | **Consultative** Researchers consult farmers, but decide alone | **Collaborative** Farmers and researchers share info and decision-making | **Collegial** Farmers consult researchers, but decide alone |
|---|---|---|---|

**Figure 2**: Types of Participation (Bigss, 1989, pp. 3)

The toolkit will get back to the issue of types of participation, and will propose a tool to monitor or self-evaluate the efforts of organizations to implement participatory methods. Along the lines of Agarwal and Biggs, Lilja and Johnson (2001) and Lilja and Ashby (2001) have drafted a tool that rank participatory methods in projects in five types: [1] Conventional or Contractual; [2] Consultative; [3] Collaborative; [4] Collegial; and [5] farmer experimentation. The toolkit will look at this in greater detail.

Finally, it is important to note that dealing with the criticisms of participatory development, and consequently achieving success with participatory methods requires critical study of the types of participation and the impacts envisioned. If organizations fail to reflect on and study the nuances of the different forms of participation, participatory development will indeed become an empty, "political buzzword."[42]

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[42] Williams (2004): 558

# Chapter II: Regional Framework

## Nicaragua, the city of Bluefields, and blueEnergy

As the second-poorest Latin-Caribbean country after Haiti, Nicaragua in recent years has received a lot of attention as a result of the second *grand* canal – the Nicaragua Canal.[43]. The possible positive and negative development impacts of the grand project dominate development thinking towards Nicaragua. But there is much more to Nicaragua than a possibility of connecting two oceans. In this regional framework, we will take a look at the development statistics of Nicaragua, the development agendas, the city and of Bluefields where the research will be conducted, and blueEnergy as the NGO with which the research will be conducted.

### History

Firstly, an overview of the country's turbulent history will be provided. The many conflicts, political changes and national instability can be seen as one of the important reasons for the underdevelopment of the country. After centuries of Spanish colonial rule of Pacific Nicaragua, the country attained its independence in 1838. Conflicts with the English over the Atlantic, Miskito Coast would last another couple of decades. After independence, the United States of America started exerting influence in the country, both for geo-strategic influences – possibly establishing an interoceanic channel – and for resources. Many opposed the intervention of the US in the country. The most important figure was Augusto César Sandino, leader of the anti-occupation forces. After overcoming US intervention, Anastasio Somoza took power in the country. The Somoza-family ruled the country for three decades in a bloody, violent, dictatorial fashion.[44]

In 1979, the Sandinistas, named after Augusto César Sandino, overthrew the Somoza regime and tried to put an end to dictatorial presidents. The Sandinistas, or the more radical, left wing FSLN party focused on new socialist economic and social policies. The US, being suspicious of the relationship of Nicaragua with Cuba and the Soviet Union, opposed the Sandinista regime and supported insurgencies against the regime. These supported revolutionary

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[43] National Human Development Plan (2010): 9/10
[44] FSD International: Nicaragua – A Development Overview:
http://www.fsdinternational.org/country/nicaragua/devissues

movements were the 'Contras' and, with the backing of the US, later on started a war with the Sandinista regime.[45]

The war came to end an in the late 1980s, and so did the Sandinista regime. In 1990, Violeta Chamorro, a conservative, US-backed candidate, won the presidential elections, and the US trade sanctions were lifted. With the election of Chamorro, a decade of war and political instability had ended. Chamorro succeeded in making Nicaragua one of the safest countries in the regions. However, trouble was still ahead.

President Arnoldo Aléman, elected in 1996, was in-office at the time of Hurricane Mitch, which devastated the capital Managua and the rest of the country. Unfortunately, Aléman embezzled hundreds of millions of government money, money that was among other things meant for disaster relief. [46] He was sentenced for corruption in 2002.

After a relatively stable presidency of Enrique Bolaños Geyer, current President Daniel Ortega, former member of the Sandinistas and President in 1984, was elected and re-elected in 2011. Both the election and re-election of Ortega are surrounded by speak of unconstitutional practices, corruption, and favouritism of judges towards Ortega.[47] One can safely say that the political situation in Nicaragua is still far from perfect.

## Facts and Figures

Turning now to the current facts and figures concerning the economy and development of Nicaragua. The total economy of Nicaragua is just above $11 billion. According to the latest tally, Nicaragua has approximately 6 million inhabitants. Proximately half of the total population lives in poverty. Furthermore, 1 in 7 live in extreme poverty.[48] There are inequalities across classes, and between rural and urban populations. The rural population has a much higher percentage of poor – see figure 3.

Furthermore, poverty is geographically dispersed. The Pacific coast, with the major cities of Leon, Grenada, and the capital Managua, is much more developed than the Caribbean / Atlantic Coast.

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[45] FSD International: Nicaragua – A Development Overview
[46] FSD International: Nicaragua – A Development Overview
[47] FSD International: Nicaragua – A Development Overview
[48] World Bank (2012): 7

## Figure 1. Headcount Total Poverty Rates by Area

Note: National, urban and rural changes statistically significant at least 10 percent level of confidence.
*Source*: Staff calculations from EMNV 2005 and 2009.
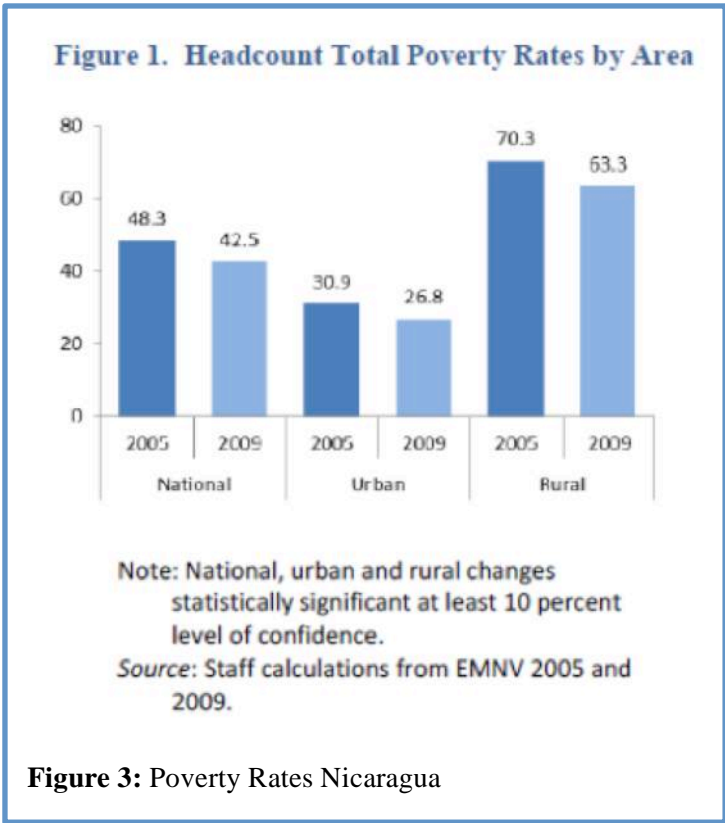
**Figure 3:** Poverty Rates Nicaragua

The Atlantic Coast is home to the second largest rain forest in the world, after the Amazon rainforest. Due to the density and size of the rain forest, the regions at the Atlantic coast are isolated from the rest of the country. Also, many local communities within the rain forest are isolated from social services, infrastructure and markets. Across the country, the population lacks access to quality basic services such as education, health, water, energy and sanitation.

In the figure below a number of key development indicators for the country are indicated: primary education, sanitation, GDP, employment in agriculture, and rural population.



**Figure 4:** Key development indicators for Nicaragua (Gourdij, Craig, Shirley et al. 2014)
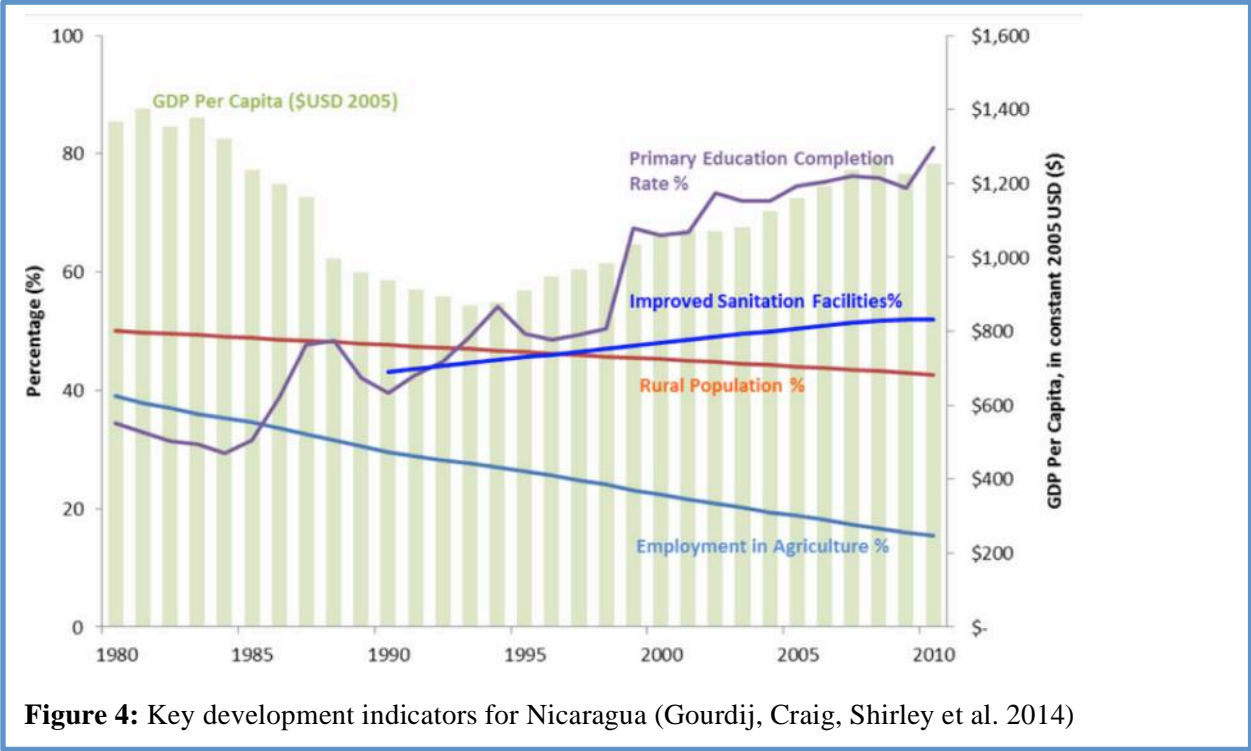
The relative underdevelopment of the country, moreover, results in a lack of resilience to climate change and subpar adaptation strategies. Nicaragua has a high biodiversity and is

renowned for its natural beauty. However, Nicaragua also has a high susceptibility to natural disasters, and environmental changes.[49] Climate change and poverty are unfortunately part of a vicious circle wherein growing poverty leads to growing climate/natural degradation, and wherein climate change affects the poorest of the country the most. This in turn has negative effects on the natural resource management and (natural) service delivery.

Forest degradation is a problem throughout the entire country, and due the extremely high yields on agricultural products in combination with increased demand, much of forestland is cut or burned down to make way for agriculture. Two key things have to be noted about the maps below. The growth of agricultural land might be regarded as a positive development, however the yields of agriculture are still too low; moreover, only 3% of cultivated land throughout Nicaragua is irrigated.



**Figure 5:** Deforestation in Nicaragua (Gourdij, Craig, Shirley et al. 2014)
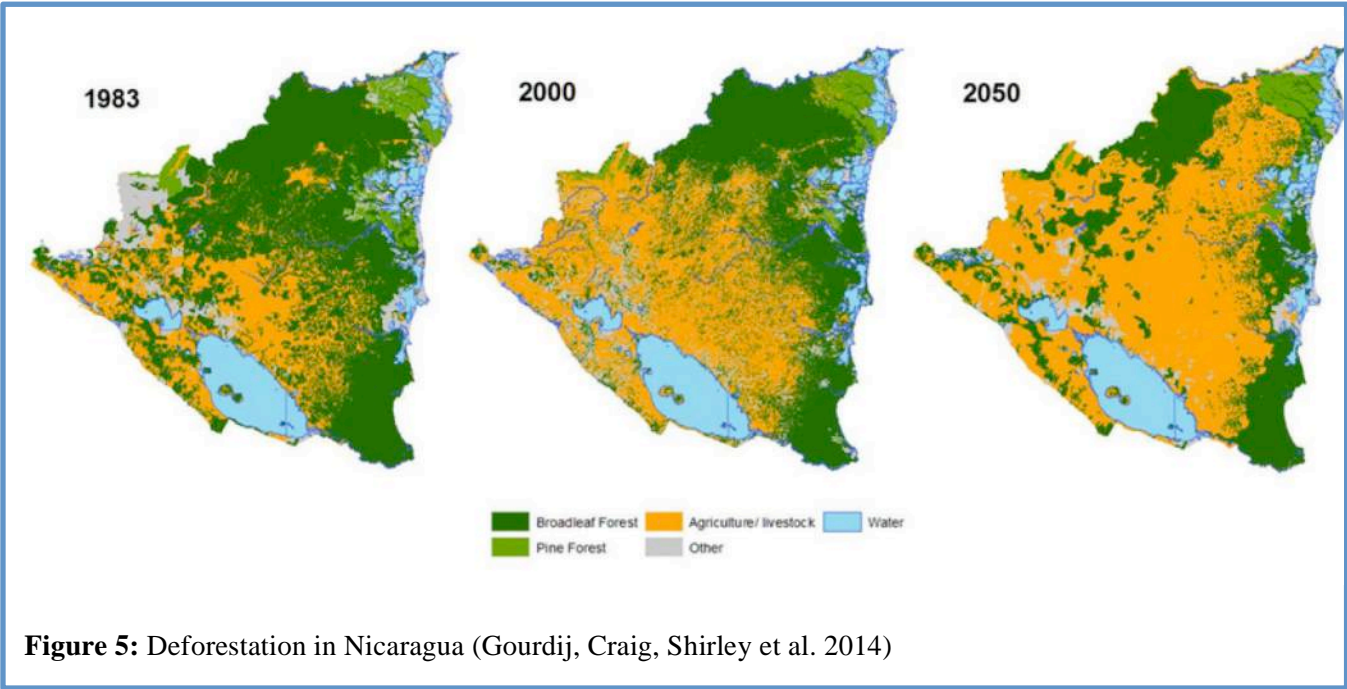
Secondly, the sweet water quantities seem to remain the same throughout the coming years, however the country suffers from major problems with contaminated rivers, wells, and groundwater. Moreover, groundwater levels are not visible in the maps, and groundwater is rapidly decreasing.

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[49] World Bank (2012): 31

**Figure 6:** Water Projections 2050 (MARENA 2003:51)
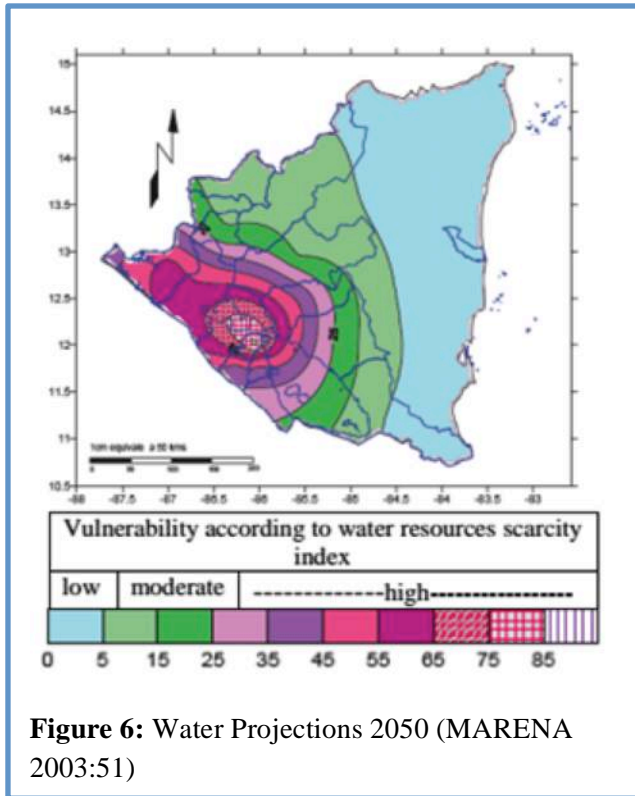
Especially the Pacific Coast will experience water scarcity in the coming years. As is depicted in the map to the left, due to population growth and malicious water usage the people on the Pacific side of the country will experience high levels of scarcity. However, also the Atlantic region will experience water shortages and problems. Due to heavy rainfall from May until October and due to low population density, the water quantity will not present inevitable difficulties. However, the quality of the water will present problems. Many problems surrounding (drinking) water in the Atlantic regions are caused by social and technological inefficiencies.

