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# Is REDD+ More of an Institutional Affair than a Market Process? The Concealed Social and Cultural Consequences of an Ongoing REDD+ Project in Kolo Hills, Tanzania

Örjan Bartholdson <sup>1,\*</sup>, Jumanne M. Abdallah <sup>2</sup>, Kristina Marquardt <sup>1</sup> and Lennart Salomonsson <sup>1</sup>

- Department of Urban and Rural Development, Swedish University of Agricultural Sciences (SLU), P.O. Box 7012, SE-750 07 Uppsala, Sweden
- Department of Forest Economics, Sokoine University of Agriculture, Chuo Kikuu, P.O. Box 3011 Morogoro, Tanzania
- \* Correspondence: orjan.bartholdson@slu.se; Tel.: +46-018673395

Received: 9 June 2019; Accepted: 24 July 2019; Published: 25 July 2019



Abstract: The neo-liberal rationale behind REDD programs aims to create a market for common resources, with monetary payment incentives as the most important driver for conservation initiatives. In reality, however, the chain of implementation from UN to village, encompassing numerous processes of design, planning, and practices at distinct levels and contexts, is more institutional and political than economic. This research project follows the planning and implementation process of a REDD+ project in the Kolo Hills, Tanzania. The analysis showed that the project's main objectives were poorly understood by the men and women of the target group, who interpreted it as yet another top-down postcolonial project. The target group's interpretations also made them act in accordance with their own cultural rationality and logic of practice and not as the donors and project implementers had assumed. The project objectives of the payment system, consciousness awareness and engagement of the target population, thus, seem to have failed, despite the donors' and implementers' claim of success.

Keywords: REDD+; carbon sequestration; climate change mitigation; social fields; logic of practice

#### 1. Introduction

#### 1.1. The Idea of REDD

Forests and deforestation have been a major topic in the international climate change debate during the last decades. The Stern Review Report in 2006 claimed that forest cover as a strategy to deal with climate change was a relatively cheap and easy mitigation alternative [1]. Some have even described it as a "low hanging fruit". Since 2007, the global collaborative program on reducing emissions from deforestation and forest degradation in developing countries (REDD+), designed under the UN framework convention on climate change, has been regarded as a key measure to mitigate carbon dioxide emissions. Apart from the aim to reduce carbon dioxide emissions and improve carbon retention in forests, the program also includes social objectives, mainly poverty alleviation.

The REDD+ concept is an example of "payment for ecosystem services" (PES) schemes, where the carbon sequestered is the "ecosystem service" performed by the forest. REDD+ has become the largest global initiative for climate change mitigation. Based on the control of deforestation and a model of forests as carbon sinks, REDD seeks to pay the forest users for the sequestered carbon by introducing

market mechanisms. The REDD+ program is described as providing "a unique opportunity to achieve large-scale emissions reductions at comparatively low abatement costs" ("The REDD desk" homepage: URL:http://theredddesk.org/what-is-redd; accessed: 21 May 2019 (archived by WebCite®at http://www.webcitation.org/78X0O2x9p)). However, with growing experience from the implementation of REDD+, mitigating deforestation and forest degradation has shown itself to be neither cheap nor easy to implement, but rather extremely technically complex and context specific (cf. [2,3]). Sills et al. [4] show that out of 300 REDD+ projects they examined, only 23 had actually been able to sell sequestrated carbon to buyers. This is also true, as will be seen, of the case study in the Kolo Hills in central Tanzania. The creation of PES schemes in general, as well as REDD+ in particular, and their underlying assumptions, as well as how they are organized and implemented, have frequently been severely criticized ([5] (they highlight the often underpinned "leakage" effects aspects of REDD project implementation, meaning that another forest area will be degraded as the use of forest moves from the REDD-protected forest to some other forest); [6] (they analyze and problematize some consequences of three basic assumptions behind the PES idea); [7] (they problematize the valuation of ecosystem services from a psychological perspective); [8] (he highlights the perspective behind the ES concept, and the potential risk with what he calls "the stock-flow framework"); [9] (they problematize the "Borlaug/land sparing hypothesis", arguing that technique for agricultural intensification will save forest land, by studying on-going REDD projects and underlying policy processes); [10] (the researcher problematizes PES from an institutional perspective )).

All development projects today have to include active participation of the target group. The stated intent of the REDD+ project in Kolo Hills is to make the participating villages the main driver of the project and to make the villagers aware of the project aims and how it is designed ([11]). Over the last decade and half, there have been numerous studies that show the complexities of participation. Questions raised concerns of the level of participation within communities, based on strata, class, ethnicity, gender and political connections, and what decisions the population are able to partake in ([12,13]). This study shows that the villagers' participation and actions in the REDD+ projects did not unfold according to the program objectives and the will of the implementing non-governmental organization (NGO), African Wildlife Foundation (AWF). Instead, the villagers' responses to the program were based on their collective memory of colonial and postcolonial projects, implemented top-down during more than half a century, and their particular economic, social, and cultural formation (cf [14]). We will use the term 'logic of practice' to describe these responses. The term 'logic of practice' was developed by Bourdieu [15] and intends to emphasize that actors act according to the rationality of their own lifeworlds, which to a large extent, have become internalized as "durable dispositions" ([16]: 85-87). Bourdieu labels these forms of internalized social and cultural dispositions 'habitus'. The understanding and responses to development programs have gradually become socially and culturally internalized by the villagers and part of their habitus. For those unfamiliar with Bourdieu's terminology, an analogy would be how humans relate to their mother tongue. When we speak, we do not have to consciously reflect on the grammar, words, etc., and we can make all forms of individual semantic variations. Our understanding and way to use the language, however, is always contained within the framework of the specific structure and semantics of the particular language we master.

Local participation is, thus, intimately linked to how the people who are the target of a development project perceive and experience the projects. There is always a potential gap of understanding between the ideas and intentions of the project designers and how the project is perceived by the target group [17]. In our case study, this gap is further widened by the implementation chain of experts and NGO representatives, who bring the project down to the local level and implement it. Local participants will try to make sense of the projects from their economic, social, and cultural positions, according to their own ontological 'logic of practice' (cf.[15]), while the donors and implementing organizations interpret and act in accordance to the objectives, norms, and values of the social field and subfields of development [18]. The villagers are part of the social field of development, but only as a target group, with little possibility to influence the design and implementation process of programs such as REDD+.