Even though, the region of Bluefields is rich in fresh-water, there are a lack of sufficient retention capacity and technology; and a lack of adequate water governance. Generally, both on the Pacific and Atlantic Coast I have witnessed uncoordinated drilling of wells for personal use. Wells are drilled without sufficient research causing wells to run dry quickly, to tap into the same aquifer as other wells, and to not find water at all. Furthermore, the absence of



**Figure 7:** Water Distribution (Gourdij, Craig, Shirley et al. 2014)
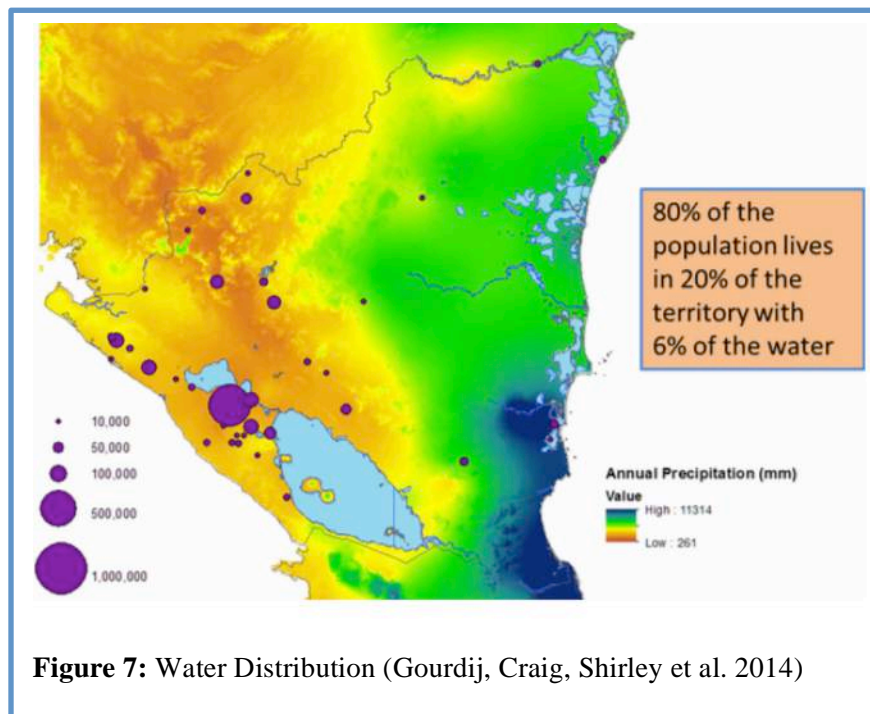
sanitation and sewage systems is causing human contamination of rivers, lake and bays. The neighbourhoods adjacent to the Bay of Bluefields lack adequate latrines, have sewage systems that transport the waste to the bay, and have multiple latrines that directly discharge their

waste in the bay. Besides human waste, chemicals from soaps/detergents, plastic bags and packaging, and much more waste is thrown into rivers and the bay. The current relationship with water, points to both a lack of education on water usage and a lack of technological capabilities in water governance.

Turning to the national energy consumption, we can witness a trend towards renewable energy generation, which is a development priority of the government. However, Nicaragua has the lowest electrification coverage of the Latin-Caribbean region at 63,4%. [50] Moreover, currently 80% of the energy supply is generated by firewood and oil, and only 20% is generated by renewable energy sources.[51] There are considerable investments into renewable
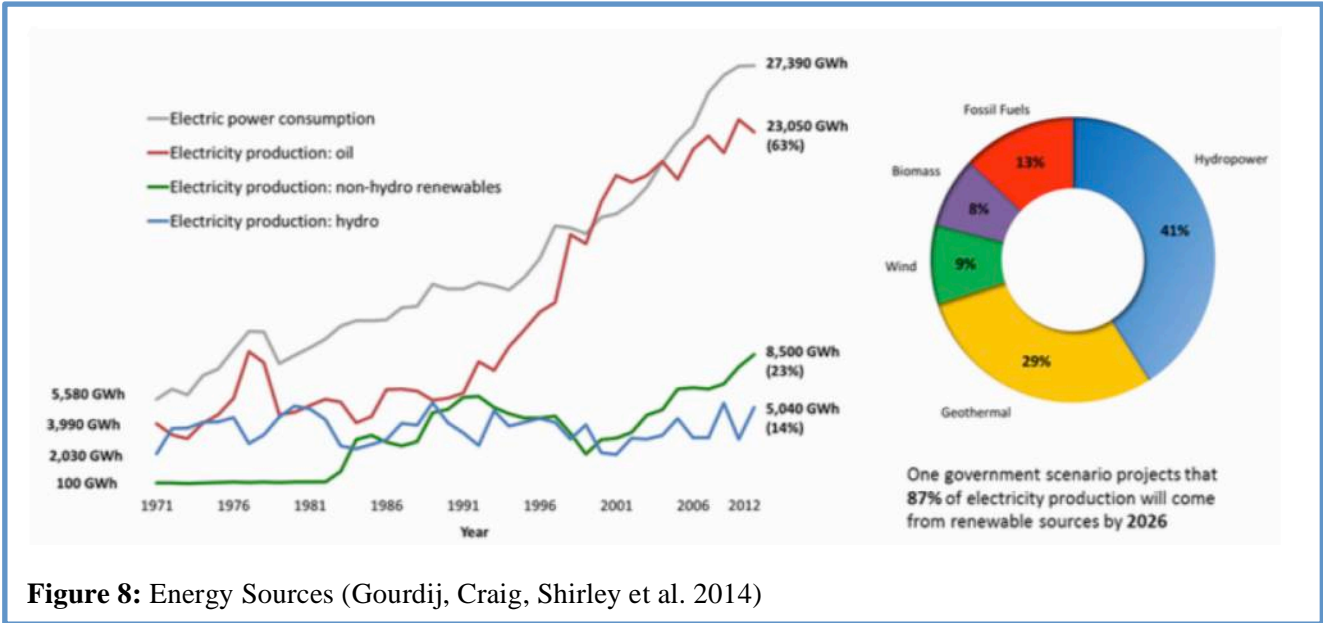


**Figure 8:** Energy Sources (Gourdij, Craig, Shirley et al. 2014)

energy generation, and some government projections calculate a future +80% energy generation from renewable means.[52] Electricity is centralized and controlled from the capital, power lines run through the country providing electricity to the major towns and most of the villages. However, in the isolated Atlantic regions still communities exists without power lines. Moreover, the power supply is rather unreliable. In Bluefields every other week or so the power is cut for a day, usually with power being restored around five in the evening. Non-scheduled power outages are not uncommon, both on individual and citywide level.

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[50] IDB Energy Report (2013)
[51] Gourdij, Craig, Shirley et al. (2014): 7
[52] Gourdij, Craig, Shirley et al. (2014): 7

Nationally there is great potential for renewable energy generation. Especially hydropower and geothermal means of generation have a lot of potential.[53] Geothermal energy production constitutes a big part of the renewable energy generation, and its contribution along with other renewables makes up a bigger portion of the national energy generation. From 2008 to 2009 the share of renewable energy generation went from 43% to 49% based on calculations by the Inter-American Development Bank.[54] Judging by the immense potential for hydraulic and geothermal energy generation, and considering the progress already made, +80% renewable energy generation is not just a pipe dream. What is clear is that since the primary use of energy is residential, changing energy behaviour and capabilities is exigent in attaining a more sustainable energy situation.[55]

Efforts to improve the water and energy situation locally, but also nationally share a need to address the social side of things – change people's behaviour. This is exactly the change that participatory development desires and at the same time facilitates. This, moreover, ties in with several points of the national development strategies.

## The National Human Development Plan 2010

The development priorities and strategies of the Nicaraguan government will be based on the latest Poverty Reduction Strategy Paper of 2009/2010 – the National Human Development Plan. In this document, the government of Nicaragua has put forward six development priorities:

1. Economic growth:  a) macroeconomic policy

                                b) public investment policy

                                c) productive and commercial policy.

2. Well-being and social equity.
3. Good public management.
4. Environmental sustainability and forestry.
5. Government of Reconciliation and National Unity (GRUN) policy on natural and man-made disasters.

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[53] Panorama Energetico de Nicaragua, Ministro de Energia y Minas (2013)
[54] IDB Energy Report: 2013
[55] IDB Energy Report: 2013

6. Caribbean / Atlantic Coast development.[56]

All six priorities share the same eight governing pillars. The Nicaraguan government has identified the following pillars as instrumental:

  i. A renewed role of the state through direct action in cultural, social, economic and environmental activities;
 ii. Social policies that will favour the poor;
iii. A social response that emphasizes and prioritizes infrastructure programs;
 iv. The continuing capitalization of the poor by use of food production programs;
  v. Growing emphasis on renewable energy generation policy;
 vi. Strengthening citizen participation and the democratic process;
vii. Continued dialogues with the international community;
viii. Commitment and guarantees regarding security for the private sector.[57]

At first glance, one can detect a development that focuses on a strong, democratic state which through growing public investment tries to realize improvements in terms of education, health, energy, water, infrastructure and income distribution. Even though, commitment to the private sector and the role of the private sector for development are recognized, the emphasis is on public investment as a means to development. Moreover, the government aims to development the Atlantic coast region, which can be beneficial for organisations such as blueEnergy. One of the most debated international projects and a development *possibility* is the Nicaragua Canal project.

## The Nicaragua Canal

Talks about a second grand canal through Central America have been around for decades, but on the 13th of July 2013 the ambitions to do so were realized. Ortega, President of Nicaragua signed a contract with the Hong Kong Nicaragua Canal Development Group (HKND) for a 50-year project.[58] The HKND will have the exclusive rights and full ownership of the canal



**Figure 9:** Map Nicaragua Canal (Huete-Pérez and Meyer, 2014)

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[56] NHDP (2010): 11
[57] NHDP (2010): 6
[58] Michael Gross (2014): 1

project for the next 50 years. The proposed route of the canal can be seen on the map.[59]

Additional benefits of the canal project will be: two seaports, one international airport, a free trade zone and multiple tourist centres and opportunities. Moreover, approximately 200,000 jobs will be created during the project. The question is whether or not this will lead to development.

The $50 billion is a very big private investment in the transport and infrastructure of Nicaragua that can attract more FDI, and result in to jobs and economic opportunities. President Ortega has stated that this might be the best and "only way in which Nicaragua can confront the issue of poverty."[60] The canal can provide enormous opportunities in terms of infrastructure, connectivity, energy generation (i.e. hydro power), and employment. The economic revenue from the project can be invested in social service delivery across the country. However, this approach does not take into account the societal and ecological impacts the canal might have.

Since the National Human Development Plan pays special attention to environmental sustainability, the ecological impacts of the canal project have to be considered in assessing the developmental impact.

Huete-Peréz and Meyer (2014), and Gross (2014) describe many negative consequences of the canal project. These include pollution of Lake Nicaragua which serves as an important source for drinking water, loss of biodiversity, displacements of local communities, disturbance of fish and animal populations, harm to endangered species, disadvantages to indigenous peoples, and threats to different pristine, healthy tropical and marine biotopes. The benefits of the canal project are not as self-evident as they may seem. The canal should empower and "connect with people, rather than just slice of land."[61]

This short expedition to the Nicaragua Canal Project provides an insight into the development climate of Nicaragua. Around the country, I have spoken with people who are very much for the project and people who are very much against. There are some worries about the damage the project might have to nature and indigenous peoples. The big question will be how the benefits and the costs of this grand project will be distributed. Many in the country believe

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[59] Huete-Pérez and Axel Meyer (2014): 2
[60] Michael Gross (2014): 3
[61] Gross (2014): 3

President Ortega was persuaded with a big bag of money, and that the nature that defines Nicaragua is at threat.

From a national perspective, we now turn to a local perspective by looking at Bluefields, the location of the research.

## Bluefields

Bluefields is the capital city of the RAAS (Región Antónoma del Atlántico Sur) in Nicaragua. The region and city are, allegedly, named after a Dutch pirate, Blauvelt, taking shelter in the bay. Bluefields has a population of around 50,000 people. ±60% of the population is Mestizo – the dominant population group throughout the country and Spanish-speaking, ±30% is Creole – black and speaking English-Creole – and the remaining percentage is made up of a mix of Miskito, Garifuna and Rama – all with their own indigenous culture and language. The black Afro-Caribbean community is very influential in the image of the Caribbean coast. Due to its relative isolation from the Spanish pacific coast region of the country and English colonial influence in the region, the Creole identity has strong roots in the region. In recent years, there has been an increase in Spanish-speaking internal migrants. This may cause some language or ethnic tendencies, if Creole and indigenous cultures are lost.

## History

Bluefields, along with the Caribbean Coast region has a distinct history. Instead of Spanish colonial rule, the English ruled the Caribbean Coast region. This resulted in the adoption of the English language in the region, and in the emergence of a variety of different cultures. The mix of indigenous history and different colonial rule led to big socio-cultural differences between the Pacific and Atlantic sides of the country.

The Caribbean Coast region possesses a lot of biodiversity, natural resources and rainforests. Consequently, it has long been subjugated to exploitation. In the late 19th century, government forces with the help of the US invaded the region demanding the territorial integration of the region to the rest of the country.[62] The following regimes up until 1979 imposed strict regulations on the Caribbean Coast region, which delegitimized native, indigenous languages and cultures. Moreover, the government in Managua made concessions to international corporations to exploit natural resources. The immense extraction of natural wealth and

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[62] York University, Caribbean Coast: http://www.yorku.ca/cerlac/uraccan/Caribbean.htm

resources from the region without any tangible benefits to the region caused tension between the region and the central government.[63] The Autonomy Law of 1987 implemented by the Sandinista regime sought to overcome these tensions by granting the Caribbean regions (i.e. the RAAS and the RAAN) partial autonomy. These efforts are continued till this day by focusing the national development plan specifically on the Caribbean Coast region.

Knowing the history of centuries of foreign and internal colonisation of the Caribbean Coast region, one can understand why the region is still underdeveloped compared to the rest of the country.

## Facts and Figures

The city of Bluefields consists of several *barrios* of which some are primarily Creole like Old Bank and Beholden, and others that are primarily Mestizo like San Pedro, 19 de Julio and Santa Rosa. The office of BlueEnergy is located in San Pedro. Central is the barrio with the majority of shops, restaurants and cafes. Canal is one of the poorest barrios and is lacking services such as a sewage system. Sewage runs directly into the water; also in other barrios close to the bay waste directly ends up in the bay. Every barrio has a different Mestizo-Creole ratio thereby creating a multi-lingual, multi-cultural city.

There is poverty throughout the entire city but especially the barrio of Canal and barrios on the outskirts of town, such as 19 de Julio, are very



**Figure 10:** Barrios of Bluefields (blueEnergy)

poor. The maps in Figure 11 show the changes in poverty over the last decade. Though progress has been made, the entire city is considered poor. In 2012, only Canal would be qualified as experiencing high poverty. While other barrios have relatively developed, they are still experiencing poverty. The parameters upon which the poverty assessments were

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[63] York University, Caribbean Coast: http://www.yorku.ca/cerlac/uraccan/Caribbean.htm

based for this map are not included; therefore the maps might make the situation seem better than it actually is.

Turning now to the water and sanitation situation of the different barrios. In a nutshell, there are three common means of obtaining water – buying drinking water, drinking water from the wells (filtered and non-filtered), and rainwater retention. The densely populated and urbanized barrios such as Central and Canal buy most of their drinking water. Most other barrios have more space for wells and here houses typically have their private well or share a well with neighbours. The blueEnergy Campus with the offices and several houses for the volunteers has five wells on the property. Use of water is coordinated in order to ensure that water levels are similar in all the wells and to grant the wells sufficient time to replenish.
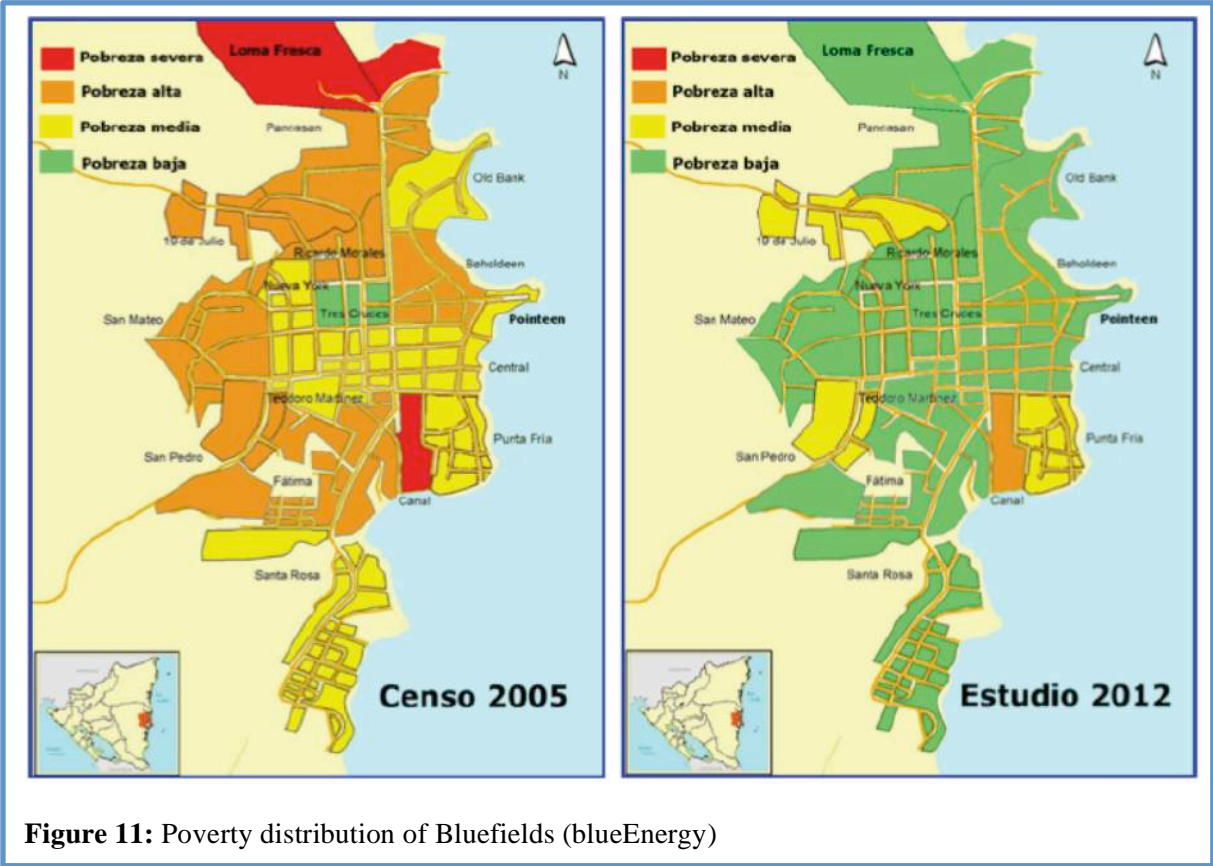


**Figure 11:** Poverty distribution of Bluefields (blueEnergy)

The city of Bluefields is the regional hub for the surrounding communities, and for travel to the Corn Islands. Merchants from the local communities travel to Bluefields by boat, and produce from the communities is sold on the markets in Bluefields. Examples of surrounding communities are: Kakhabila – a Miskito community that lives of fishing, catching turtles and tourism; Pearl Lagoon – a touristic town located in a lagoon that connects Bluefields to

communities surrounding the lagoon; Rocky Point – an Creole agriculture-orientated community near Pearl Lagoon; San Mariano – a Mestizo community that has a very dominant coconut production, and El Bluff – a neighbourhood of Bluefields on the opposite side of the bay that largely depends on beach tourism.

BlueEnergy works or has worked in all these locations, and in the research most of these places were also studied. A closer look at blueEnergy as organization will now be provided.

## BlueEnergy

The blueEnergy Group is an American-French NGO providing among others energy, water and sanitation projects in Bluefields. The NGO desires to take a community development approach and tries to incorporate the local in their development efforts. Small international staff is assisted by a large staff consisting of locals, both from the city and the surrounding communities. Additionally, the organization receives many international volunteers from North America and Europe. These volunteers work closely together with the permanent international staff and the local staff. The organization is divided in several departments: [1] Institutional Development – tasked with writing the strategy of the organization and with the contact with funders, [2] Administration – charged with all the administrative and financial issues, [3] Energy – focusing on projects related to energy such as improved cook stoves, [4] ASH /Water, Sanitation and Hygiene – focusing on projects related to water, sanitation and hygiene, such as latrine projects and water filters, and lastly [5] Climate Change – focusing on projects related to climate change adaptation such as a project focusing on traditional adaptation techniques of local Rama communities.

Over the years, blueEnergy has concluded a number of projects in the city of Bluefields and the surrounding communities. Most projects were focused on technology such as the technological capacity to generate electricity with wind turbines. However, recently, in congruence with changes in the international development climate, the organization has adopted a greater focus on governance and social issues. BlueEnergy has the desire to utilize participatory development methods to address the governance side of development projects.

Methods already in use are participatory workshops, organising events for beneficiaries and the wider community, cooperation with other NGOs and cooperation with beneficiaries in project related tasks. In the findings chapter, the organization and the methods mentioned will

be discussed further. Moreover, the methods will be analysed to see if they, in fact, are participatory.

Moreover, since blueEnergy is new to incorporating participatory development, the final chapter will provide tools for achieving participation, and for critical self-assessment of the participatory efforts.

First, the methodology and research objective will be outlined.

# Chapter III: Research Objective & Methodology

## Research Objective

The main research objective will be establishing a participatory development toolkit, which exists of tools that can facilitate participation in different stages of development projects. The related research question is: Which tools can facilitate participatory development in development projects? Apart from this, the use of the participatory methods by blueEnergy will be analysed. The analysis of the practices of blueEnergy will highlight certain success stories and certain pitfalls. These will be used to select tools that might address issues. There are many different gradients of participation ranging from passive to active participation. The importance of ranking the participatory methods will be described and linked to the practices of blueEnergy.

## Methodology

The research was conducted in Bluefields on the Caribbean Coast of Nicaragua. The research took place from February 2015 until June 2015. The methods used for conducting the research were mainly qualitative. Most of the data has been collected through participant observation (or as observant participant) in workshops, presentations, events, and every day work of the organization. Due to the fact that working on the drafting of a participatory toolkit requires a lot of reading, researching, and desk time, there has been limited time to speak to beneficiaries of projects. Through informal interviews and participating in projects in the community I have gathered data on the experiences and views of the beneficiaries of projects. Moreover, I have spoken to many volunteers and staff members about the projects, the choices made, and the problems that have arisen in the projects or events.

The data I have gathered are primarily from academic and professional literature on participation and participatory tools. Several different sources on tools are used in order to give the tools a higher validity. Moreover, I have visited a number of participatory workshops on nutrition, hygiene and sanitation, improved cook stoves and climate change adaptation. I sometimes participated and sometimes merely observed, and in this way I have gathered insights into how specific exercises and certain tools have been received by the beneficiaries. Furthermore, several informal chats with participants in the workshops have also given me information.

The toolkit is, among other sources, based on several toolkits from international organization such as the World Food Program,[64] the Food and Agriculture Organization of the United Nations,[65] and on research conducted by the International Institute for Environment and Development,[66] the Participatory Research and Gender Analysis (PRGA) program of The Consultative Group on International Agricultural Research (CGIAR), and lastly the Instituto Interamericano de Cooperación para la Agricultura (IICA) with their publication of *'80 Herramientas para el desarrollo participativo'*.

## Risks and limitations

Before my research I expected that the English language would have more dominance in the region, and I was surprised at how little work and conversation is conducted in English Creole. I have experienced that I lack sufficient command of the Spanish language; it has been without question the biggest limitation to the research. Reading Spanish texts took much more time than reading in English. And though I understand quite a lot, I could have missed details that might have been interesting or important.

A second limitation has been the lack of a good network or the time to forge lasting relationships. Though I have spoken to beneficiaries and staff, my limited time in Bluefields can have resulted in lower trust between my conversation partners and myself. This may have influenced the information obtained from informal interviews.

## Time frame

After 2 weeks in Playa Gigante to learn Spanish, and a week in Managua, I arrived in Bluefields in the end of February. The first two weeks of my internship, met with the director and with the volunteer coordinator to discuss my time at the organization. Moreover, I met all the volunteers and staff, and had time to get to know the city. I spent the rest of the month getting to know the organization and the current projects. In the months March and April, I visited multiple workshops on nutrition. I visited the barrio 19 de Julio twice, and El Bluff once. Moreover, I visited the community of San Mariano for two days constructing a wastewater filter, together with a high school class from California. With the Easter holidays, I visited several communities around Bluefields and Pearl Lagoon – Kakhavilla and Rocky Point – together with other volunteers. While the primary reason was holidays, the trip was a

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[64] WFP (2001a)
[65] FAO (2003)
[66] International Institute for Environment and Development (2004): http://www.policy-powertools.org

good opportunity to get to know new communities and to talk with locals about the organization and development. In May, I went along more workshops in and around Bluefields. These workshops were on hygiene and water. Also, spread over the months February-May several partner organizations visited BlueEnergy to provide trainings. I visited many of these trainings and presentations. I arrived back in the Netherlands on the 6th of June.

# Chapter IV: Findings – Analysis of the Participatory Efforts of blueEnergy
## Strengths and Weaknesses

After having outlined the importance of participatory development, and the difficulties of attaining true, lasting participation, now we will take at the ways in which blueEnergy (bE) as development NGO tries to introduce PD and avoid the pitfalls. We will take a look at several ways in which bE incorporates participation in its functioning and will analyse the value of these methods. We will both look at practices that can be improved upon by blueEnergy, and also at methods already in use that are successful and can serve as examples for other organization. These methods are:

**[1] Working Method and Staff**, and

**[2] Workshops or _talleres_** – in which participants are encouraged to participate, learn, teach, and share;

**[3] Events** – such as Climate Change Cinema or events on bE-campus;

[**4] Cooperation with other NGOs**;

**[5] Product-related tasks and cooperation** with beneficiaries such as testing, distribution and maintenance.

Each of the sections will provide observations on the practices conducted by blueEnergy and how this can be seen as participatory method. Moreover, the weaknesses and the strengths of the methods will be presented. This way we can learn from the pitfalls, but also from the success stories.

## [1] Working Method and Staff

The organization has a highly international and diverse team. Staff members include locals from Bluefields, locals from outside communities, international staff and long-term volunteers, and lastly short-term international summer fellows. The locals represent different communities and ethnicities. The organization employs Mestizos, Creoles, and also people from Rama communities. The employees are from communities all over the Caribbean Coast and Bluefields region. The big advantage of this is the fact that it is easier to establish contact with communities. In working with communities, it is important to have one or more staff members that are known in the community, and have spent considerable time in the

community.[67] This simplifies trust and relationship building, and thereby the project. Moreover, local staff members are very important to learn the customs of communities and regions. Especially for international volunteers coming into Bluefields, the contact with and learning from local staff is instrumental in order to understand the local realities of the people.

For the last decade, blueEnergy has delivered several projects and services to communities all over the Bluefields region. At first the projects where of a technological nature and aimed at providing electricity. However, in recent years the organization, together with the development world at large, has adopted a greater focus on the social, governance side of the projects. Consequently, blueEnergy has desired to incorporate a participatory approach in their work. Even though some things can already be seen a participatory – such as the employment of local staff or the organizing of events to inform and converse with the population – the organization desires to adopt specific tools and strategies for participatory development. No concrete strategies have yet been implemented or devised. However, certain methods are already in play to facilitate participation. These methods include among others workshops, events, and cooperation with beneficiaries. However, in the following chapter certain "ground rules" on participation will be presented, which are a good staring point for incorporating a participatory approach in the working method.

This change towards a more governance-orientated approach to development work rather than the technological approach also demands changes in staff and thinking. Following Chambers, successful participatory development demands a personal change of development staff, and a institutional change of the organization.[68] Looking at the international volunteers coming to Bluefields, the majority are engineers, or have enjoyed a technology-orientated study. This of course benefits the technological aspects of projects, but it disadvantages the new governance approach. A lack in cultural understanding can affect the outcome of a project and the adoption of products by beneficiaries. In several instances a heightened cultural understanding could have prevented issues or misunderstanding. Two examples will be outlined below.

After conducting workshops on testing different cook stoves, participants could choose a stove they would like to try for one month and then report back on their experiences. A couple of weeks later at the next workshop, the stoves would be presented to the participants. On this particular day there were several women who requested a carbon stove, which was a rather

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[67] Geilfus (2002): 14
[68] Geilfus (2002): 6

new product of metal with two handles. It was rather compact, portable and shiny. Most would agree that it looked better than the wood stove that only one woman requested. The wood stove was heavy, lacked handlebars, and the colour of the red bricks would stain hands and clothes. While the woman chose the wood stove a couple of weeks earlier, she did not want it any longer. She strongly indicated that she would like one of the carbon stoves the other women received, even though this particular household did not cook with carbon, but with wood. After talking to the woman for some time and walking her home with the stove, staff convinced her to try the stove and if she still wanted a carbon stove after she could. In this instance, staff had trouble understanding why she changed her choice, and were agitated due to the issues it may have presented. Clearly, the woman needed a wood stove since she cooked with wood, and since she also chose it at the testing workshop. However, as Dudley[69] already argued, you need to know if actions or products are 'respectable' for the beneficiary in question. No problems may have occurred if the woman was presented her wood stove in private at her home. The situation may have been prevented if bE staff would have thought about the possible implications of providing the stoves in front of the rest of the participants.

A second example regards the use of water filters. In speaking with an international volunteer on the Water and Sanitation team, a visit to several private water filters was discussed. Out of the 4 filters visited 2 were not in use or were broken. This problem was much more widespread, and I have seen many water filters of the organization, at private homes and at schools, not in use. A common problem the volunteer mentioned is that owners would remove the sand that filters the water, and they would clean the filter. Also, people did not use the same water, and did not use the filter every day. The volunteer in question had trouble understanding how beneficiaries could possibly think removing the sand would be a good idea. However – as was also brought up in a training of the Centre for Affordable Water and Sanitation Technology (CAWST) – an organization can make technologically really good filters, but without the socio-cultural side the project will still fail.[70] It is very easy to blame participants for removing the sand and breaking the filter, however it is important to know why exactly they did it. This requires a more social approach. Likewise, it is useless to enter into a discussion as a volunteer with a local about why he or she thanks God for the food on the table, and not the person who cooked.

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[69] Dudley (1999)
[70] Participant Observation at CAWST

A lesson learned from these examples, and a current pitfall of bE is the fact that there is a need to train staff members to be more understanding of local realities. What may be rational in Europe can be irrational here, and the other way around. This ties in with one of Chambers' main pieces of advice on good participatory workshops: Ignore all proposed tools, try and experiment.[71] There are no technological solutions for all problems, and fixing social misunderstandings cannot always be done with a step-by-step program or predesigned workshop. Currently, the staff of bE is too technology-focused, there is a need for an anthropological touch to the work, and for more intercultural training for staff.

## [2] The Workshops

One of the primary ways in which contact with the beneficiaries is established and thereby also participation is facilitated, is workshops or *talleres.* Workshops are conducted on many different topics such as the use of the improved cook stoves, nutrition, use of water filters, and sanitation. This chapter will review the workshops and the methods used. Moreover, from this we hope to distil a few fundamental principles that determine the success of a workshop. The methods of blueEnergy will be critically analysed and the insufficiencies or flaws will be worded in the context of the tools set out in the following chapter.

Most workshops would consist of 10-25 people attending and 3-5 staff members from bE. Workshops were conducted in the different neighbourhoods of Bluefields such as 19 de Julio, Loma Fresca and El Bluff. The workshops researched were conducted under the *Cambio Climatico* project called '*Familia Preparada*.' This project is a project connecting several departments of bE, such as *Cambio Climatico, Energia,* and *Agua y Sanitamiento.*

The project aims to improve that climate change adaptation abilities of the poor on the Caribbean Coast. Hereby, it looks for concrete methods to improve adaptation capabilities. The project will focus on lower energy consumption through the use of improved cook stoves. Also, through information events, participants will be informed about the effects of climate change and adaptation strategies. Furthermore, the project will provide several nutritional workshops in order to convey information concerning a more sustainable diet. The entire project aims to have a community development focus.

The analysis of the workshops conducted will be on the basis of participant observation in workshops, on active participation in activities/assignments in the workshops, on chatting to

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[71] Chambers (2002): 106

staff members concerning the workshops, and on visiting the workshops. All data will be pooled to provide a general analysis of the strengths and weaknesses of the workshops bE provides. The analysis will be divided in five parts: [A] Set-up: seating, location, etc., [B] Facilitators and staff, [C] Introduction and start of the workshop, [D] the programme and methods, and [E] concluding the workshops.