The perspectives and understandings of a project such as REDD will, thus, differ radically between the villagers and the donors, state representatives, and NGOs, who occupy different positions within this social field of development, and within social space at large [18]. The REDD+ projects' objectives and execution are complex and difficult to understand and relate to for local people. The image of 'sequestrated carbon' and an abstract market model are difficult to translate and communicate so that these make sense to local participants [19].

REDD+ projects will inevitably have negative economic impacts on groups whose livelihood portfolios include timber products. The projects therefore almost always include compensation elements and activities to identify new income opportunities and intensify agricultural production (ibid.). It is essential to explore how these are communicated to and interpreted by the local participants, as well as the effects the change has on their livelihood opportunities at large.

In this article, we explore the local social and political processes that are set in motion by the implementation of the ARKFor REDD+ project in the Kolo Hills of Tanzania. First of all, the study intends to demonstrate the gap of rationalities, understanding, and values that separate the target population from the donors and project implementers. It explores the fault-line in understanding between the aims of the REDD+ project and the villagers' perceptions of the project, and the social and cultural consequences of this gap. Secondly, it seeks to show that the implementation process requires a complex web of political and social institutions. It investigates which political and social institutions and processes were believed to be needed by the project implementers to establish the market for sequestrated carbon and what the social implications of these were. Furthermore, this paper attempts to highlight the division between forest and agricultural land uses within the Kolo Hills REDD+ project design. It is argued that this design needs to be reconsidered if forest landscape conservation and climate change mitigation incentives are to be successful. There is a need to shift focus, from paying for "conserving" the forest, to an approach that aims to merge key forest ecosystem services with local smallholders' production systems and adjust to the local villagers' household economic and social conditions.

# 1.2. REDD+ Pilot Projects' Structure in Tanzania

Tanzania's forests cover 48 million ha, around 55% of the entire land area. Almost half of the forest areas are unprotected and categorized as "general land" ([20] pp. 126). These general lands are often regarded as commons by local people, not least as a resource for agricultural expansion. As the population increases rapidly in Tanzania, and few alternative incomes exist for many rural households, the demand for land to be used for subsistence farming is rising, leading to increased deforestation [21]. This situation is now being addressed by the Tanzanian authorities and politicians who are interested in REDD+ projects as a potential strategy for reducing deforestation.

In 2008, Norway and Tanzania signed a 'Letter of Intent', which included the creation of 'pilot projects'. The pilot projects aimed, by conserving forest areas and through selective support to the local population in the targeted areas, to test how carbon sequestration and mitigation could be achieved. In order to implement this, a 'National REDD Task Force' (NRTF), hosted by the Institute of Resource Assessment, was formed. The Task Force started its activities in 2009; a key role was to facilitate the national REDD+ program, oversee REDD+ implementation in Tanzania, and provide technical inputs to REDD+ activities. Together with the Norwegian Agency for Development Cooperation (Norad), NRTF decided to work with NGOs in the implementation of the REDD+ pilot projects. A number of NGOs were asked to submit proposals for REDD+ projects. The NRTF evaluated the NGOs' proposals, ranked them, and recommended the most coherent projects to the Norwegian Embassy for funding (a more detailed description, and critical analysis, of the REDD+ implementation in Tanzania, at national level, can be found in [22]. The nine NGOs that were selected received approximately 40% of the total sum ear-marked for the establishment of REDD+ in Tanzania ([20] pp. 131). Nine NGOs were selected, together with their REDD+ pilot projects (one of the REDD+ pilot projects was later cancelled because of charges of misuse of funds). One of the nine NGOs that were selected was

the African Wildlife Foundation (AWF). AWF's project 'Advancing REDD in the Kolo Hills Forests' (ARKFor), focused on the connection between REDD+ and agriculture, and its implementation started in 2010. ARKFor was chosen as a case study, as it was possible to scrutinize the underlying rationale of the REDD+ project by studying documents and interviewing stakeholders in the initial phase of the project. It was also possible to explore the project's stated intention to support villagers' transition to "sustainable agriculture". The timing of this study -initiated when the ARKFor project just had started in 2010 and then continued until the termination of the project in 2014 - also made it possible to explore the social consequences of the ongoing implementation process of the project at a local level.

## 1.3. The Kolo Hills REDD+ Project

The ARKFor project had a budget of 14.43 million NOK (about 2.5 million USD) and aimed "to support targeted communities and district government partners in the Kondo District, Tanzania", "to prepare for participation in voluntary and (when available) official REDD markets, based on high-value, well conserved forest resources, and effective joint forestry management" (according to AWF's contract document, signed by the Norwegian Ministry of Foreigner Affairs, and AWF on 10 December 2009. Of the 2.5 million USD AWF spent, 763,557 USD was on staffing and administration [23]). The goal of the pilot project was to halt deforestation in the area, while, simultaneously, improving the livelihoods of the local population. This had to take account of the potentially negative impacts on livelihood opportunities, caused by the ban on grazing, charcoal production, logging, and opening up new land for crop production.

The forests to be protected "comprise the watershed for the headwaters of the Tarangire River, the lifeline of Tarangire National Park", which is of great interest for AWF ([24]). According to AWF, the project included "an assessment of carbon and other benefits; enhancing REDD understanding among beneficiaries, partners, and stakeholders; improved land use management; developing benefit sharing mechanisms, and other livelihoods alternatives" (ibid.). An emphasis was put on "learning and networking at local, national, and international levels". The projected benefit sharing mechanisms, livelihood alternatives, networking, and learning are also analyzed in this article. The ARKFor project was designed to include about 40,000 people in rural households, living in 21 villages in the area, butlater reduced to 19 villages (ibid.) According to the final review by NIRAS, the area now has about 56,000 inhabitants. Two villages declined to be part of the project and 15 of the villages border the forest reserves of the area. The REDD+ pilot also intended to test PES payments, and the first payment in the ARKFor project was made in late 2013, one year before the planned end of the project.

## 2. Materials and Methods

Various forms of ethnographic research were conducted in the REDD+ villages, located in the Kolo Hills area in Kondoa district, as well as interviews with different project stakeholders in Dar es Salaam (see Table 1).

The intention was to include in the study villages that both bordered the forest reserves Salanga and Isabe and were members of JUHIBEKO. Therefore, the villages of Bukulu, Masawi, Salanka, Bereko, Mapinduzi, Kandaga, Masange, Kolo, Mnenia, Itundwi, Filimo, Humai, and Kwadinu were selected for the field work. The same 13 villages were also those that formed the inter-village civil society organization, called Jumuiya ya Hifadhi Tarafa za Bereko na Kolo, or in short JUHIBEKO (see the section "The institutional components of the Kolo Hills REDD+ project").

Key research methods used for empirical data collection consisted of focus group discussions and semi-structured in-depth interviews with individuals and smaller groups. The semi-structured interviews with villagers covered issues on family composition, kinship networks and interaction, agricultural and forestry land uses, household economies, experiences, and opinions about the REDD+ and previous development projects. Key informants working with the REDD+ project in the Kondoa District for the NGO AWF and at the Norwegian Embassy were interviewed about their expectations and experiences of and opinions about the REDD+ project; the institutional set up of the REDD+ project, their interactions with other REDD+ actors, as well as villagers' agricultural and forestry land uses.

**Table 1.** Data on the interviews taking place during field studies.

Date for the Interviews	Duration of the Field Work	Targets of the Interviews	Number of Interviews
February 2012 (Field work: J.A. and Ö.B.)	Three weeks	Key actors in Dar es Salaam: Institute of Resource Assessment of University of Dar es Salaam (Tanzania) (IRA), G. Kafumu at the Vice President Office, Division of Environment, Y. Mkwizu a representative of the Norwegian Embassy, the Local Government Authority of Kondoa 3 persons. Villages at Kondoa Advancing REDD+ in Kolo-Hills Forests (ARKFOR) Project: Focus groups discussions in 13 ARKFOR villages Individual interviews:  An equal amount of men and women from 8 villages; two interviewees in each village part of the village council.	Villages: 13 focus group discussions and five in-depth interviews with focus group of total 40 men and 30 women, and 30 with individual villagers. 20 in-depth interviews Interviews with REDD representatives at different levels
November 2012 (Field work: J.A.)	Two weeks	Focus group discussions in four villages: with village councils, village environmental committees, village forest scouts	8 focus group discussions.
February 2013 (Field work: J.A. and Ö.B.)	Three weeks	An equal amount of men and women from 8 villages; two interviewees in each village part of the village council (VC).	16 interviews
October 2013 (Field work: J.A.)	Two weeks	Focus group interviews in four villages: VC, Village Environmental committees (VEC)	4 focus group discussions
January 2014 (Field work: J.A.)	Two weeks	Individual interviews with representatives of AWF, the district of Kondoa, and JUHIBECO, Institute of Resource Assessment of University of Dar es Salaam (Tanzania) (IRA), G. Kafumu at the Vice President Office	5 interviews
March 2014 (Field work: J.A., Ö.B., and L.S.)	Three weeks	8 JUHIBECO representatives (chairman and secretary in 4 villages), Focus group interviews with VC + VNRC in 4 villages Two Ward Councilors within the ARKFOR villages 12 village forest scouts, Interviews with 23 villagers (15 women and 8 men) ARKFor, one representative of AWF, three officers at the Kondoa district, who are engaged in ARKFor Key actors in Dar es Salaam: Norwegian Embassy/NORAD, Institute of Resource Assessment of University of Dar es Salaam (Tanzania) (IRA), G. Kafumu at the Vice President Office	ARKFOR villages: 45 individual interviews and 4 focus group discussions Interviews with the administration of the ARKFor project: 4 interviews and one focus group interview
May 2014 (Field work: J.A.)	One week	Interviews in 4 villages: focus group discussions with VC and VEC in each village, two ward officers, one AWF representative, and two officers at the Kondoa district	ARKFor villages: 4 focus group discussions. 2 individual interviews 1 interview AWF 2 officers at the Kondoa district

AWF's project reports, as well as the records of local and national authorities involved in the ARKFor, were reviewed and analysed. The documentary analysis focused on a baseline study (in 2011, a socio-economic baseline study [25] was undertaken by Professor Claude Mung'ong'o (University of Dar es Salaam), review, evaluation, and audits created by university staff, NGO staff, and consultants, in collaboration with staff from Selian Agricultural Research Institute. The international consultant and audit company Deloitte made a mid-term review of the projects, [11] to which AWF responded [26]. In June 2015, a final evaluation of the project was published [23] and a "lessons learned" document for all the Norwegian supported REDD+ pilot projects was also published by NIRAS [27].).

All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of The Swedish Research Council, project identification code 2011-39580-84834-46. All names of interviewees in the villages in this paper are pseudonyms.

The methodology is presented in Tables 1 and 2.

Duration of Date of Fieldwork Fieldworks and Methodology and Interviews Interview Transect walks in four villages to comprehend villagers strategies and practices of agriculture; ethnographic walks: A randomly selected path through the four village was February 2012 selected, and we interviewed men and women of distinct households that were (Field work: J.A. Three weeks encountered on the "ethnographic village walk" of this study; focus and individual and Ö.B.) interview with villagers, state bureaucrats, NGOs, NORAD, the Vice-President's Office, the University of Dar es Salaam November 2012 Two weeks Focus group interviews with villages in Kolo Hills (Field work: J.A.) February 2013 (Field work: J.A. Three weeks Individual interviews with villagers in Kolo Hills and Ö.B.) October 2013 Two weeks Focus group interviews with villagers in four villages (Field work: J.A.) Individual interviews with representatives of AWF, the district of Kondoa, JUHIBECO, the January 2014 Two weeks Institute of Resource Assessment of University of Dar es Salaam (Tanzania) (IRA), Kafumu (Field work: J.A.) at the Vice President Office Transect walks in five villages to comprehend villagers strategies and practices of agriculture; ethnographic walks: A randomly selected path through four of the five March 2014 villages was selected, and we interviewed men and women of distinct households that were encountered on the "ethnographic village walk". (Field work: I.A., Three weeks Kolo Hill villages: O.B. and L.S.) Individual interviews and focus group interviews Individual and focus group interviews with the administration of the ARKFor project: May 2014 Focus group interviews in 4 villages and at the district, individual interview with AWF One week (Field work: J.A.) representative

Table 2. Fieldwork methodology.

#### 3. Findings

The results and analyses are organized into two sections: First, the article presents the findings on the market aspects of the REDD+ program, and then discusses the institutional process involved in the implementation of the studied pilot project.

## 3.1. The Market Components of the Kolo Hills REDD+ Project

The REDD program is based on the idea of a market model where "buyers" in high-income countries are supposed to pay local people ("sellers") in low-income countries compensation for the conservation of their forests and their abstaining from converting forests into agricultural land or pasture. This section analyses the benefits the Kolo Hill village households have gained from the two major market components of the studied REDD+ project ("ARKFor"): (A) A payment system based on the quantity of carbon sequestered in the forest during a specified period, and (B) an 'alternative livelihoods program', which includes: (1) Sustainable agriculture (mainly focused on increasing yield

in maize), (2) fuel-efficient stoves, (3) tree nurseries and tree planting, (4) compressed earth blocks (as alternative to traditional burned clay bricks), and (5) sustainable charcoal (using less wood per kg of charcoal produced). This study focused on the sustainable agriculture component of the "alternative livelihoods program", as it was the only component that produced any livelihood benefits for the local households.