*[A] Set-up*: The workshops would usually take place in local churches, schools, or other public spaces with plenty of room for 15+ people. Several locations were quite noisy, since they were either in a school or situated next to a school. Children would come in to visit their mothers who participate in the workshop. Moreover, many children would come and watch the staff and the participants in the workshop. Children would often cause some turbulence in the back of the room, or would cause noise outside the classroom. This impacted the concentration of the participants; people would interact with the children, or would use the turbulence as an opportunity to chat to their neighbour or check their phone. A mother would tie the shoelaces of her son running into the church, while her neighbour was bottle-feeding her child and, thereby, not participating in the workshop.[72] Furthermore, in a workshop in a school in El Bluff schoolstaff would come into the classroom to get some tables or materials also causing a disturbance.[73]

Moreover, phones were a major distraction in all of the workshops. People would answer phone calls in the middle of exercises, would leave the room, or would stay to have their call in the midst of the group.

Also, the temperature in the rooms or the lack of ventilation would impact the concentration of the participants. The bE-facilitator of the workshops on one occasion in El Bluff related that due to the already present extreme heat at 8am she expected participants to get sleepy and unfocused.[74]

The seating arrangement was in every workshop visited in a large U-shape. Tables would not be used and pushed against the wall. The chairs would be in the centre of the room in a U-shape to ensure that there would be no second row, and that all participants could see and talk to all others. This is a tested and approved seating arrangement to facilitate participation.[75]

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[72] Participant Observation, 19 de Julio, 17/03/2015
[73] P.O., El Bluff, 22/03/2015
[74] P.O. 22/03/2015
[75] Chambers (2002): 98

The seating arrangement would also leave ample room in the centre for presentation, assignments or games.

To conclude, the weaknesses of the set-up are a noisy, and sometimes uncomfortably hot room. This will negatively effect the concentration and dedication of the participants, and also of the staff. The big strength is the seating arrangement that allows for interaction and is a proven part of good participatory workshops.

*[B] Facilitators and staff:* The most appropriate team for workshops consists of around four members: the team leader – responsible for planning and organizing, the facilitator – runs the workshop, the note taker – documents the workshops with notes and photos, and lastly the linking person – a local that informs and prepares the community members[76][77]. At blueEnergy three or more staff members preformed most of the workshops. However, participants would, on several occasions, come late and/or unprepared. This can be because of the fact that workshops often lacked a linking person.

The facilitator is arguably the most important member of the team since most of the interaction with participants is with the facilitator. The selection of a good facilitator is fundamental for the success of a workshop.[78] Good facilitators usually:

• "Lead but do not control;
• Keep opinions to themselves;
• Are flexible and adapt the programme as necessary;
• Are responsive to the group's body language and other non-verbal signals;
• Do not try to cover too much in one session, and conversely, do not drag out a session just to keep to the programme."[79]

Moreover, facilitators should have good social and language skills, as well as cross-cultural understanding.[80] And most importantly, good facilitators know their own limits and have faith in the abilities of the participants, thereby not seeing them as students or as needing help, but as equals.[81]

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[76] FAO (2003b): Module II - http://www.fao.org/docrep/006/AD424E/ad424e03.htm#bm3.7
[77] Geilfus (2002): 14
[78] Geilfus (2002): 14
[79] WFP (2001b): 9
[80] FAO (2003a): 36
[81] Geilfus (2002): 5

Several staff members at blueEnergy have these qualities and make good facilitators. One staff member in particular has an enthusiasm that excites most of the groups that she works with. She speaks both Spanish and English Creole thereby making her able to communicate well with all participants. Moreover, she engages with passive participants in the workshops, and encourages everybody to participate and makes people feel comfortable. However, other staff members and volunteers see workshops and especially presenting as something to get over with. Some workshops present information in PowerPoint presentations, which can be difficult and boring for the participants to follow. Staff members are free to choose how information is presented, and sometimes feel there is no other way than presenting it plainly in a presentation. The staff members that can be considered good facilitators are not the products of training or policy. BlueEnergy currently lacks a specific program to make both locals and internationals better facilitators. If participatory methods are to be used effectively in the future, the training of staff members in participatory development is needed as a policy point.

*[C] Intro*: The start of the workshops would usually start half-an-hour to an hour late, and participants would come in one by one. People would generally sit and wait for others to come and for the workshop to start. The bE staff would finish their final preparations for the workshops, put up the mural posters, displays cook stoves, rearrange the seating, etc. Participants would often wait idle for the start of the workshop, which is a missed opportunity to include them in the preparation or in welcoming the other participants. Chambers argues that the first 30-minutes of a workshop can determine the tone of the entire workshop.[82] Some improvements can be made in the reception of the participants.

Turning to the introduction, the workshops would be started off with the bE-chief of the workshop to discuss the aim and intent of the workshop. After this the facilitator would introduce an introduction game. One game was used in the nutrition workshops. Participants would have to write their first name and a fruit or vegetable or any kind of produce as their surname on a sticky note. Moreover, participants would have to tell the group what they think of the produce they chose and how often they eat it. It was a good introduction because it immediately used a nutrition focus, and because it was a fun and interactive activity. Participants in the multiple workshops found it hilarious to introduce himself or herself as Antonio Arroz, Maria Mango, Lidia Linaza, or Martina Manzana.

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[82] Chambers (2002): 99

In another game used in a water, sanitation and hygiene workshop the participants,[83] which were seven primary school teachers, would have to give a sort of sales pitch to "sell themselves" to the rest; the staff had to do the same. The pitch had to be 30 seconds short and you had to describe yourself with as few words as possible. Participants, again, had a lot of fun doing this exercise and came up with exciting, and funny pitches.

Example of a pitch: *"Todo lo que buscas lo encontrás en Arvin Perez. B˚19 de Julio. Tus sueñas son una realidad." ("Everything you look for you find in Arvin Perez. Neighbourhood 19 de Julio. Your dreams are a reality." Own translation)*
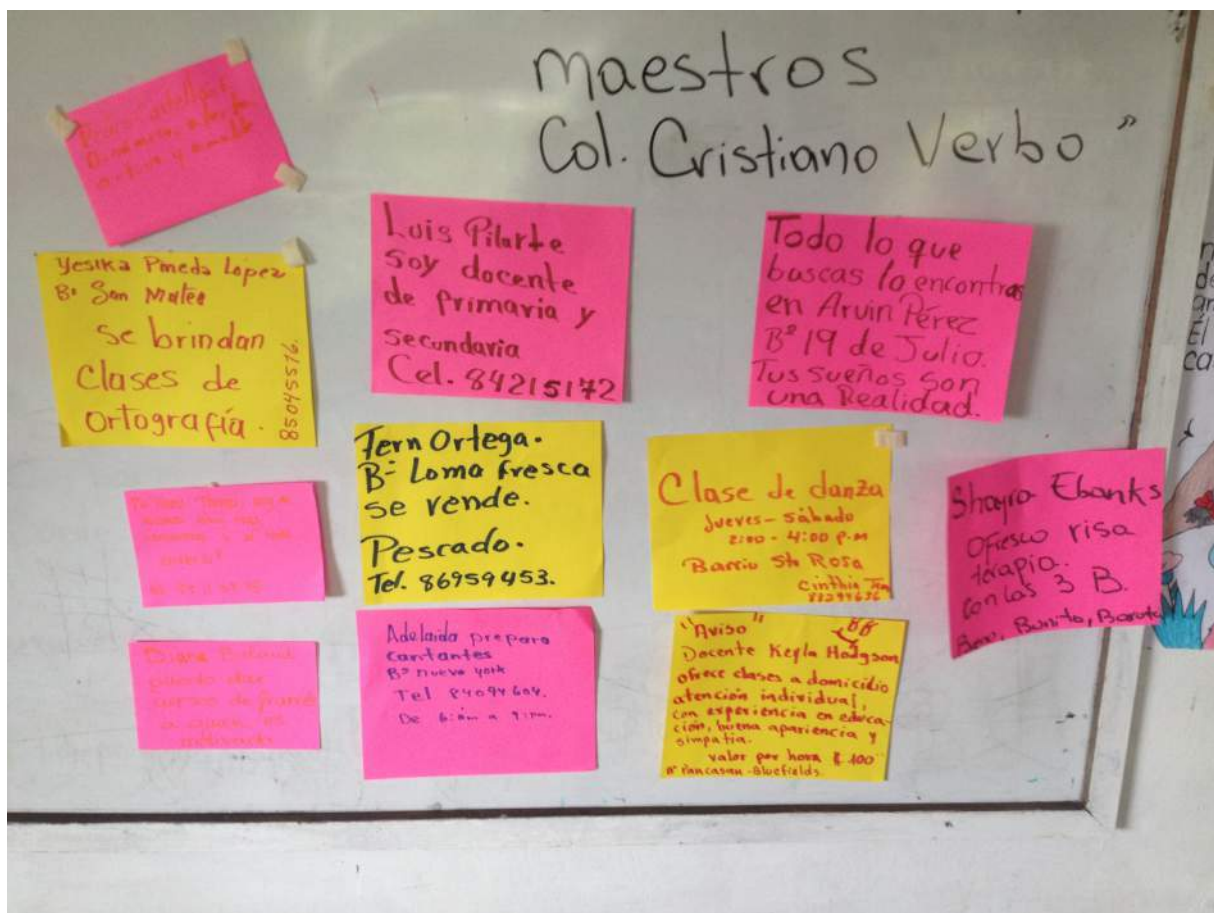


Games like these are a very good way to start because they immediately require active participation of the participants. Participants are triggered to speak for a while, rather than just stating their names. And lastly, it is a fun way to start the day and as already mentioned the first 30-minutes can decide the tone for the rest of the day.

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[83] Participant Observation, El Verbo, 07/05/2015

In sum, the big strengths of the introductory methods are that they are fun, interactive and participatory. However, improvements can be made in welcoming the participants and including the early comers immediately. Like in many things, the first impression is pivotal.

*[D] Programme and methods*: In all workshops there were parts done with the whole group of participants and with smaller groups. Groups were usually formed randomly such as through the use of numbers on the name cards to indicate which group a participant was. Sometimes there was the need to have a more classical approach, for instance in providing information or explaining e.g. the different nutritional groups. This was usually followed up with time for small groups to work with the new knowledge. Furthermore, three or four groups would do the same exercise simultaneously, then compare and evaluate the exercise with the whole group to discover and analyse the different outcomes. Participants did not have long periods of listening and sitting, rather participants had to actively participate in multiple group exercises or collective tasks. This ensured that participants were generally more focused on and integrated in the workshop.

Examples of small group exercises were, in the nutritional workshop, the drafting of a shopping list for 15-days/5 people household, with C$1500 (=€50,00). Three separate groups would draft separate shopping list, and in the end the whole group would compare the lists.

It was interesting to see the different group dynamics in all the groups. As most participants were women – since the project targeted women specifically – there were many all-women small groups, however in some instances there were one or two men in groups. The group dynamic could change significantly. Though personalities also differ across same sex participants, more often single male participants would have a more dominant role in the group. Though it is through personal observation, men in groups were seen to take up more tasks such as presenting a product of an assignment or answer questions in quizzes. When volunteers were requested, men were more prone to volunteer. This resulted in other – female – participants remaining silent, and not fully participating in the workshop. On some occasions the bE staff would directly include passive participants by asking them questions, or by undertaking tasks that would include all members of the group. However, establishing a "level playing field" to make voices heard could have been more widespread throughout the workshops. Passive participants were more engaged in some workshops than in others. The exercises and tools used in a workshop can determine this. One example may clarify.

The last part of workshops was usually a quiz battle between the three smaller groups. The quiz would include questions for 5, 10 or 20 points depending on the difficulty of the questions. On one occasion the facilitator would ask a question that any team member of any team could answer. The more dominant people of the group would often get up to answer the questions, while the passive members would not answer a single question. The result of this is, first of all, no real participation, and secondly, no opportunity to see if the participant had learned anything from the workshop. In the next workshop the format was changed a little by numbering each individual group member thereby having three number 1's till 6's. A bottle would be in the middle of the room, and when the facilitator would call a number the participant corresponding to that number would have to grab the bottle first. Whoever had the bottle could answer the question. Due to the fact that all numbers were called out multiple times, all participants had the opportunity to answer questions, and were included into the quiz. Thus, thinking about different approaches to seemingly similar exercises is important, and can foster more participation.

As already mentioned a quiz is a good way to test how much participants have learned from the workshop. On various occasions it seemed participants did not recollect much of the things discussed; many wrong answers to – arguably – easy questions were given. A cause of this is the fact that participants lack good recollection materials such as notes, hand-outs and memory cards. Participants were mostly not proficient enough in writing to take adequate notes during the workshop; blueEnergy also did not provide any memory aids. To have more lasting effects bE should provide pamphlets or booklets that can be referred to by the participants if they are unsure about things they have learned. Moreover, in terms of gender equality, booklets can ensure that information is shared better within a household; it eradicates the discretion of man or wife to tell what they felt was important in the workshop rather than what the organization envisioned as important. Another important issue is that participants might not be capable of or comfortable with written explanations. Fun and colourful booklets with images explaining things is a good and easy way to provide a memory aid for participants.

Lastly, the social and recreational aspect of the workshops were seen as important by bE. Many games were used to keep the workshop interesting and interactive. Games were also combined with learning. An example is throwing a paper ball around in a group with the paper ball being made up of papers with questions on the paper. Whenever the throwing would stop (e.g. when music stops playing, or when the facilitator says so) the person with the

ball could remove one paper and needed to answer the question about the material discussed. Moreover, in the nutrition workshops the organization provided a lunch as a good example of a balanced meal, or in workshops testing different cook stoves the organization provided food to be prepared. Apart from a good gesture of appreciation for the participation of people, providing food can also be an incentive for participants to show up, and, thirdly, it is fun to cook and eat together.

In sum, the programme of the workshops was usually a good mixed of learning opportunities and interactive games. This is, I believe, the biggest strength of the bE-approach. Participants seem to really enjoy the workshops, and most of the time they are appreciative of the opportunity to take part in the workshop. Alternatively, some workshops also lacked enthusiasm on the part of the participants, no matter what methods or games were used. Nonetheless, after workshops participants mostly agreed that they liked the interactive and active approach of the workshops, and that they enjoyed the games and exercises.[84] However, as indicated before the knowledge taken away from the workshop was occasionally not high. This is a weakness of bE's approach: translating interaction and active participation into lasting knowledge transfer, and moreover channelling the energy of participants to ensure productive participation. Another point raised was the dominance of some group members in assignments. Participants have different levels of energy and motivation to participate; however this does not mean that the more energetic are the more knowledgeable. Facilitators and staff need to be aware of this and need to include everybody in the workshop to ensure everybody learns and shares.

*[E] Evaluation:* Evaluations with participants were always very short. They were at the end of the workshop when both participants and staff were quite tired, and just desired to go home. Staff did not ask for explicit comments on the workshop and the exercises. Evaluations were often not more than 5 minutes, and entailed brief statements about the workshop in general. However, the value of a good evaluation is paramount. It is important to know how much participants have learned, and what methods were most productive, not just if the workshop was fun. A verbal evaluation with the whole group might also not be the best way to go. Other methods are anonymous notes, or individuals ranking different predetermined aspects of the

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[84] Participant Observation, El Bluff, 22/03/15

workshop.[85] In sum, in terms of evaluation bE has a lot to improve upon. Improving the evaluations will simplify improving workshops overall.

## [3] Events

Apart from workshops, bE also organizes various events to spread knowledge, to get more community involvement, and to establish itself as agent in Bluefields and the region. Two of those events will be analysed: firstly, the 'Cine Climatico', and secondly the Open Garden Event.

The Cine Climatico was an initiative of the Cambio Climatico department. The location was at the Bluefields Indian and Caribbean University (BICU). Many students were present and in total around 200 people showed up: students, teachers, bE-staff and other guests. The Cine Climatico showed two documentaries made by blueEnergy. One was co-produced with a young local scouting group and was about pollution in Bluefields. It showed how the drinking water is polluted, how plastic and garbage are omnipresent in the city, and how this will affect the future of the city. In a 5-10 minute, short clip the scouts could from a child's perspective explain the amazement of why the people in the city do not undertake action to prevent climate change and pollution.

The second longer documentary was filmed in the local Rama community of Bangkukuk Taik. It depicted the traditional farming practices of the indigenous Rama population, and also the ways in which production has changed as a result of climate change. The project bE undertakes in Bangkukuk Taik tries to work together with the community to find hybrid-methods of farming between traditional methods and 'scientific' farming methods to, in the end, be more resilient to climate change. The 20-minute long documentary explained the project, introduced the community and showed some of the traditional ways of the Rama community.[86]

Both documentaries were followed by a question and discussion session with all attendees. Several students shared their stories, many of which were from small communities around Bluefields that were also experiencing the negative effects of climate change. Issues raised included droughts, heavy rainfall, water pollution, and irregular rain seasons. It was very interesting to see such a great amount of experiences shared. Moreover, the enthusiasm of the

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[85] Chambers (2002): 6
[86] Documentary Traditional Treasure bE: https://www.youtube.com/watch?v=GrkQAytr9Nw

attendees was high since even before the discussion was over a dozen requests for the documentary on USB-drive were received by bE staff. The strong points of this event were that the documentaries were interesting and the format of using video to show experiences or share knowledge is very popular. In smaller communities, movies or video are very rare, especially seeing a video of yourself or your own village. In the small Mestizo community, San Marino, viewing a documentary about the water project in the community resulted in many happy faces and laughter seeing acquaintances on the big screen. People can also be very proud of their taking part in a film. Thus, events like the Cine Climatico are good ways to dispense knowledge, and establish the organization as agent in the community.

The second event is the Open Garden Event. On the 30th of April 2015, blueEnergy opened its doors at the organization's headquarters to project beneficiaries, journalists and professionals. All three groups were, separately, shown around the bE-campus and were presented the different departments of the organization. Each department – energy, water, hygiene & sanitation (ASH), and climate change – had one or more stands, talks or tours plans. The energy stand provided a nice lunch made on improved carbon cook stoves. The meals were made with produce that can exclusively be found in the Demonstration Garden of blueEnergy, where several fruits and vegetables are grown, and where there is a small permaculture plot. The visitors also enjoyed a tour through the gardens and were told about permaculture and specific growing techniques used. The climate change stand presented their project in the community of Bangkukuk Taik, and about the resilience of indigenous communities to climate change. The ASH stand had a small and improvised sink to wash your hands to demonstrate the need to wash your hand with running water to prevent contamination. Moreover, the staff presented several water filters, and talked about the general importance of clean drinking water. The visitors were given a lunch, a blueEnergy event shirt, and a two-hour tour and presentation of the work of the organization. Especially the beneficiaries were excited about the visit. Some said two hours was to short, and they did not want to leave.[87] The beneficiaries were grateful for the shirts and lunch, and many of them thought it was an interesting visit. Products were demonstrated to the beneficiaries, this resulted in new interest in the bE-products. There was a high interest in, especially, the cook stoves. Apart from a good marketing opportunity, the organization also created goodwill and trust by opening their doors to the beneficiaries.

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[87] Participant Observation, Open Garden Event, 30/04/2015

In conclusion, events like the Cine Climatico and the Open Garden Events are good ways to broadcast to the people what the organization is doing, and to get into contact with the people, to hear what they think, what they want. Organizing events like this can improve the relations with beneficiaries and promote participation through cooperation. On the other hand, an event like the Open Garden Event required a lot of resources. A lot of water has been used in preparing the gardens and cleaning the entire campus. April is within the dry period and water at the time was quite scarce at blueEnergy. In the same period, the fire department was asked to fill the tanks for the gardens. In terms of creating a level playing field for beneficiaries and organization, paying for water that needs to be used for an event promoting sustainability might seem contradictory or false advertising.

## [4] Cooperation with other NGOs and institutions

One of the strong points of the working method of blueEnergy is the cooperation with several other NGO's and institutions. BlueEnergy asks for help or training in areas in which they are not yet experienced or knowledgeable enough. Over the three months spent in Bluefields, several organizations visited blueEnergy. The Centre for Affordable Water and Sanitation Technology (CAWST) visited for a week to provide evaluation workshops of the water filters of bE and to train bE staff in improving the filters. The Project Bona Fide from Ometepe Island is specialized in permaculture and has +40 acres of permaculture land. Bona Fide will help bE to realize the establishment of a permaculture garden at the bE-campus to provide food for the staff and resident volunteers. Another organization bE works with is GiveLove. GiveLove is an American NGO specialized in latrine projects, and will help bE to start a composting latrine project that will provide compost for the gardens and permaculture. Especially, the visit of GiveLove to Bluefields was interesting and challenging. The existing latrine projects of the organization were visited and analysed. Moreover, several trainings and presentations were given to bE-staff about constructing latrines for beneficiaries, but also about the establishment of compost latrines on the bE-campus. As a test run, all staff toilets were replaced with several buckets representing a dry composting latrine. Most of the staff was surprised by the change, and there were some difficulties coping with the changes. While several staff members had no problems with the changes, others would avoid the buckets and use still functioning toilets outside the office in the houses of the volunteers.

Furthermore, blueEnergy works together with both universities in Bluefields, the BICU (Bluefields Indian and Caribbean University) and the URACCAN (Universidad de las

Regiones Autónomas de la Costa Caribe Nicaragüense). The organization has several internship possibilities for URACCAN students, and works together in projects and research with the URACCAN and the BICU, such as the Cine Climatico. Another form of cooperation was a workshop on gender in the end of April. BlueEnergy staff members were participants in the workshop together with Centro Humboldt – a NGO focused on public advocacy in Nicaragua - Global Communities – an international non-profit NGO focused on community development - and the BICU.

The great advantage of this cooperation with other NGOs and especially of receiving trainings and workshops is that now bE-staff are participants. The staff members are confronted with changes that beneficiaries in communities are confronted with too, such as changes in latrines. Moreover, by following workshops staff members know what tools and approaches can work in workshops, either through copying good methods or through personal experiences of workshops. Furthermore, it is important to admit as an organization that in certain areas you have no experience, and to know the limitations in your work. This can greatly help in understanding the limitations of projects in the field, and to understand the perspective of the beneficiaries.

## [5] Product-related tasks and cooperation with beneficiaries

Apart from the common usage of participatory methods for baseline research and establishing the project desires and needs of the target population, participatory methods can also be used for other means such as testing and management of products. BlueEnergy used workshops with participants to test several cook stoves. Afterwards, beneficiaries could use the preferred stoves for a one-month test period. Moreover, a small number of beneficiaries were selected in each neighbourhood to help in the distribution of the stoves by collecting the payments of all beneficiaries and functioning as middleman between beneficiaries and blueEnergy. Practices like this can help greatly in investigating which cook stoves or other products are the preferred choice for beneficiaries. Test models included different wood stoves and different carbon stoves, and they were tested in several workshops and for longer periods in households. From these workshops it was concluded that woodchip stoves were not received well by any of the groups. Alternatively, the carbon and the wood stove were well received and were provided to several participants. It is important to include beneficiary participation in the testing phase of products, since including the end-users in the design (and possible re-

design) greatly influences the efficiency and acceptance-rate of the products.[88] However, unfortunately blueEnergy does not design their own products, it buys most of the products like stoves and filters. So, even though participants are included in the testing of stoves, their comments on design and usability will not lead to any improvements in the design of the stoves. The only option is to eliminate the bad stoves, and pick the best or least-worst one. For instance heavy stoves that lacked handlebars could not be designed differently by bE since the design of products was both out of blueEnergy and the participants' hands.

Even more worrisome is the lack of participation in the design of projects. Since blueEnergy invites and receives several high school groups or private groups that want to build stoves or solar panels in remote communities, opportunities for this need to be created. In one instance where acquaintances of one volunteer visited with the desires to build several stationary, big cook stoves in a community the choice was made to build them in the community of San Mariano since the organization already had a lot of projects there. However, in San Mariano people did not want the stoves, whereas in the community of Rocky Point there were several households that desired a cook stove. However, the organization already had an organizational framework in place to start building in San Mariano – i.e. several recent projects had been conducted in the community. The preparatory visit to San Mariano affirmed that people did not want the stoves, and that most houses were not suitable for the stoves – i.e. the houses were build on poles and the stoves are very heavy. Furthermore, the original intent of the project was to have beneficiaries pay for the stoves, however since nobody wanted them, they refused to pay. Eventually beneficiaries agreed to help with the transportation of the materials for the stoves, and would provide food for the staff constructing the stoves. In this instance, bE possessed a mentality that is contrary to participatory development, namely that the stoves are going to be build even if you do not want them. In the end, three stoves were built at the school, the church and for "some guy" whose house was suitable.[89] Even though, ultimately recipients were content with the stoves, the process of the project was far from participatory, and is actually contradictory to participatory methods.

The same has happened in the water filter project. Water filters were distributed to many people in Bluefields, however not all of them wanted the filters. This is demonstrated by the many filters seen that were not or have not been used. When filters would break, recipients would not care enough to fix them and would resort to their old customs.

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[88] Göransson and Rolfstam (2013): 290
[89] Informal interview with volunteer Energy team, 03/08/15

## Conclusion: Lessons Learned

In conclusion, it seems participatory development happens at blueEnergy by chance. Several things work well, and several things can be seen as participatory. However, there is not yet a clear strategy or institutionalization of participatory methods, such as the training of staff members to be better facilitators, or the teaching of cultural understanding. Participation seems more of a political buzzword that is loosely trying to be adopted, without seriously institutionalizing it.

The workshops and events of the organization possess some successful methods that are participatory in a sense. However, in terms of staff, working method, and cooperation with participants, improvements can be made. According to Chambers, a move towards participatory development cannot be achieved without personal, professional and institutional change. BlueEnergy needs to make policy changes to facilitate this. Proposed policy changes can be: more training of facilitators, different orientation of international volunteers to have a technology vs. governance balanced team, appropriating the design of products in order to include participants, and lastly, to include participants in the design and decision-making of projects.

Also, blueEnergy does not specify what type of participation they are aiming for. As is outlined in the theoretical framework, there are different types of participation. Though passive or nominal participation is still a form of participatory development, it is important to attain the highest degree of participation in projects. With no clear policy or study on the different types of participation and the type desired by bE the participation achieved is purely coincidental. Currently, participation is chiefly achieved through workshops. Therefore, the tools proposed will focus on workshops. Moreover, the organization has expressed the desire to include participatory methods in baseline research, i.e. study of the target population, the community, the desires and opportunities for improvements. In the toolkit, there are several participatory tools presented that can facilitate baseline research.

However, one big step blueEnergy, and any other development institution, must take is to critically think about what type of participation do we want to achieve. There are differences in participatory methods and it is important to highlight these differences in order to overcome misunderstandings/oversimplifications of participation, and to distinguish between the successes of several participatory approaches. Lastly, it is easy to say a project is

participatory by including the participants only in the testing phase. Including participatory methods in all stages of the innovation process is a second step.

To conclude, participation of beneficiaries is at best collaborative in events like the Cine Climatico, often consultative in parts of the workshops, and mostly conventional or contractual in projects.

The next chapter will provide a guide that can help in self-evaluating the participatory aspects of projects, and can provide points of improvements for future projects.

# Chapter V: Advised Participatory Toolkit

## Tools and the stages of a development project

### Ranking Participation

As Mathie and Cunningham so eloquently put it, participation is about a change "from clients to citizens."[90] The differences in types of participation can be framed in the wording of clients and citizens. The early stages of participation such as contractual or nominal participation have little involvement of participants, and thus result in little say on the part of the participants. Participants can still be seen as clients. In the later stages of participation such as collegial participation, beneficiaries make decision in communication with development professionals. In this instance, beneficiaries are as equals, they are citizens. If organizations, such as blueEnergy, wish to make the move from clients to citizens, they need a tool to measure the type of participation their approach produces. Lilja and Johnson developed such as tool focused on the locus of decision-making.[91] The tool is a checklist with 16 questions about a project. On 16 points that are connected to a project the checklist asks who decides, has decided or will decide. This way the end product will give an overview of who (development professionals or beneficiaries) has, has had, or will have the most impact in framing and implementing a project. In line with the distinction proposed by Agarwal, Lilja and Johnson distinguish between, on the one hand, the ultimate decision-making power of the development practitioners, i.e. 'the scientists', and, on the other hand, the ultimate decision-making power of the beneficiaries of a project, i.e. 'the farmers.' The codes used in the checklist are the following:[92]

**A = on-farm research** (staff make decisions alone + no communication with recipients)

**B = consultative** (staff make decisions alone + communication with recipients)

**C = collaborative** (staff and recipients make the decisions together through communication)

**D = collegial** (recipients make decisions alone + communication with staff)

**E = farmer experimentation** (recipients make decisions alone + no communication with staff)

**X = Date** (date step is or will be concluded)

**N/A = Step not included in project**

Source Checklist: Lilja & Johnson, (2001) Working Document No. 7, CGIAR/PRGA, pp. 57

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[90] Mathie & Cunningham (2003): 1
[91] Lilja and Johnson (2001): 57
[92] Lilja and Johnson (2001): 57

| | Table 1: "Stages of Innovation: who decides? | | | | | | |
|---|---|---|---|---|---|---|---|
| **A** | *DESIGN* | **A** | **B** | **C** | **D** | **E** | **X** |
| 1 | Who decides what is the target group or clientele at the research initiation stage? (eg. target groups: women, lowland farmers etc.) | | | | | | |
| 2 | Who decides what are the topics, opportunities or the problems at the diagnosis stage? (e.g. topics: crop to be worked on, type of crop characteristic to be worked on or type of environmental stress) | | | | | | |
| 3 | Who decides what is the most important problem or opportunity, which has been identified for research? (ie. if many problems are identified who decides what is the priority problem. ) | | | | | | |
| 4 | Who decides what are the available solutions and relevant information about the problem or opportunity? (ie. for a given problem, for example poor soil conditions, who decides what is the appropriate possible solutions to deal with the problem, eg. new crop type, fertilizer etc.) | | | | | | |
| 5 | Who decides that the available solutions are not adequate and more information needs to be sought or generated to reach a potential solution?(ie. who evaluates and decides about the usefulness of the available solutions to the identified problem? Also decision about if PPB program is necessary) | | | | | | |
| 6 | Who decides what is the relative importance of solutions, which have been identified? (ie. who decides what are the goals of the PPB work – increase production, enhance biodiversity, build farmer skills etc.) | | | | | | |
| 7 | Who decides which solutions are worth testing? (ie.. who decides on the specific breeding goals and strategy, e.g. whether to work with variable or stabilized materials etc.) | | | | | | |
| **B** | *TESTING* | **A** | **B** | **C** | **D** | **E** | **X** |
| 8 | Who decides what is the collaborative group for testing and evaluating the potential innovations or technology options? (eg. skills, varietal materials, organizational options) | | | | | | |
| 9 | Who decides whether to do the testing on farm or on station or both and with what kinds of designs? | | | | | | |
| 1 0 | Who decides what aspects of innovation or technology option (including materials) are important to evaluate? | | | | | | |
| 1 1 | Who decides what is the "yardstick" for measuring what is an acceptable solution or not? (ie. whose criteria is used) | | | | | | |
| 1 2 | Who decides whether the innovation is recommended to other farmers, or what is recommended to farmers? | | | | | | |
| **C** | *DIFFUSION* | **A** | **B** | **C** | **D** | **E** | **X** |
| 1 3 | Who decides what is the target group or clientele for awareness building, validation and dissemination of tested innovation or technology options? | | | | | | |
| 1 4 | Who decides when, to whom, and in what way to promote awareness of solutions and publicize information about it? | | | | | | |
| 1 5 | Who decides when, to whom, and in what way to supply new inputs needed for adoption? | | | | | | |
| 1 6 | Who decides when, to whom, and in what way to teach new skills needed for adoption? " | | | | | | |

Lilja and Ashby[93] argue that a different type of participation is possible at every stage of the innovation process or project. However, it is noted that it is important to have some form of citizen participation in each stage.[94] Different types of participation can produce different results. At each stage it is important to ask: who decides? Who participates?

To measure the impact of participatory projects (and regular projects) a number of issues are important:[95] [1] Who are the stakeholders and what are their interests? [2] What are important impacts and who defines these? [3] What are the expected cause-effect linkages? [4] How do we measure success?

As there is no one type of participation, the effects of participatory projects cannot be objectified. Answering questions like those proposed by Lilja and Ashby can help in determining the impact of projects, and can help trace the impacts. Ultimately, answering these questions can aid in investigating if the benefits of projects arrive at the target population, and thereby if projects are a success or not.

The tools in this toolkit will facilitate answering these questions, and will help achieve participation in the different stages of a development project. On the basis of research published by the Participatory Research and Gender Analysis (PRGA) program of The Consultative Group on International Agricultural Research (CGIAR) and other literature we can define five different steps and three overarching stages.[96]

The tools presented are applicable in multiple stages, and in the different steps. E.g. participatory ranking systems can be used in problem definition in the research step, but also in testing to rank characteristics, and in the evaluation stage to order the experiences of the product or project.

A. *Decide on Topic, Initiative and Planning:*

1) **Research – base line study – and diagnostics:** Collecting facts and figures on the current situation such as population figures, electrification percentages, and also problems that are identified by the population. On the basis of this, one can, together with the target group, formulate intervention possibilities.