## 3.1.1. Monetary Compensation for Lost Livelihood Opportunities

Only the villagers who were engaged in the institutions involved in the implementation of the REDD+ project had a relatively clear understanding of how the future carbon market was supposed to function and what commodity was traded. The other villagers' knowledge of this spanned from total ignorance to vague understanding. During the first interviews in 2012, several villagers expressed hope that they would receive substantial sums of money, as a compensation for the loss of livelihoods opportunities. This optimism had faded substantially two years later. The monetary compensation was planned for release in 2009–2013, but the first disbursement was not made until 2013 when a so-called "trial payment" was made. A total of 102,749,998 TZS (USD 63,750) was distributed between the 19 villages in the project. This meant that the sum received by every household only amounted to a couple of dollars each. The payment to each village depended not only on the amount of sequestrated carbon, but also on how well the rules imposed by REDD+ were upheld and the level of participation in REDD+ activities ([28]).

The money was paid through ARKFor and represented about 3% of the total ARFor's budget. Based on a survey made by AWF that assessed criteria, such as forest conditions and "forest-friendly" off-forest activities (based on interviews at the AWF Office in March 2014, and copies of document on AWF Trail Payments), the payments were made to the village council account. When we made field studies in March 2014, most villages had still not received the funds in their accounts but were planning how the funds could be used. The planning was done and controlled by village leaders, such as the chairman, the village executive officer, and sometimes also the village council. The plans were all focused on community benefits, including construction of primary schools, school toilets, and village guesthouses.

However, the villagers outside the village leadership strata, who were interviewed in this study, were unaware of how large the transferred amount would be or the plans for how the funds would be used. All villagers we spoke to, except five women who seemed to know nothing about the project, had hoped to receive economic support from the REDD+ project and complained that they had not received any money. Further, considering how many households were affected by the stricter forest user rules of the REDD+ project, the level of the disbursement in the trial payment did not fully compensate households for benefits foregone. Nieskens [28] also came to the same conclusion. Households regarded the nearby forest as a resource for firewood, medicinal plants, and building materials. Sometimes the forest was also used to graze livestock. The poorest households, who only possess one to two hectares of land for agriculture, used the forest for collection of firewood and production of charcoal to sell at the local market. After the REDD+ project was implemented, these activities were banned, but many villagers nevertheless continued to pursue these activities. If the community payment was to compensate the individual households for their loss of forest livelihood opportunities, the payment would correspond to TZS 15,000 per household (based on the estimate that each village has about 380 household. According to the baseline study, ([20]), the average payment to the 19 villages that took part in the "trial payments", could at most generate about TZS 15,000 per household (equal to 15 permits to collect firewood), or about 1% of a poor household's yearly income (a poor household in the region has an annual monetary turnover of about 1.5-2 million TZS, according to the interviewed district council and village council members.)). From such a perspective, the payment is not a realistic "market-economy incentive". An evaluation [27] was also very skeptical of the notion that the international C/CO<sub>2</sub> market (by itself) could become a realistic means for making the REDD project economically sustainable. It is also clear from simulation model studies ([29]) that

the investment costs to set up a project for selling sequestered carbon on an (uncertain) international market is huge. What can be clearly seen in the Kolo Hills case is that setting up and running a REDD+ pilot project requires a large financial investment, as well as voluntary work by local people. The ARKFor project had a budget of about USD 2.5 million: 3% was used to pay the villages for their forest management activities, and the rest was allocated for the NGO's operational costs (interviews at the AWF Office in March 2014, and copies of document on AWF Trail Payments.). Taking the starting up and running costs into consideration raises the question whether it is economically and socially feasible for a local society to set up and administrate the needed structure for carbon trading. The funding of the Tanzanian REDD+ project is also under great pressure at present, since the Norwegian aid for the pilot project has ended and no financial alternatives for REDD+ project have been established ([30]).

## 3.1.2. The "Alternative Livelihoods Program"

As agriculture is the main source of livelihood in the pilot villages, a program labelled 'sustainable agriculture' was a central part of the project. More than 90 percent of the interviewed farmers in the 13 villages have small farms, ranging from 0.5 to 5 ha, with very limited non-agricultural incomes. The main crops in the area are maize, pigeon peas, sunflower, sorghum, millet, and cassava. Around two thirds of the families also owned some cattle, ranging from 1 to 10 heads. Villagers and key informants in the study estimated that the yearly income for an ordinary household in the area varied from 800,000 TCZ to three million TZC (USD 500 to 2000 USD). The incomes are mainly generated by crop sales and if necessary, the sale of animals. Small-scale business and remittances also play an important economic role for many households. Before the REDD+ pilot project was initiated, some households also generated money by selling firewood or producing charcoal.

According to NIRAS' evaluation, as well as from our interviews with staff members of the Norwegian Embassy, the "sustainable agriculture" component of the 'alternative livelihoods program' has been very successful ([27,31]). The 'sustainable agriculture' component introduced high yielding seeds, fertilizers, and pesticides, on the assumption that a higher agricultural production has the potential to mitigate the need to exploit forest resources. There was no debate concerning the potential consequences of intensifying production, which might have created greater incentives than before to open up more land for agriculture. Furthermore, even though approximately 80% of the villagers we interviewed perceived the connection between "sustainable agriculture" and forest preservation, about half of the farmers did not grasp that the project was a part of the REDD+ project. As AWF had outsourced 'the alternative livelihoods program' to the governmental research institute Selian Agriculture Research Institute, most villagers interviewed believed that this program was an ordinary agricultural development project run by the Selian Agriculture Research Institute. When Nieskens ([28]) did her research in Kolo Hills, farmers complained of the high investment costs to adopt the introduced agricultural methods. There were also complaints that the farmers who were selected to teach other farmers about new methods belonged to the village elite. In March 2014, AWF took charge of the agricultural support. According to Svarstad and Benjaminsen [31], their agricultural competence, however, was limited and their support efforts were sparse and irregular.