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[93] Lilja and Ashby (1999): 8
[94] Lilja and Ashby (1999): 7
[95] Lilja and Ashby (1999): 4
[96] Pröbst (2001)

2) **Design:** Choose and design the project. Moreover, design the specific product for the intervention – e.g. an Improved Cook Stove (ICS) or a latrine. It is important to incorporate the wishes and needs of the target group in the design stage.

3) **Testing:** Test the product / let the target group test and try the product. Ask for feedback on the use of the product and incorporate in improved (final) product.

*B. Implementation:*

4) **Diffusion**: Dispatching the products and the needed additional skills and training. Moreover, establishing organisations or committees maintaining and governing the technology should be adopted. Ensuring that the human/social complexities surrounding technology can be dealt with adequately (independently) by the target group.

*C. Evaluate and Follow-up*

5) **Monitoring & Evaluation**: Collaborate with the target group to regularly monitor the project and collect results of the products. Following, these results can be analysed and the project can be evaluated together.

In the table below some participatory tools are outlined for several stages.[97] Though the tools are worded in a broad fashion, they serve as a good sense of direction for participatory methods.

| **Table 2:** Tools per Stage |
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|    **(a) <u>Decide on Topic, Initiative and Planning</u>** |
| **1.** Establish *beneficiary participation* – i.e. the intervention is not an un-modifiable "free gift", local ideas and knowledge need to be incorporated. |
| **2.** Also include *local citizen organisations*; not only individuals. This results in different points of entry and contact. |
| **3.** Stakeholder analysis – with a special focus on gender. *Include marginalized groups* and focus on equity/equality issues. |
|    **(b) <u>The Implementation</u>** |
| **1.** Keep *open and transparent communication* b/t beneficiaries and |

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[97] Pröbst (2001): 38-39

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| researcher/interventionist. Engage in dialogue and information exchange. |
| **2.** Provide a *forum for analysis* and (re)negotiation of interests. |
| **3.** *Beneficiaries have to contribute* – e.g. payment or labour. |
| **4.** Space to *build (self)confidence*: Leave room and time for all participants to build motivation, confidence, and to establish a good rapport between different actors. |
| **5.** Establish *Learning Situations* – through which new skills and knowledge can be transferred and applied. |
|    **(c) <u>To Evaluate and Follow-up</u>** |
| **1.** *Self-evaluation* can enrich the learning process of the groups and institutions. |
| **2.** Follow-up on *problems and issue identified* by the target group. |

## The Participatory Toolkit

After these broad aims of participatory tools have been established, let us take a look at some specific tools. The tools are selected to tackle the lack of participatory methods of blueEnergy, and to outline general tools to facilitate participatory processes. Moreover, the toolkit will include tools that blueEnergy already uses, and that have proven successful. Since apart from certain weaknesses in the participatory approach, the organization has used appropriate tools, which can work as an example for other organizations. We can identify several categories of tools:

**[1] Participatory Observation tools** – observing and documenting the everyday life and livelihoods of the target group;

**[2] Mapping tools** – social mapping, hazard mapping or resource mapping;

**[3] Diagrams** – such as Venn-diagrams of groups, organizations and external actors;

**[4] Matrix and Ranking tools** – different matrixes to facilitate decision-making and rank preferences or priorities;

**[5] Calendars and Timelines** – such as seasonal calendar, historical timeline and the daily schedule tool that all introduce the dimension of time;

[**6] Stakeholder and Benefit Analysis tools** – documenting stakeholder dynamics and the flow of responsibilities and benefits;

**[7] Games** – utilizing an active, fun approach to learning and sharing.

It is important to realize that tools are not sure-fire solutions and therefore should not be applied in a rigid fashion. The ultimate aims of participatory tools are to spark debate, built confidence and facilitate self-help development.[98] There is a context for all tools and the misuse of tools can do more wrong than right. Tools can be mixed and matched, and multiple tools can be used in a single visit or a single workshop. Re-visiting and re-emphasizing issues with a different tool can make a lasting impression and improve learning.[99] The disadvantage of combining or grouping tools is the time constraint of the participants. The efficiency of workshops for multiple days is much higher, but participants are not often available for multiple days in a row. In the first category of tools, Participatory Observation tools, we can see this grouping of tools in practice.

## [1] Participatory Observation Tools

### 1a. Participant Observation

As mentioned before understanding the realities of the community and admitting the biases inherent in the thinking of development practitioners is an important first step. One concrete method to help in achieving this and to create a lasting relationship between community and researcher is participant observation.[100]

This means participating directly in the activities of the communities to experience the difficulties and problems that are present. Moreover, it greatly helps to spend a longer period of time in a community and spend the night for a couple of days or a week. In this time, problems can be discussed more naturally, and by fostering mutual trust and respect people can be more outspoken with you than if you only visited for an afternoon. During the activities one undertakes with the community, one can ask about problems or interests of the research. It would be optimal to stay with a local family the time you are in the community. Be sure to bring your own food and water, or to offer financial compensation for this.

Even though development workers can easily return home from several project sights, it is important to spend a longer period of time in a community or barrio. This will foster mutual trust and the development workers will get a better understanding of the life there.

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[98] Vermeulen (2005): 10
[99] FAO (2003b): Module II
[100] Geilfus (2002): 34

The participant observation tool can be combined with other tools to actively participate in the community.

*1b. The Transect Walk[101]*

Community members organize a walk through the community, and can answer questions about the community during the walk. A few community members that have lived in the community a long time and are familiar with it and the surrounding lands, will make a plan for a route that is to be discussed with other community members. Good candidates for the tour are teachers, leaders or village elders. However, you should ensure the tour also draws attention to the marginalized groups and women. Walks need to be unhurried with plenty of time for questions and reflections. The researcher can take notes during the walk and draw sketches of the community.

Having experienced such a community walk in the Miskito community of Awas near Pearl Lagoon, the local guide apart from showing the community also explained the history of the community and the problems the community is facing, such as lack of teachers and increasing drought. It provided us a better understanding of the community, the issues they face, and their priorities.

1c. *Family Portraits[102]*

Another good tool to document the lives and livelihoods of people is creating a family portrait. This is a file consisting of text, drawings, stats, image, etc. documenting the life a particular family. If you are presented with the opportunity to stay with a local family while visiting the community for orientation, research or workshops, this would be a good opportunity to make a family portrait. The portrait will help in understanding the live of the family and the distribution of labour, responsibilities and benefits.

To draft such a portrait you need to stay with a family for a couple of days and speak to the family members. Relate your portrait to your project aim. Although it is polite and nice to know the names of the dogs, it is more important to know how the family sees the problem of water, and how it is dependable on water, or what the different sources of water are for the family. After you finished the portrait, it is important to hand it back to the family so they can agree on the contents.

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[101] WFP (2001a): 13
[102] IIED (2005): Family Portrait

You can use the family portrait to acquire a personal, family perspective on policy issues. You will need a variety of family portraits from different families in terms of class, age, gender-division, and ethnicity. One way of doing so is spending time at a different family each time you visit the community. You can use the portraits to inform the wider community and present the personal focus of the project at hand.

*1d. Local Press Photo*

Another way to interactively document the everyday life of participants is to "enlist" them as photographers. Perspectives differ greatly; external actors and community members can perceive things very differently. Handing out disposable cameras (or in cases of high trust, digital cameras) to community members to take pictures of everyday life can document this different perspective. Moreover, the developed pictures can be a good token of appreciation for their cooperation.

## [2] Mapping Tools

Mapping is a tool used for many different purposes such as community mapping, mobility mapping, hazards mapping, and social networks mapping[103][104]The use of the mapping tools can give researcher a good overview of a situation; moreover it can provide very specific information depending on the map. Furthermore, maps are a good starting point for discussions.[105] For all mapping exercises you need materials such as pens, paper, markers, etc. Furthermore, you will need a facilitator that will oversee the creation of the map, and additional helpers to assist in the process. The helpers can be locals as well.

*2a. Community Mapping[106]*

The community-mapping tool is used to produce a concrete and neutral image of the community, and it shows the local perception of nature, infrastructure and certain socio-economic aspects of the community. You should include services such as water wells and indicate them on the map. The map will show houses (depending on size of community, otherwise neighbourhoods), latrines, water points, schools, clinics, and the agricultural and/or grazing lands. One can add the (environmental) hazards as well, although this can also be documented in a separate map.

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[103] WFP (2001a): 17
[104] Magee (2013): 26
[105] FAO (2003b): Module II
[106] WFP (2001a): 17

Always make sure to validate the map with the community, and include women's and marginalized voices in this validation.

2b. *Social Network Mapping[107]*

This map shows the economic, social and cultural linkages in the community, thereby establishing the first step in understanding the flow of benefits from development intervention. Furthermore, a detailed map of the social linkages also demonstrates the absence of linkages – i.e. the marginalized groups. The Network map helps in charting the distribution of benefits, and monitoring the (increased) participation in the project.

You create a Network Map by selecting a minimum of ten families that are representative of the community, thus families with different ages, gender-divisions, ethnicities and class. Working together with these families, you document all the resources, labour or favours exchanged between them on a regular basis. In doing so, you can see which families are well connected and which are not. The map needs to be validated by the families to make sure it is accurate.

*2c. Hazard Map[108]*

Any form of participatory mapping can be an inclusive tool that provides visual stimuli and information that can also include non-reader participants.[109] After drafting a normal community map with infrastructure, buildings, farming land, wells, etcetera, in the Hazard Map you introduce the issue of (environmental) hazards. Hazards can include such things as floods, extreme weather, drought, landslides and heavy rainfall. If these hazards are present it is important to document on the map where the hazards take place, what their magnitude is, and consequently who in the community is most at risk. Alternatively, you can establish the safest places of the community, which can be useful in determining places for solar installations or other valuable products, or important buildings such as health clinics.

Next, discuss with the community members, i.e. participants of workshops, the current coping strategies they invoke to deal with the hazards. Moreover, it is important to know which of the hazards they have the biggest difficulties with, and in which capacity building is difficult.[110]

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[107] WFP (2001a): 28
[108] Magee (2013): 27-28
[109] Magee (2013): 27
[110] Magee (2013): 27

Like with the previous maps, it is vital to ask for feedback on the end product to ensure you have the correct information and participants agree upon the content of the map.

## [3] Diagrams

Diagrams can be used to show different groups or organizations influencing a community. Moreover, the overlaps and linkages between the different groups can be documented. Also, the influence or proximity of several external actors can be mapped out. Diagrams, such as the Venn diagram, can help in realizing the positionality of the community, and thereby of the development projects. Using this tool, one might find out that external actors are the primary disempowering factor, rather than internal community actors. However, the reverse may also happen where through mapping the community you realize that 'groupism' inhibits collective development.[111]
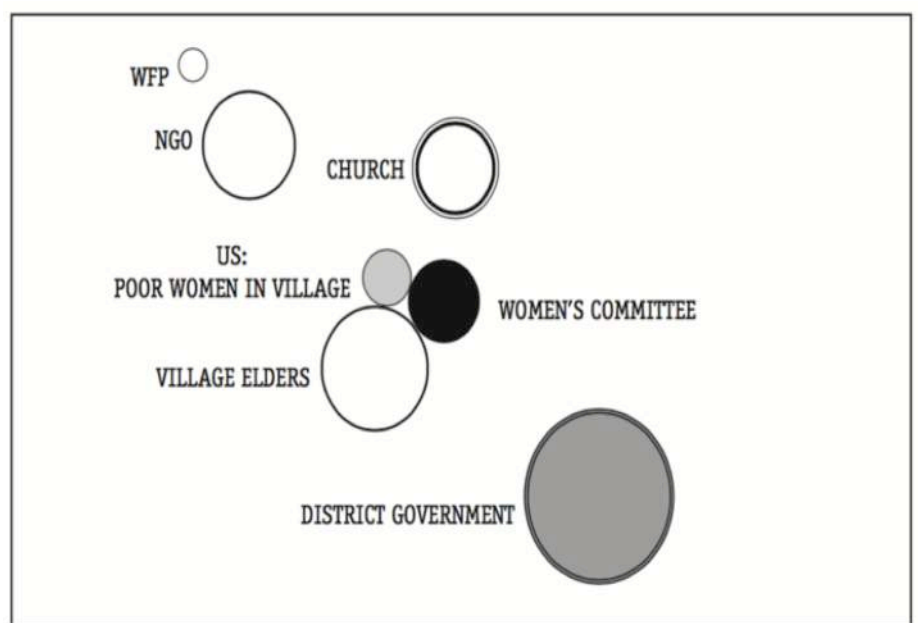


**Figure 12:** Venn Diagram (WFP, 2001a, pp.41)

## [4] Matrix and Ranking Tools

Matrix and ranking tools help in ranking views, opinions, problems, solutions, preferences, etc. As a consequence, these tool help in priority setting in development project and can aid decision-making.[112] Examples of ranking tools are simple ranking, matrix ranking, and the SWOT (Strengths – Weaknesses – Opportunities – Threats) Analysis.

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[111] WFP (2001a): 37
[112] FAO (2003b): Module II

*4a. Rain of Ideas / Lluvia de Ideas[113]*

This exercise is a perfect starting point for your baseline research or further in the research process. Participants in a workshop are invited to write down all problems/ideas/ opinions/solutions down on a post-it and put it on the wall or on a pin board. Participants work individually and can write as many post-it as they want. If a lot of people write down the same problem, this can indicate a need. However, new ideas and new problems also often arise using this tool. Moreover, it is a very graphical tool in that it makes visible the problems. Additional exercises can include separating the problems from the constraints. No funding is not a problem, but a constraint to tackling a real problem: e.g. no clean drinking water. Also, it can work well to let the people of the community write as many problems down as possible. This way the first couple of minutes the more basic problems of finance, time and materials are written down first, and afterwards people start thinking about the 'real problems.' A great benefit of this tool is that participants that are afraid to speak out might be more comfortable participating in this way. An issue, however, is that in remote communities people might be illiterate. This can be solved by accepting drawings as well or to form small groups where one person can write.

At the end of the exercise you are presented with all the problems, assets, or ideas that are listed by the participants. The next step is to put post-its with similar content together to see how dominant certain ideas/problems/assets are. Afterwards, participants (and staff) are asked to review the post-it by walking by the board or wall and pick their favourite post-it on the basis of content. A good example of a favourite is a card containing content that the participant never really thought of, or that changed their perspective on something. After this is done, engage in a discussion with the participants about the dominant content, and about the favourites of everybody. This exercise can indicate really well what different issues or opinions are in a community, and especially how these issues are perceived and ranked.

*4b. Simple Ranking[114]*

The simple ranking tool is an easy to use tool to facilitate decision-making, and give an overview of the prioritisation of issues by participants. After having identified several issues, either with another tool such as the Rain of Ideas, or through research and discussion, you can use ranking tools to rank the issues. Participants are given the same amount of stones, seeds,

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[113] Geilfus (2002): 33
[114] FAO (2003b): Module II

or anything else that can be used as a ballot. Participants are free to allocate their desired number of stones to each issue raised. Afterwards, all votes are counted and the issues are ranked.

A problem that may occur is that participants can be influenced by others or by the votes already cast. Therefore, you can chose to having secret voting sessions to insure a fair vote. After the votes have been counted and the ranks have been assigned, it is again important to enter in a discussion with participants about the ranking, to see how the results are perceived.

### 4c. Matrix Ranking[115]

Matrix ranking is a tool that ranks different options on the basis of predetermined criteria. For instance in determining a good community committee governing a project, participants together with outside staff determine several criteria for this committee. Criteria can be the inclusion of women and minorities in the commission, diversity of age, ethnic diversity, and at least one person that has a good command of English. These criteria will be used to rank several proposed committees.

A benefit of matrix ranking is that it provides explanation and motivation for the ranking. With the criteria determined also in the matrix, it is easier to see why certain issues or alternatives have received a higher ranking. An issue with the matrix tool is that there is no weighing of each criterion individually. This way adding up all scores can lead to misleading information. For example, a committee with no good English speaker but with the inclusion of women and minorities can be better than a committee with good English speakers but no women or minorities.

It is important to stress that the debate with participants about the specific criteria and the end results is more important than the actual ranking produced.[116]

### 4d. SWOT – Strengths, Weaknesses, Opportunities, Threats[117]

The SWOT is a good tool for self-evaluation after a project. It is good to evaluate what the strengths of the project and the methods were, and what were the weaknesses. Also, what has complicated the project, what inhibited the project from becoming a success, this will be the threat. Lastly, what opportunities have been missed throughout the planning and

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[115] FAO (2003b): Module II
[116] FAO (2003b): Module II
[117] FAO (2003b): Module II

implementation of the project? Analysing these four points can help in improving the methods and implementation of future projects.

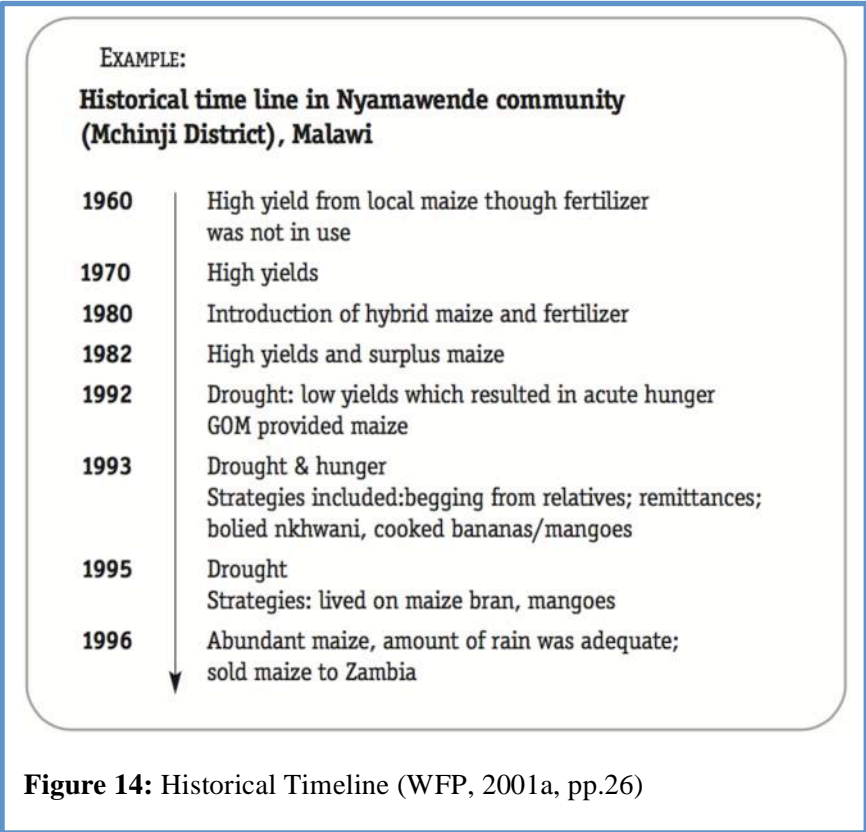| Internal Factors/Review of the past | External Factors/Anticipation of the future |
|---|---|
| **Strengths** | **Opportunities** |
| **Weaknesses** | **Threads** |

**Figure 13:** SWOT matrix (FAO (2003b) Module II)

## [5] Calendar and Timeline tools

Calendars and timeline provide an illustration of key events in the life of a community, family or individual. It provides insights into the changes over time in such things as labour division, resource availability, harvest seasons, and climate factors. Moreover, it can help in document the changes over time within a community, such as the relationship between community and nature, or the availability of water compared over years or decades.[118] Examples of tools are the historical timeline, the daily schedule and the seasonal calendar.

*5a. Historical Timeline:*

The historical timeline is a timeline of events in the community related to a certain topic. In the example provided below the topic for the timeline is the yield for maize crops in Malawi. Timelines are good tool to analyse cause and effect relations, and thereby establish historical causal effects. Establishing these relationships

EXAMPLE:

**Historical time line in Nyamawende community (Mchinji District), Malawi**

| 1960 | High yield from local maize though fertilizer was not in use |
|---|---|
| 1970 | High yields |
| 1980 | Introduction of hybrid maize and fertilizer |
| 1982 | High yields and surplus maize |
| 1992 | Drought: low yields which resulted in acute hunger GOM provided maize |
| 1993 | Drought & hunger Strategies included:begging from relatives; remittances; bolied nkhwani, cooked bananas/mangoes |
| 1995 | Drought Strategies: lived on maize bran, mangoes |
| 1996 | Abundant maize, amount of rain was adequate; sold maize to Zambia |

**Figure 14:** Historical Timeline (WFP, 2001a, pp.26)

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[118] WFP (2001a): 23

makes that the timeline tool is a good way to envision future problems or opportunities.[119] Making a separate timeline of the changing gender roles can include gender in the analysis, and investigate the possible causes for these changes. The selection of participants is important in this exercise. For the engendered timeline you will need a separate group of women, with both young women and village elders to document the changes over several decades, and the gender situation as it is. For the general timeline, village elders are important to provide the historical background of events. Together with the community you need to decide, beforehand, on a starting point for the timeline.

After the historical timeline is drafted, discuss with the participants the possible cause-effect relations between several events. Moreover, it is a good exercise to ask participants to make projections for the future by thinking of best and worst case scenarios. This will also indicate their level of understanding of e.g. a resource problem, and can indicate their ambitions for the community.

*5b. Seasonal Calendar[120]*

The seasonal calendar is a good tool to chart important events and periods over the year. It shows the differences in food availability, rain and water, temperature, and labour division. For instance it is important to know when it is fishing, shrimping, turtle or harvest season because it impacts labour divisions and seasonal migration flows. Also, when a family is dependent on one period for most of their yearly income it is important to know that needs and moods of families change across the year. Introducing products such as improved cook stoves in times of poverty might not have a positive outcome. Also, planning workshops should be done in periods of the year that are the least labour intensive to maximize possible attendance and devotion to the workshops. Making a gender-specific calendar can document how the workload differs per sex per period.[121]

To conclude the use of the tool it is again important to relay the final calendar to the participants for validation. Finally, it is good to ask participants to pick their favourite and least favourite time of the year and provide reasons for their choice. Another interesting question is when is the best time of year for a big event such as a wedding.

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[119] WFP (2001a): 25
[120] WFP (2001a): 42
[121] WFP (2001a): 44

*5c. The Daily Schedule[122]*

The daily schedule is an individual labour schedule of the participants that shows the workload of individuals in a household, or of households in the community. However, it can also be used between groups such as women and men. The daily schedule can be combined with the seasonal calendar tool or historical timeline in one workshop to get a good overview of daily and seasonal changes and divisions. Moreover, the tool identifies good times in the day to schedule meetings, events, and workshops for different groups.
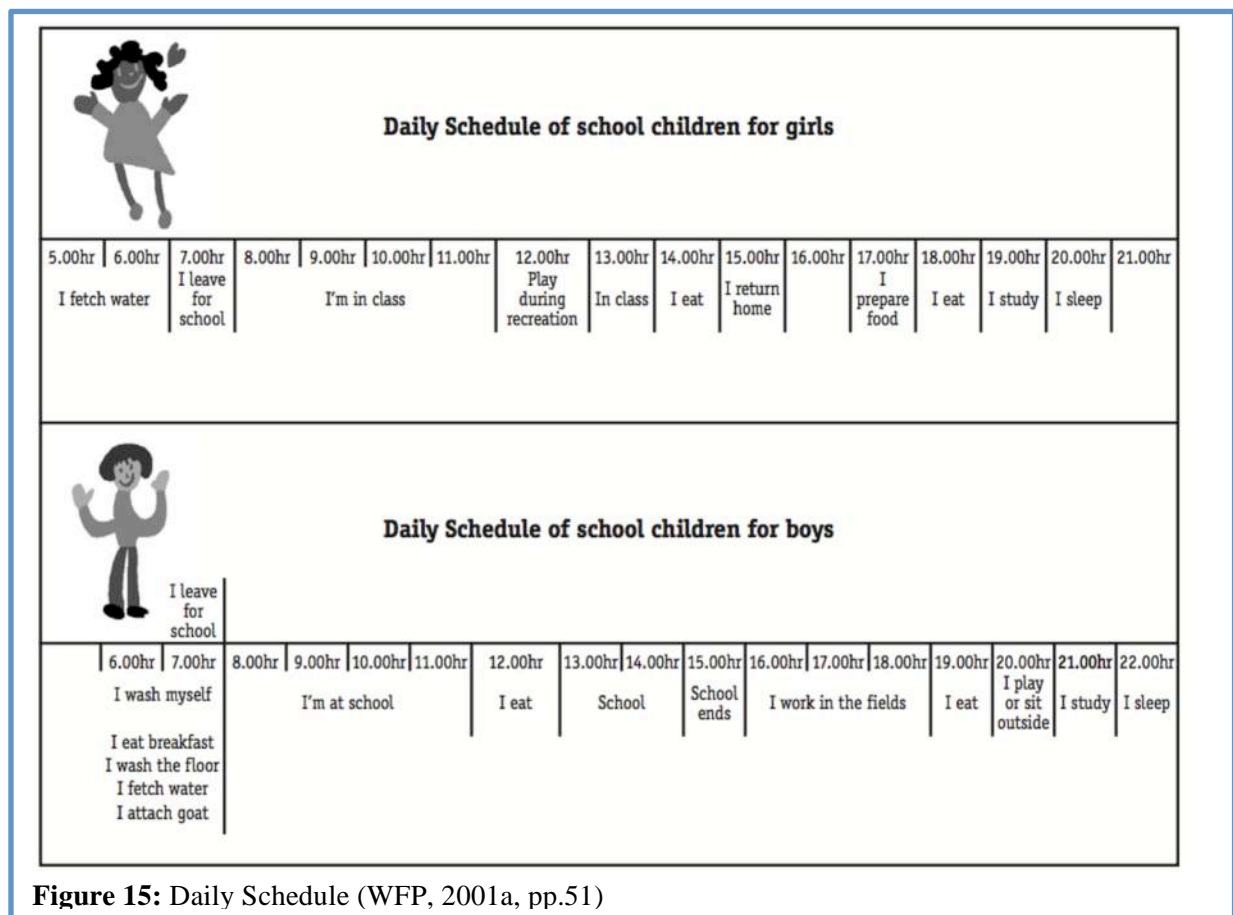


**Figure 15:** Daily Schedule (WFP, 2001a, pp.51)

Making two different schedules for men and women can include a gender focus in the workshop. The schedules can document the differences in workload and times of work. Discussing these differences and asking questions about the sufficiency of compensation, the monetary value of the work, and the importance of the tasks can help in an increased appreciation of female workers. Furthermore, it is important to identify the activities that are most time consuming or inefficient, and discuss opportunities for improvements; participants can also share tips and tricks for specific tasks.

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[122] WFP (2001a): 48

The example in Figure 15 shows the difference in schedule for schoolboys and schoolgirls. The availability for trainings or events differs and thereby certain times could exclude a whole group.

## [6] Stakeholder and Benefits Analysis

As previously explained, communities are not homogenous, there are differences between its members in terms of class, age, gender, power, influence, education etcetera. These differences result in different stakeholders, and consequently different allocations of benefits. Stakeholder and Benefit analysis tool can be used to track the power of individuals in communities and respond to power inequalities to ensure that the benefits have their desired recipient. Four tools will be presented here: Stakeholder identification, Benefits Analysis, Resource Analysis, and the Decision-making analysis.

*6a. Stakeholder Identification and Analysis[123]*

Use this tool to identify all the individuals, groups, organizations and committees that [1] have a stake in a project, [2] might hinder the project in any way, [3] can be affected be the project, or [4] can influence the situation in any way.

Needed again are large pieces of paper or a blackboard and writing/drawing material. Use different shapes for different actors (circles = individuals/households, triangles = organizations, squares = citizen groups, etc.). Use different sizes of the shapes to indicate power or influence. E.g. a bigger circle will represent influential village elders or large, powerful families in a community.

The next step is to analyse, firstly, whose interests are the biggest, and secondly, who has the power to represent their interests? For example community members will have higher stakes in constructing a well in their community than the municipality. However the municipality has the bargaining power to influence decision-making about a possible well that community members do not have. Through mapping and analysing the different stakeholders, you can answer pivotal questions such as: Who are instrumental actors to realize the project? Which stakeholders can create difficulties? What inter-stakeholder problems can arise?

Including this tool in your baseline research can prevent difficulties in the future and can ensure that implementation can be achieved more easily.

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[123] WFP (2001a): 31

*6b. Benefits Analysis Flow Chart[124]*

This tool is used to discover the differences between output and outcomes, between the benefits produced and the benefits actually received. The tool documents the flow of the benefits, e.g. a financial benefit received by the man in a household will partly flow towards the woman, and to the kids, maybe to the grandparents and extended family. This exercise is important because you can see if the intended recipient of the project receives the intended share of the benefits of the project. If not, it helps in identifying an appropriate flow of benefits.

So how does it work? All participants are asked to write down or draw the benefits they currently receive personally. This can also be done with regards to a specific project if you are evaluating if the target population actually received what they should have, or if other, more powerful stakeholders hijacked benefits. The results can be presented in a matrix.

*6c. Resource and Asset Analysis[125]*

Control and access to resources/assets is instrumental to develop, to invest and to buy. If you, as organization, wish to sell improved cook stoves to women so that they have less health problems, cook more efficiently, and have more personal time, you need to analyse if these women have access to the financial resources to pay for a stove. The same goes for e.g. projects that target children to be cautious of polluted drinking water if they do not have control over the drinking water in their household.

The exercise asks all participants to list access to and control over the different resources (water, electricity, wood, food, carbon, money, etc.) You need to distinguish between control (i.e. who owns it) and access (i.e. who can use it).

The results of the analysis can again be presented in a matrix, such as the example below. In this particular example, concerning rice production in The Gambia, you can see the overwhelming control of men of resources, even if both men and women both have access to the resources. It is important to realize these differences in access in control since it can influence the outcomes of the project.

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[124] WFP (2001a): 59
[125] WFP (2001a): 66

| Resources and Assets | Access to assets/resources Who uses them? | | | | | | Control over assets/resources Who decides on their use? | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Men's view | | | Women's view | | | Men's view | | | Women's view | | |
| | M | W | M+W | M | W | M+W | M | W | M+W | M | W | M+W |
| Land | X | | | | | X | X | | | | | X |
| Forest | | | X | | | X | X | | | X | | |
| Water | | | X | | | X | X | | | X | | |
| Cash money | X | | | X | | | X | | | X | | |
| Crop | X | | | X | | | X | | | X | | |
| Food | | | X | | X | | | | X | | | X |
| Farm Implements | | | X | | | X | X | | | | | X |

**Figure 16:** Control/Access Matrix (WFP, 2001a, pp. 72)

*6d. Decision-making Analysis[126]*

Investigating the decision-making process in a community can help in identifying possible bottlenecks or tensions early and addressing them. The tool can also be applied to individual households, to see how decisions are made in the household, and who makes them.

How to: Ask the participants in a workshop to think about a decision that the community needed to make in the past, such as deciding on a venue for an event or on the place of a new community well. If there is no good example to use, you can use a hypothetical decision that needs to be made. The objective is to trace the decision-making process as precisely as possible. To do this you firstly need to identify whom all the decision-makers are. Afterwards, you can trace the interplay between the decision-makers and how the final decision was made.

You will answer questions such as: Who are always needed for a decision to be made? Are certain groups excluded from the decision-making process? How are committees formed? How many man and woman (and minorities) are involved in the process?

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[126] WFP (2001a): 77

You can end the exercise by discussing what participants would like to change in the decision-making process and why.

## [7] Games

What we can gather from the experience of blueEnergy is that games are both a good way to learn, and are excellent in keeping the workshops or events interesting and interactive. Adults learn much more by doing than by seeing or just listening.[127] Moreover, in providing participatory workshops or teachings it is good to remember:

 "What you hear – you forget.
What you see – you remember.
What you do – you can replicate."[128]

Games are a good way to have active participation, include as many participants as possible, and it can help in proving a point or providing information.

7a. The Chinese Whisper[129]

This is an example of a game that can be used to make a point, namely about the difficulty of communication. The game is fairly simple. All participants are in a circle and will have to whisper a 1-3 sentence message through the circle. The test is, of course, comparing the message spoken by the first in the circle with the message heard at the end. Participants can only whisper it once, and very often the message changes multiple times in the circle. Rather than just preforming this as a game, it is a good opportunity to emphasize the issue of communication between families in a community, or family members within a household.

7b. Drama and Puppet Theatre[130]

A good way to represent a project to a community that will be memorable and interactive is preforming a play. Beneficiaries will be the actors and directors, and with help from the international staff, and they will preform a play to inform the community of the project and its progress. This tool has several advantages. Firstly, it simplifies and presents the project to the wider community, thereby possibly facilitating acceptance and trust in the project. Secondly, it is an opportunity for the beneficiaries to voice themselves since they are the directors of the

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[127] FAO (2003a): 35
[128] FAO (2003a): 28
[129] FAO (2003a): 46-47
[130] WFP (2001a): 90

play, not the outside professionals.  The international staff only need to make sure that the story drafted by the participants presents the project and its accomplishments.