The agricultural intensification program was also not clearly separated from other agricultural projects, launched during the same time period as the REDD project was running (e.g., [31]). However, around two thirds of the interviewed villagers stated that the forest needed to be conserved so as to avoid erosion and damage to pastures and water catchments. However, they seldom linked such conservation to a needed change of their own practices. Zahra is a 42-year-old woman. She is married and has six children. Her household's farm is around two hectares. She displays the ambiguity between the values of forest conservation and her own livelihood opportunities that we often met during interviews. She stated that it was important to preserve the forest, both to maintain livelihood opportunities and protect water catchment areas. But her understanding of the role the forest reserves play for the environment did not stop her from venturing into the forest to collect firewood, without the mandatory permit. She has no trees on her own land that she can use for firewood.

"They [AWF] promised us that we would benefit from the fees the forest scouts bring in from collected fines. But we have received no such money. Why should I care about their roles when they don't keep their promises?"

The AWF baseline study [25] reported that more than a fifth of the interviewed villagers said that they believed it would be better to create agroforestry farming, than merely set aside land for pure forest conservation. This view of their production system and landscape use builds on a tradition of integrating forest and agricultural land uses. In contrast, the REDD+ project design created a dividing line between the villagers' different livelihood activities and the landscape, and AWF has been criticized for their inability to create new livelihood opportunities [23].

## 3.2. The Local Institutional Set-Up of the Kolo Hills REDD+ Project

The two forest areas that were to be protected by the ARKFor project, Salanka and Isabe, are administered by two distinct management regimes. Salanka is managed by the central government (Tanzania Forest Service Agency—TFS), and Isabe is managed as a local authority forest reserve, under the Kondoa District Council (KDC). TFS and KDC were the two main government bodies supposed to collaborate with AWF.

One staff member, the community development officer (CDF) from the Kondoa District Council, was assigned to work with AWF to establish contact with the villages, to make a forest inventory, and land use plans for the joint forest management (JFM). In addition, as noted above, AWF outsourced the alternative livelihoods program to the Selian Agriculture Research Institute. Furthermore, the carbon assessment was sub-contracted to the NGO CAMCO (with its office in Nairobi), and the baseline study to Professor Claude Mungʻongʻo, at the University of Dar es Salaam.

In an attempt to make the villages part of the administration of the REDD+ project, a local hierarchical organization was set up in the Kolo Hills forest (see Figure 1). The households who continued using forests in ways that had been declared illegal were to be policed by forest scouts, organized specifically for the REDD project, who would patrol the forest one to three times a week. Each village provided four scouts whose mission was to protect the forest from village members by enforcing the rules, set up by the ARKFor projects in agreement with the District Council. The forest scouts were supposed to engage in the forest patrols on a voluntary basis and did not receive remuneration for their forest patrolling. They were also engaged in the forest monitoring and assessment of the effects of the carbon sequestration. The forest scouts were recruited by the members of the Village Natural Resource Committees (VNRC). The VNRC is an institution that was formed by the HADO project (HADO stands for Hifadhi Ardhi Dodoma, which means Dodoma Regional Soil Conservation in English) in the 1970s (see below, Section 3.2.1.), and is supposed to constitute the bridge between the local population, the responsible NGO ARKFor, and the district political level. VNRC monitored and implemented the pilot project and it was also in charge of the scouting system. The VRNC therefore exercised a large influence on how the REDD+ rationale was implemented within the local context. The members of VNRC were selected by the village council (VC), which is the mandatory village leadership organization under the Tanzanian Local Government Authority. Further, the VC members were elected by the village assemble (VA). The VA constitutes the main democratic body of the villages. Thirteen villages, which border Salanga and Isabe forest reserves, are organized into an inter-village civil society organization called JUHIBEKO, an organization for community conservation of the Bereko and Kolo forest areas. One member from each participating VNRC represented their village in JUHIBEKO.

In this complex hierarchy of decision-making, there is of course room for different aims and interpretation of roles. A study for the ARKFor project, by Likango [32] showed that the distinct project actors and organizations had competing expectations of the local population. Given the complexity of the organization and representation within the REDD+ project, it is not surprising that many of the interviewed villagers expressed a very limited understanding of the processes of the REDD+ pilot project. Some villagers even expressed a view that ARKFor was a project owned and run by white

foreigners ("wazungu") and that the spoils were distributed among the politically active, from top to bottom.

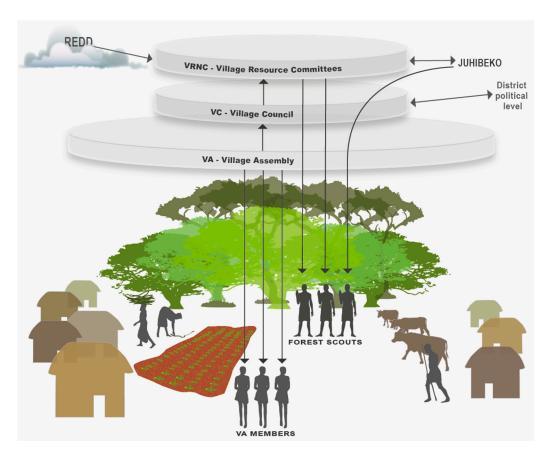


Figure 1. The political decision bodies of the Kolo Hills villages. The figure visualizes the complex institutional structure at village level of the studied REDD+ project (the ARKFor project). The figure is focused on how the individuals in a household in a village perceive the institutional structure. The household members regarded the nearby forest mainly as a resource for firewood, medicinal plants, and building material. Sometimes the forest was also used as a grazing area for cattle and/or sheep. For some (often poor households lacking agricultural land), it was also a resource base for collecting firewood and producing charcoal to sell at a market. As the REDD project was being implemented, these activities were banned, and villagers who nonetheless attempted to circumvent the regulation were often confronted by the forest scouts. The figure shows how the forest scouts are organized within the institutional structure. Each adult in the village also has (voluntary) contacts with the village assemble (VA), of which they are members, and can vote on their member in the village council. The village natural resource committees (VNRC) were introduced and organized by the AWF, so that the villagers would be able to administer the use of the forests. The members of the VNRCs were six to twelve elected individuals. An inter-village organization, *Jumuhiya ya hifadhi yamazingira tarafa za* Bereko na Kolo (JUHIBEKO), was also formed by the 13 villages that border the forest reserves Isabe and Salanga (15 villages border the forest reserves, but two declined to participate in the REDD+ project). Three VNRC members from each village are part of JUHIBECO's council.

From the villagers' point of view, the REDD+ project was similar to other projects that had targeted the Kolo Hills since colonial times, i.e., implemented top-down and mainly benefitting the elite, foreign, and native. "The only difference between this project and the HADO project [see text below] is that they at least introduced this project at a village assembly, but otherwise I can't see any real differences", stated a 35-year-old farmer in Kandaga village.

## 3.2.1. The Villagers' Collective Memory of Colonial and Post-Colonial Projects

The Kolo Hills area has been constantly subjected to large-scale environmental master plans since colonial times (cf. [33,34]). The British colonial administration of Tanganyika started a project in 1927 to combat tsetse flies that were endemic to the region. The approach to control the tsetse fly was to deforest large areas of land, but this action caused severe problems of soil erosion. Later, as a response to the erosion, the Tanzanian government initiated a tree-planting project in the 1970s, running into the 1990s, called HADO [35]. One of the project's measures to achieve reforestation was to reduce the number of cattle grazing in the area. A majority of the cattle owners subsequently tried to relocate their cattle to areas outside the Kolo Hills, but many of their animals died and were lost during the movement. As Ostberg and Slegers [34] point out, there is a collective memory of these large projects that has been passed down through generations. The HADO project was constantly brought up in the interviews, in relation to the ongoing REDD+ project, particularly among the elder people, and the ARKFor coordinator also identified this as a problem for the project in the mid-term reflections [24]. The villagers who did not belong to the institutions that administrated the REDD+ project seldom made any distinctions between the role and status of the state, development agencies, and the NGOs, such as AWF and the Selian Agriculture Research Institute mentioned above. They also tended to be suspicious about projects in general. Many interviewed villagers stated that they believed that the real aim of the REDD+ project was to strengthen and protect the national parks in the region. The national parks were regarded as a top-down project which did not benefit the local population.

Dino is a farmer living in the sub-village Kwadino. He expressed distrust concerning the project. He is an old widower, with two grown-up children. He owns nine hectares of land of which four are cultivated. He used to have livestock, but they died when he was forced to remove them during the HADO program.

"We were told that we would receive a lot of money through the carbon sequestration, but so far it has just been talk. / ... / Even during the British rule, we could let our cattle graze in the forest, but not now. It is yet another one of those European programs; they bring nothing good to us."

This scepticism concerning hidden aims pursued by projects and strangers is common among the villagers. Amina is a 40-year-old woman. She is married and has five children. Four of them live at home and are too young to work. The household cultivates 1.5 hectare. They are almost entirely dependent on agriculture and casual work on nearby farms.

"People from the city [Kondoa] came here and told us that they would take our mountains and use it for carbon and pay us. Several at the village assembly supported this, since they did not use the forest a lot, and believed the incomes [from REDD+] would compensate for the losses. But we haven't received any money at all/.../few people support the project any longer. I think it is TANAPA [the state agency in charge of the administration of the national parks] that is in charge."

This statement shows how powerless villagers feel concerning the actions of the state and that they believe that the ultimate objective of the REDD program is to benefit the national parks, an objective that often is resented by smallholders and pastoralists.

# 3.2.2. The Villagers' Organization and Perception of the REDD+ Forest Patrolling Systems

There are actually two forms of scout patrols: One is active on village level and it only patrols the forest of its own village. The other patrol represents all participating villages that are part of the joint forest management (JFM). JUHIBEKO selects one scout per village to participate in this patrol. The patrol scouts the whole forest area, about once a month. The more formalized 'JUHIBEKO bylaws', introduced by the REDD+ project, include both fines for breaking regulations, and fees for obtaining permission for specific activities (e.g., fees of TZS 1000 per headload of collected dry firewood, TZS 500

per headload of thatching grasses, TZS 500 per grazing oxen only, TZS 1000 per beehive). Fines and other payments are collected by the secretary of JUHIBEKO. Further, the distribution of benefits obtained from fines and payments are supposed to be distributed according to the following criteria: 80% to communities and 20% to Tanzania Forest Services Agency. Of the 80% share, 60% should be distributed to JUHIBEKO and the remaining 40% to the concerned village. The forest scouts did not receive any formal salary, but, during the interviews with scouts it was revealed that a forest guard patrol could generate about TZS 10,000 per week in fines, mainly during the dry season, due to non-authorized livestock grazing in the forests. The use of the forest scouts was a large issue of contention in all villages. We were told that the scouts had clashed several times with villagers who used the forests illegally, primarily for charcoal production. In one instance, a female scout had even been temporarily abducted. A 39-year-old farmer in the village of Filimo said that the villagers had been promised that fines from those who illegally used the forests would go to the village, but that they had not received any money at all.

The banning of livestock grazing and charcoal production are the activities that have encountered the strongest resistance by the villagers. Forest users often attempt to sneak into the forest unnoticed and there are even incidents where forest guards have been attacked.

Omar is a ward executive officer for a ward that includes several of the REDD+ project villages.

"During my time, as Ward Executive Officer [he has held the post one year], several violent clashes have occurred between forest scouts and people they have run into in the forest; mainly charcoal makers. Last week a woman, who was part of a forest scout patrol, was abducted by charcoal producers that attacked a patrol. My impression is that the forest guards never arrest people from the same village as themselves, only from other villages. / ... / The villagers within my ward have very little knowledge of the REDD+ project and see it mainly as a negative intrusion into their lives. They still use the forest for construction material, for charcoal, firewood and grazing. I don't think that I have ever encountered anyone that pays for a permit to use forest resources."

He furthermore described how the political elite of the villages act to further their own interests. There is a further fault-line in the villages between the minority of villagers who belong to various political and administrative groups that regularly have meetings with AWF and district officers, and the majority of the villagers who only attend the village assemblies on an irregular basis and do not speak directly with either AWF or the district representatives.

The people who during interviews expressed support for the project were almost always those who were involved in its implementation in some way: Village council members, VRNC members, steering committee members of JUHIBEKO, or, in some cases, participants in the village forest patrol. There were also a handful villagers who said that they supported the REDD+ project initially. None of these were dependent on the forests for their livelihood. They obtained incomes from sources other than agriculture, often both small businesses and remittances from kin who had migrated to urban areas. Almost everyone of this latter group were upset because they had not received any money from the project.

Juma, the chairman of the village council in one of the villages, is one example of a member of the village elite who supports the REDD+ pilot project. Omar was one of the persons responsible for creating awareness of the REDD+ project in his village:

"The AWF have told us [the village assemblies] that the project will create a lot of benefit after they have sold the carbon to the *wazungu*. But how fast this process of sale goes depends on international negotiations. Our village has six village scouts and they patrol the forest three times a week; sometimes they are accompanied by members from the village environmental committee. We have had very few incidents of trespassing this year. The guarding of the forest has not affected people's use of it. They go there to collect firewood and herbs for traditional medicine, as well as to tend to beehives."