This is usually a tool that can be used in the latter stages of a project, in presenting the results to a wider audience. It is important to conclude the show with a feedback session with the audience to make sure people understand the project, to answer any possible questions or comments, and to engage in a discussion about the possible future of a project.

7c. Role Play[131]

Using role-play by either staff or participants can explain or address an issue in a fun and understandable manner. Both good and bad examples of behaviour or situations can help in explaining to beneficiaries and in understanding the realities of the beneficiaries. As with the preforming of a play, facilitators need to help in organizing the actors and in deciding the topic of the sketch. Afterwards, the whole group of participants can reflect on the role-play, and discuss it. Negative examples have proven successful in sparking discussion and active thinking about improvements.[132]

Hereby, an example of a possible role-play for a latrine or sanitation workshop will be provided. In the context of Nicaragua, flushing a toilet is usually done by buckets of water since the flushing mechanism does not often work. Participants or staff can come up with two examples of latrine use. One where the person in question uses the latrine and forgets to use e.g. cover material (i.e. wood chips) to prevent odours, moreover, the person forgets to close the door properly, and wash his or her hands. You can choose to already discuss this example with participants and trying to find improvements, or you can provide a second better – maybe not perfect – example and discuss both examples afterwards. Role-playing can especially prove effective in learning manual tasks such as proper latrine use. People might forget the specific actions that are told to them, but remember it better if they need to preform the actions.

7d. Murals and Posters[133]

Murals and posters are important tools to record and present the project, its problems, solutions and the experiences of the community or neighbourhood. They can help in

[131] WFP (2001a): 90
[132] FAO, (2003a): 26
[133] WFP (2001a): 93

understanding the project and the steps or actions proposed. Also, they can serve as a reminder of the project and the content of the project; e.g. reminding people to wash their hands. Furthermore, artwork can be seen as a public statement, and as dedication to the project from both sides. It can function as "a visual promise to the community."[134]

Local artists can be contacted for help in the process, or participatory painting classes can be organized. Lastly, organizing an event to "unveil" the product can be a good opportunity to discuss the product and project with a larger audience, and get valuable feedback on the project.

7e. Story with a Gap[135]

The name of this tool is rather self-explanatory. The Story with a Gap demands of participants to fill in the gap in a storyline. This can be helpful in several instances for instance in project evaluation wherein the participants can tell their view of the process, but also for baseline research by researching the decision making structure of the community. Usually, the tool works with eliminating the middle part of the story. The facilitators start off with a beginning e.g. a water problem, and an end e.g. a new well. The middle part, i.e. the process of obtaining or manufacturing the well, is left out, and the participants need to fill this gap in the story. However, the tool can also be used to talk about the aspirations for the project by leaving out the end of the story, and allowing the participants to write their desired ending. Lastly, using realistic but made-up stories can help in identifying certain problem-solving or decision-making tendencies.[136] It can also help in identifying bottlenecks the project might run into.

Finally, regarding all games discussed, it is important to connect all games to a specific topic or theme discussed. If you are talking about communication, do the Chinese Whisper game. If you are discussing project representation in the community, you can use games such as a Puppet Show or a Drama/Play organised by the participants. In sum, you need to establish linkages between the games and the content.

[134] WFP (2001a): 93
[135] WFP (2001a): 81
[136] WFP (2001a): 82

## Critical Self-Reflection

Lastly, one of the most important tools for successful participatory development work is self-critical awareness.[137] The idea of Kapoor that the concepts of desire and complicity influence the process and outcome of development work has already been outlined. One of ways through which development professionals can deal with the effects of desire and complicity is through critical self-examination. This requires the identification and confrontation of our biases, biases that shape our exceptions and goals in development work. One such bias is the professional bias. Chambers argues that development practitioners are "programmed by their education", training and job.[138] Due to the urban and western dominance of knowledge, professional see the rural as ignorant or backwards.[139] Moreover, the contact between development professionals and the rural poor have is often through "development tourism" – brief, superficial visits that obscure the realities of the local.[140] As a result, our language about development, our personal values, and our professional working method are not critically reflected upon, and will hamper participatory development. It is pivotal to realize that "most of what happens is a result of the people we are."[141] Participatory development thus starts with changing ourselves.

There are a number of ways this can be achieved. Primarily, critical self-reflection needs to be day-to-day business for development practitioners. There is a need for the institutionalization of the realization of one's biases through seminars, training, or lectures.[142] Also, organizations need to bridge the gap between beneficiaries and practitioners. Volunteers or employees can have homestays at local families. Moreover, visits to communities can be extended to several days to better understand the local reality. Lastly, there needs to be a shift from teaching to interactive and experiential learning.[143] Practitioners learn at workshops through interaction with beneficiaries, and through experiences with individuals and families from spending considerable time with them. "The challenge is to learn to see things the other way round."[144]

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[137] Chambers (1997b): 1743
[138] Chambers (1983): 22
[139] Chambers (1983): 6
[140] Chambers (1983): 10
[141] Chambers (1997b): 1749
[142] Chambers (1997b): 1750
[143] Chambers (1995): 204
[144] Chambers (1995): 197

# Conclusion & Policy Advice

In conclusion, incorporating participation in the work and methodology of a development organization is not clear-cut and easy. Participation is not, or should not be, a political catchphrase that is easy to incorporate to tag along the changes in the development climate and receive more funds. Genuine participatory development requires critical self-reflection, and personal, professional and institutional change. The short-term investments in terms of time and money will be high, but executed properly, participatory development will lead to long-term sustainability and efficiency of development projects.

The different types of participation and the forthcoming impacts are a testimony of how complex the concept of participatory development is. Understanding and recognizing the differences, and the implications of these differences, is one of the first steps to achieving genuine participation. Different types of participation have different outcomes in the different steps of the process of innovation.

After analysing the practices of blueEnergy it can be concluded that the participation of beneficiaries in projects and the work of the organization, is not founded in a clear participatory development strategy. Rather it seems that participation, though sometimes intended, often happens haphazardly. Through the employment of local staff, cooperation with other NGOs and institutions, and an entrenched position in the community of Bluefields, blueEnergy, however, does possess the opportunity to foster more systematic and genuine participation in the future. To accomplish this greater research into participatory methods and typologies is required. Moreover, a clear participatory development strategy needs to be adopted that includes institutional changes such as the training of facilitators, and providing more training or education in terms of cultural understanding and social-governance issues. These institutional changes can in turn result in the needed personal and professional changes for genuine participatory development.

Finally, this research has suggested a participatory toolkit focused on seven topics: [1] Participatory Observation; [2] Mapping; [3] Diagrams; [4] Matrix and Ranking; [5] Calendars and Timelines; [6] Stakeholder and Benefit Analysis tools; and [7] Games.

This study of participation, the tools proposed and the policy advice will hopefully facilitate genuine participation in projects of blueEnergy and organizations like blueEnergy.

# References

- **Agarwal, Bina.** (2001) "Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework." *World Development,* Vol. 29:10: pp. 1623-1648.

- **Ayres, Clarence.** (1991/1995) "Economic Development: An Institutionalist Perspective", pp. 89-97 in James Dietz (ed.), *Latin America's Economic Development,* 2nd edn. London and Boulder, CO: Lynne Rienner Publishers.

- **Biggs SD.** 1989. Resource-poor farmer participation in research: a synthesis of experiences from nine National Agricultural Research Systems. In: On-farm (client-oriented) research (OFCOR) Comparative Study Paper, International Service for National Agricultural Research (ISNAR), pp. 3-37.

- **Chambers, Robert.** (1983) Rural Development: Putting the Last First. London: Routledge Publishers.

- **Chambers, Robert.** (1995) Poverty and Livelihoods: Whose Reality Counts? *Environment and Urbanization,* Vol. 7:1.

- **Chambers, Robert.** (1997a) "Whose Reality Counts? Putting the First Last." Published by ITDG Publishing, London.

- **Chambers, Robert.** (1997b) Editorial: Responsible for Well-Being – A Personal Agenda for Development. *World Development,* Vol.25:11: pp.1743-1754.

- **Chambers, Robert.** (2002) Participatory Workshops: A Sourcebook of 21 sets of ideas & activities, Chapter XIV.

- **Cornwall, Andrea**. (2004) "Whose voices? Whose Choices? Reflections on Gender and Participatory Development." *World Development,* Vol. 31:*: pp. 1325-1342.

- **Compas.** (2007) "Learning Endogenous Development: Building on Bio-Cultural Diversity." Practical Action Publishing.

- **Crewe, Emma and Elizabeth Harrison**. (1998) "Whose Development? An Ethnography of Aid." Published by Zed Books, London.

- **Dietz T, Ostrom E, Stern PC**. (2003) The Struggle to Govern the Commons. *Science.* 2003 Dec 12;302(5652):1907-12.

- **Dudley, Eric.** (1993) "The Critical Villager: Beyond Community Participation." Published by Routledge, New York.

- **Food and Agriculture Organization | FAO (**2003a) Participatory Processes towards Co-Management of Natural Resources in Pastoral Areas of the Middle East. Published: Rome and Palmyra.

- **FAO** (2003b) *Module II:* Introducing Participatory Approaches, Methods and Tools. Accessed on 13/08/2015:

  http://www.fao.org/docrep/006/AD424E/ad424e03.htm#bm3.7

- **Foundation for Sustainable Development**. *Nicaragua: A Development Overview*. Accessed on 13/08/15: http://www.fsdinternational.org/country/nicaragua/devissues

- **Geilfus, Frans** (2002) 80 herramientas para el desarrollo participativo: diagnóstico, planificación, monitoreo, evaluación. San José, C.R.: IICA.

- **Gourdji, Sharon, Mathias Craig et al.** (2014) Sustainable Development Opportunities at the Climate, Land, Energy, and Water Nexus in Nicaragua. *Centre for Latin American Studies Publications,* Working Paper No. 33. Berkeley University of California.

- **Government of Nicaragua and the IMF**. (2010) "Updated National Human Development Plan 2009-2011." Washington D.C.: International Monetary Fund.

- **Gross, Michael**. (2014) "Will the Nicaragua Canal Connect or Divide?" *Current Biology* Volume 24, Issue 21, 3 November 2014, Pages R1023–R1025.

- **Guijt, I & Shah, M** (eds) (1998) The Myth of Community: Gender Issues in Participatory Development (London: Intermediate Technology Publications.

- **Gunchinmaa, Tumor, Dilrabo Hamdamova, and Barbara van Koppen**. (2011) "Gender in Irrigated Farming: A Case Study in the Zerafshan River Basin, Uzbekistan." *Gender, Development and Technology,* Vol. 15:2: pp. 201-222.

- **Göransson, Bo and Max Rolfstam.** (2013) Development and Use of Gender-specific Technologies: Evidence from China, Poland and Sweden. *Gender, Technology and Development,* Vol. 17(3): 281-312.

- **Hardin, G.,** (1969) The Tragedy of the Commons. *Science*, 162, 1243-1248.

- **Inter American Development Bank**. (2013) Energy Dossier Nicaragua. Washington: Banco Interamericano de Desarrollo.

- **International Institute for Environment and Development.** (2004) Power Tools: For policy Influence in Natural Resource Management. Accessed on 13/08/15: http://www.policy-powertools.org

- **Kapoor, Ilan.** (2005) "Participatory Development, Complicity and Desire." *Third World Quarterly,* Vol. 26:8: pp. 1203-1220.

- **Kretzmann J. and J. McKnight**. (1993) Building Communities From the Inside Out, Chicago: ACTA Publications.

- **Lilja, Nina and Jacqueline Ashby**. (1999) Types of Participatory Research Based on Locus of Decision Making. *Working Document CGIAR System wide Program on Participatory Research and Gender Analysis,* No. 6.

- **Lilja, Nina, and Jacqueline Ashby**. (2001) Overview: Assessing the impact of using participatory research and gender analysis", pp. 1–22 in Lilja, N; Ashby J; Sperling L, (eds) 2001. *Assessing the impact of participatory research and gender analysis.* CGIAR System wide Program on Participatory Research and Gender Analysis (PRGA Program), Cali, Colombia.

- **Lilja, Nina and Nancy Johnson**. (2001) Guide to Impact Assessment of Participatory Research and Gender Analysis. *Working Document CGIAR System wide Program on Participatory Research and Gender Analysis,* Working Document No. 7.

- **Magee, Tim.** (2013) A Field Guide to Community Based Adaptation. New York: Routledge.

- **Mathie, Alsion and Gord Cunningham**. (2003) From Clients to Citizens: Asset-Based Community Development as a Strategy for Community- Driven Development. *Development in Practice,* Vol.13:5: pp. 474-486.

- **Meyer A, Huete-Pérez J.A.** "Nicaragua Canal Could Wreak Environmental Ruin." *Nature,* Vol. 506, February 2014: 287-289.

- **Ministry of Environment and Natural Resources** (2003) "Plan de Acción Nacional ante el Cambio Climático", Oficina Nacional de Desarrollo Limpio y Cambio Climático. Government of Nicaragua: Ministerio de Ambiente y Recursos Naturales (MARENA).

- **Mohan, Giles and Kristian Stokke**. (2000) "Participatory Development and Empowerment: The dangers of Localism." *Third World Quarterly,* Vol. 21:2: pp. 247-268.

- **Ostrom, Elinor & Michael Cox**. (2010) "Moving Beyond Panaceas: A Multi-tiered Diagnostic approach for Social-Ecological Analysis." *Environmental Conservation,* Vol. 37:4.

- **Parpart, J** (2000) Rethinking participation, empowerment, and development from a gender perspective, in: J Freedman (ed), Transforming Development: Foreign Aid for a Changing World, pp 222 – 234 (Toronto: University of Toronto Press).

- **Probst, Kirsten.** (2001) Success Factors in Natural Resource Management Research: Dissection of a Complex Discourse. In Lilja, N; Ashby J; Sperling L, (eds) 2001. *Assessing the impact of participatory research and gender analysis*. CGIAR System wide Program on Participatory Research and Gender Analysis (PRGA Program), Cali, Colombia. Chapter I: pp. 25-54.

- **Rahnema, M** (1997) Participation, in W Sachs (ed), *The Development Dictionary: A Guide to Knowledge as Power* (Hyderabad: Orient Longman).

- **Rammelt, Crelis, Zahed Masud, Jan Boes and Fariba Masud**. (2014) "Toxic Injustice in the Bangladesh Water Sector: A Social Inequities Perspective on Arsenic Contamination." *Water Policy (Uncorrected Proof)*: pp. 1-16.

- **Rappaccioli, Emilio.** (2013) Panorama Energetico de Nicaragua: Transformacion de la Matriz Energética. *Ministro de Energía y Minas de Nicaragua.* Managua, Nicaragua: 4 de diciembre del 2013.

- **Reddy, Amulya**. (1975) "Alternative Technology : A Viewpoint from India" *Social Studies of Science,* Vol. 5:3: pp. 331-342.

- **Sandino Mendez, Xitlali Cristina.** (2010) Community-Based Organizations and Payment for Ecosystem Services An Alternative to Water Management in Nicaragua. *Dissertation University of Antwerp,* Institute of Development Policy and Management.

- **Sehring, J.** (2009) "Path dependencies and institutional bricolage in post-Soviet water governance", Water Alternatives, 2(1): pp. 61-81.

- **Van Laerhoven, F., & Barnes, C**. (2014). Communities and commons: the role of community development support in sustaining the commons. Community Development Journal, 49 (suppl 1), i118-i132.

- **Vermeulen, Sonja.** (2005) Power Tools for Participatory Learning and Action. *Participatory Learning and Action,* Vol. 53. International Institute for Environment and Development.

- **Williams, Glyn.** (2004) "Evaluating Participatory Development: Tyranny, Power and (Re)politicisation." *Third World Quarterly,* Vol. 25:3: pp. 557-578.

- **World Bank**. (2012) Country Partnership Strategy (FY2013-2017) for the Republic of Nicaragua. Published: October 3, 2012.
- **World Food Program | WFP.** (2001a) Participatory Techniques and Tools: A WFP Guide. Booklet 5 – Working with Communities.
- **World Food Program | WFP.** (2001b) Participatory Techniques and Tools: A WFP Guide. Booklet 4 – Participatory Techniques.

### Alternative Sources

- Participant Observation (17/03/15) in barrio 19 de Julio
- Participant Observation (22/03/15) in barrio El Bluff
- Participant Observation (30/04/15) Open Garden Event at bE-Campus
- Participant Observation (07/05/15) in Colegio El Verbo
- Informal Interview with Energy team volunteer (03/08/2015)
- Participant Observation CAWST visit to blueEnergy
- Several blueEnergy internal documents and presentations
- blueEnergy Documentary. Traditional Treasure: https://www.youtube.com/watch?v=GrkQAytr9Nw