However, even persons who were part of or connected to the village leadership, also voiced concerns, doubts, and even outright rejection of the project. Imani is such a person. She is married to a village executive officer; the state representative in the village and a person who exercises a lot of power formally and informally at the village level. Her household's income derives from four hectares of land, her husband's income, and remittances from two grown-up children who have migrated to Dar es Salaam. During the first part of the interview, she spoke up in favor of the REDD+ project. However, when she started talking about her and her family's life, she shifted toward a more critical position. She stated that the project limited access to forest products, and that the women had to pay TZS 1,000 for a permit to collect firewood each week. When asked if she collected firewood she said yes, but she added that she never paid for permits.

"Why should I? The forest belongs to us, the people. No one in my village pays."

When Imani was interviewed, two other women were sitting on the same bench as she was, waiting for their turn to be interviewed. They both nodded in agreement and later, during their own interviews, they stated that they also would never pay to collect firewood. Even though the other women we interviewed were not as outspoken as Imani was about violations of the rules for the use of the forest reserve, there was not any woman who said that she paid to collect firewood. They either said that they tried to use wood on their own land or that they did not know how to solve the situation. Svarstad and Benjaminsen ([31]) also stated that many of the women they interviewed in Kolo Hills refused to pay the mandatory fees for the collection of firewood.

The villagers interpret REDD+ and act according to the logic of practice of their own livelihood opportunities and habitus (cf. [18]). This lifeworld of the villagers (cf. [36]) is embedded within a radically different economic, social, and cultural context than the social field of development that the actors who have designed and funded the REDD+ project belong to (cf. [18]). The villagers and the REDD+ administrators "play different games and use different strategies and game pieces", to paraphrase Bourdieu's metaphors ([37] pp. 98–100). If a development project, such as REDD+, shall be able to successfully receive the support of the local population, project designers and implementers need to understand and adapt the project to the lifeworlds and "logic of practice" of the local actors.

# 4. Discussion

The REDD+ project in Kolo Hills displays economic, social, and cultural contradictions and tensions. First of all, there is a gap between the villagers' conceptualizations of the use value of the trees and the project's attempt to transform the trees into an abstract exchange value, without transforming the trees themselves into a commodity. Secondly, the tensions and impacts caused by the decoupling between the project design and objectives and the actual local implementation and interpretation of the project in the Kolo Hill villages (cf. [38]). For the villagers, the REDD+ project is only comprehensible if it is perceived as a traditional top-down development project (cf: [39]). The REDD+ concept emanates from what Beymer-Farris and Basset [40] call an overarching "environmental narrative" and a "market environmentalism" narrative, and is based on the implicit imagination that it is possible to implement such projects without eroding their objectives, regardless of the local context. In Tanzania, however, the NGOs, such as AWF, that are in charge of the actual implementation of the projects, must make a number of adjustments to be able to mediate between the donors and the state on the one hand and the target populations on the other. For the NGOs, it is absolutely essential to stop the deforestation of the forest reserves. In order for the REDD+ project to be categorized as a success by the donor, an objective that also increases the NGO's credibility, deforestation has to cease ([31]). Interviewed forest guards also stated that previously sparsely forested areas had become denser.

The idea of the project was that the decrease in livelihood opportunities from the forest should be compensated for by increased agricultural yields. This objective, however, was not pursued with the same rigor as the attempts to stop deforestation. Both we and Svarstad and Benjaminsen [31] were unable to verify the agricultural success stories given by both the Norwegian Embassy and AWF.

All farmers that we interviewed, except four, who had been recruited to function as "demonstration farmers", teaching other farmers methods to improve agricultural outputs, expressed disappointment with the extension services they had received. Every one of the farmers, except the "demonstration farmers", also did not associate the extension services with the REDD+ project. The extension services were provided by a governmental research institute, which had been contracted by AWF for the two first years of the project, and there were also two other agricultural projects, run by AWF, going on at the same time as the REDD+ project (Ibid.) The agricultural component of the REDD+ project was, in other words, impossible for farmers to distinguish from other agricultural development projects. Koch [22] has critically analysed the Tanzanian REDD+ pilot projects, describing the process of implementation as a top-down process, and how "... donor experts employ their material and discursive power to convey 'conservation fads' to the country's policy domain". This simplified and narrowly focused perspective of ES carbon sequestration and equally limited focus on a market economy provide the roadmap for social changes in forest management. But this formal roadmap then confronts villagers' perceptions, formal and informal norms, values and practices, and local market processes, which are often based on a different logic and rationality (cf. [41]). The villagers' notion that the REDD+ project actually amounts to a conventional top-down development project is increased by the fact that none of the REDD+ projects so far have been able to sell the sequestrated carbon on a market.

The villagers, who navigate the interface between their local institutions and practices on the one hand, and the logic and institutions of the REDD+ project on the other, use their logic of practice, based on their historical experiences of numerous development projects, to secure as many benefits as possible from the project, while minimizing negative effects. This logic of practice, however, differs according to strata and gender. This study has identified two such conflicting strategies, practiced by the population in the Kolo Hills, based on their historical experience of different kinds of "development programs" and on their more long-term livelihood strategies and practices: On the one hand, to actively search for potential economic and political opportunities opened up by the project interventions, and on the other hand, to withdraw and distance oneself as much as possible from these interventions. The former strategy is mainly pursued by village elites, who predominantly are those who participate in the different formal village institutions and harvest gains from their participation. The non-elite, on the other hand, are more prone to rely on the latter strategy, in an attempt to mitigate losses, as indicated by the interviews of this study. Those villagers who were recruited to be part of the forest guards or to become so-called "model farmers" were almost invariably either part of the village elite or connected with these through kinship. These two conflicting strategies have consequences for how a development program (as ARKFor's REDD+ project in practice amounts to) is organized and who will be the project's real beneficiaries. In the REDD+ project in Kolo Hills village elites were able to appropriate resources, as well as political and social capital, from the project while the poorest segment were affected hardest by the implemented restrictions on forest use.

The REDD+ project was supposed to actively engage people in its various activities and "apply a bottom up perspective". But there are many different forms of participation, as Cooke and Kothari [12] have shown. For the REDD+ projects, the stage is set, the role various characters are to play are decided in advance. The local population are only allowed to decide who is going to be selected to play the project designers' defined roles. The difference between this project and the many other development projects that are constantly tried out and implemented is the complexity of the carbon sequestrating objective of the REDD+ pilot project and its opaqueness to the local population. The people's lessons learned from these projects are as follows: Projects are implemented from above, and in order to be able to benefit from them, there is a need to conduct what Graeber [42] calls "an act of interpretive labor". This means trying to comprehend the informal local rationale and to discover the zones and niches of potential gain from a socially inferior position so as to maneuver within the field of bureaucracy, consisting of the NGOs involved in the project and the staff of the district at the local level.

The complexity of the REDD+ project and the social hierarchy of the Tanzanian state make the villagers dependent on brokers, who are able to mediate and negotiate on their behalf. This role is

often filled by NGOs, and the REDD+ Kolo Hills project is no different. The NGOs are, however, not disinterested actors, but part of the implementation of the program. They, thus, have an interest in turning the project into a success, at least on paper. In this particular pilot project, the brokers' role is to facilitate the initiation and administration of the project, to be drivers in the process of assembling the project, and to help the target groups to overcome potential challenges. If the brokers stopped supporting the project, it would collapse.

The REDD+ projects in Tanzania were all considered to be so called pilot projects, which would be replicated in future by other local groups who would preserve their forests and sell sequestrated carbon on an international market. As in all pilot projects, however, the NGOs constituted the main administrative and implementing force. This would, however, not be the case for future REDD projects. The main reason for the state's and NORAD's inability to comprehend the essential role played by brokers in the REDD+ projects is an example of the formal ideological discourse of development projects ([20,43]) and the various actors' misrecognition of the situation of the local population, caused by their embeddedness within distinct bureaucratic fields (cf. [17,44]). The brokers who design and run the overall administration are not an integral part of the design of the formal models they apply, but only temporary facilitators, according to the development discourse. The villagers who are on the receiving end, however, are mostly well aware of the essential role the brokers play.

Many development project designers take for granted that the beneficiaries/participants will understand the projects according to the same intentions and logic as the designers and implementers of the projects have. This, however, is a naive notion. The designers and implementers on the one hand, and the beneficiaries on the other hand, tend to belong to entirely different social fields (cf. [45]). The norms, values, and perspectives, as well as the logic of practices (cf. [15]) of these fields will often be incommensurate. Angelsen ([3,46]) criticizes so-called "perform-based aid", according to the same logic. He highlights different issues and trade-offs in "perform-based aid" projects (including REDD+projects), e.g., what he calls "donors willing to spend and recipients unwilling to reform" (as has been exemplified in this case study).

The activities within ARKFor have emphasized the division between agricultural and forestry activities to such an extent that most of those interviewed did not associate the agricultural support with the REDD+ project. There were also other extension projects being implemented at the same time as the REDD+ project, making it even harder for villagers to identify the activities related to this project [31]. The "sustainable agricultural" component in the REDD+ project also seems to be more focused on introducing "industrial" agricultural strategies (monoculture, hybrid seed, industrial fertilizers) than ecological sustainable strategies. The narrative power of the REDD idea, based on a total focus on the "global ecosystem services (ES)" of carbon sequestration in forests, has thus made the project leaders blind to the importance of "local ES", which the villagers traditionally practice. A shift in focus in a project, such as REDD, could instead enhance local ES as a means to increase agricultural productivity ([47–49]). Many of these local ES will also have effects on how ES operates on a larger scale, and global carbon sequestration could thus be generated as a "by-product". Such a shift in focus would also be able to integrate the local smallholders' own creativity, and initiative, and knowledge in the project, which is not the case at present. The ARKFor project's stated ambitions of "learning and networking" might, thus, become a reality instead of a mere vision.

During the last decade, numerous REDD+ projects have been launched all over the global South, in Asia, Africa, and Latin America. The particular problem and challenges, as well as the responses by the target population, have to be explored in every specific context. One of the generic problems with REDD+ projects are their relative insensitivity to local contexts (see also [33]). However, a major "lesson learned" of this paper is that in order to comprehend how the target populations will interpret and react to the implementation of such projects, there is a need to conduct ethnographic research on their collective memories and experiences of external interventions, which informs interpretations and actions, as well as on the political and socio-economic framing of these intended project participants. There are many studies that demonstrate the same forms of gap between the understanding and

interpretation of the projects' target groups and the project designers as we have highlighted in this paper. Suffice to mention two of these studies [50] on REDD implementation in Latin America and [51] on the same subject in Indonesia. In the latter study ([51]: p. 151) MacGregor et al. concludes "Our findings suggest that REDD+ is a fragile and heterogeneous experimental programme. It means different things to different stakeholders and comprises a disjointed regime of practices. Actors seek to benefit from the programme and are using it to reshape or legitimise socioecological processes in line with their own worldviews." This conclusion is very similar to our own of the ARKFor project. We believe, however, that the use of Bourdieu's theoretical approach and concepts ([15,16,18]) are powerful tools to be able to analyze the social and cultural differences within development projects, such as REDD.

#### 5. Conclusions

The overarching idea behind REDD is based on an imagined market model, where local producers adapt their livelihood practices to the demands of an international market of sequestrated carbon, and thus obtain monetary benefits that can be invested in more efficient production. The REDD project model, however, has many drawbacks and problems concerning its main objective, to safeguard forest ecosystems. This case study highlights how the implementation of REDD+ is poorly understood by the target population, how it expands the gap between village elites and commoners, and how the latter believe that it reduces their livelihood opportunities, since the institutions created to facilitate the use of non-timber products seldom are effective. Institutions such as an inter-village coordinating body, the JUHIBECO, and the forest guards, have been created to administrate and protect the REDD project, but these institutions do not enjoy popular support among the commoners. This study argues that REDD+ projects assemble a complex technical and institutional process, administrated by an NGO with relatively limited own personal resources, and compromised by village elites, eager to exploit the project for personal gain, rather than establish a market process that benefits the entire population of the target villages.

The solution to how vital forest ecosystem services can be secured might be achieved more fruitfully and efficiently than at present by: (1) A focus on using an institutional rather than a market perspective, thus consciously reflecting on the specific demands of the new institutions and how they are interpreted and used by distinct groups of the villages; (2) shifting the focus from global to local ecosystem services, developing contextually adapted approaches to integrate agriculture and forestry and supporting local smallholders' own creativity and initiatives, embedded within their own lifeworlds and modes of livelihood.

**Author Contributions:** Conceptualization, Ö.B., L.S., and J.A.; methodology, Ö.B., L.S., and K.M.; writing—original draft preparation, Ö.B., L.S., and J.A.; writing—review and editing, Ö.B., L.S., and K.M.

**Funding:** This work was supported by the Swedish Research Council [B0211401, Project title: "Paying for ecosystem services: consequences and alternatives"].

**Acknowledgments:** The authors would like to thank the anonymous reviewers for their valuable comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

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