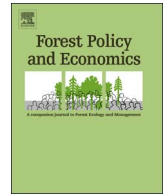




ELSEVIER

Contents lists available at ScienceDirect

## Forest Policy and Economics

journal homepage: [www.elsevier.com/locate/forpol](http://www.elsevier.com/locate/forpol)

# REDD+ adoption and factors affecting respondents' knowledge of REDD+ goal: Evidence from household survey of forest users from REDD+ piloting sites in Nepal

Ram Pandit

*Agricultural and Resource Economics, UWA School of Agriculture and Environment, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia*

## ARTICLE INFO

### Keywords:

Adoption  
Community forest  
Household  
Participation  
REDD+ goal

## ABSTRACT

Reducing Emissions from Deforestation and Forest Degradation in developing countries (REDD+) has been piloted in several countries among socio-economically diverse forest-dependent communities and households. Piloting is a way to raise awareness of REDD+ and its likely practice in the future. The impacts of piloting schemes on likely adoption of REDD+ among participating households and whether those households are fully aware of REDD+ goal are not fully understood in a range of contexts. This paper examines the likely adoption of REDD+ in community forests and factors affecting respondent's knowledge of REDD+ goal using post-piloting survey of 600 households from two watersheds in Nepal. Controlling for respondent, household, and community forest-related characteristics, the logistic regression results indicate that the factors affecting respondent's knowledge of REDD+ goal include respondent's age, economic status of the household, and the proportion of firewood and fodder needs contributed by private land. Moreover, over 95% of the surveyed households were willing to adopt REDD+ in their community forests. These results have implications on design and implementation of future REDD+ policy and projects to generate global climate change benefits from the management of forests at a local level.

## 1. Introduction

To reduce carbon emissions from forestry sector, the United Nations Framework Convention on Climate Change (UNFCCC) has adopted a policy mechanism: Reducing Emissions from Deforestation and Forest Degradation (REDD); and the conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+) (UNFCCC, 2007). Since the Bali Action Plan adopted by Conference of Parties in 2007 (COP13), REDD+ is evolving as a performance-based payment mechanism to sequester and store carbon in forests. Since the conceptualization of REDD in 2007, over 64 countries have been involved in REDD+ readiness activities by 2015 (UN-REDD, 2015) through various bi- and multi-lateral programs, such as UN-REDD and Forest Carbon Partnership Facility of the World Bank. The Paris Agreement, the outcome of COP21, specifically recognized the role of the forestry sector in mitigating climate change and strengthened the funding pledge to implement REDD+, i.e., \$100 billion per year until 2020 (UNFCCC, 2015). The successful ratification of the Paris Agreement by parties fulfilling the threshold criteria (at least 55% of parties involved in signing the

agreement, that corresponds to at least 55% of the total emissions) within a year indicates promising momentum for REDD+. It potentially helps to develop international REDD+ architecture, increases REDD+ funding, and makes REDD+ a part of the national emissions reduction action plans for developing countries.

Nepal is one of the countries that has implemented REDD+ readiness activities since 2008 and ratified the Paris Agreement. Of 5.96 million ha of forest area (40.36% of country's total area) in Nepal, community forestry occupies about 30.42% of forests, and engages 1.45 million households (DFRS, 2015; DoF, 2015). Community forests (CF) are considered as one of the principal forest types for likely adoption of REDD+ in Nepal. Historically, such forests have been managed for two distinct objectives: environmental conservation and the supply of basic forest products (timber, firewood, fodder etc.) to forest dependent communities (Pandit and Bevilacqua, 2011a). REDD+ complements environmental conservation objective of the community forestry program, i.e. halting deforestation, preventing degradation, conserving and managing forests (Newton et al., 2015). But it could be at odds with forest product supply objective (Poudel, 2014), because sequestering and storing carbon in forests imply compromises on forest product

E-mail address: [ram.pandit@uwa.edu.au](mailto:ram.pandit@uwa.edu.au).

<https://doi.org/10.1016/j.forpol.2018.02.002>

Received 23 February 2017; Received in revised form 1 February 2018; Accepted 3 February 2018  
1389-9341/ © 2018 Elsevier B.V. All rights reserved.

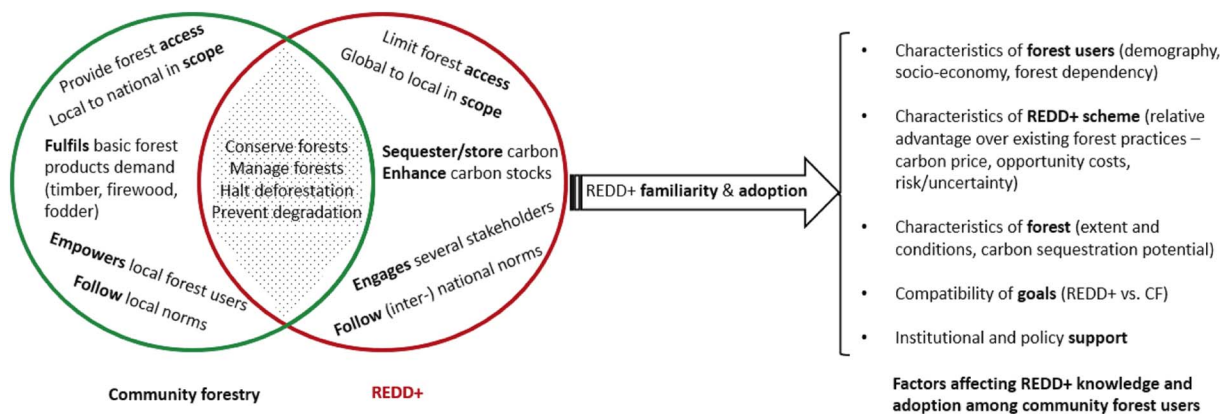


Fig. 1. Conceptual model showing commonality (the overlap) and differences (non-overlapping parts of the circles) between community forestry and REDD+ along with factors affecting REDD+ knowledge and adoption.

removals, affecting forest dependent households for products such as firewood and timber. In addition, community forestry follows local norms, aims to empower local users, and has a local to national scope; while the REDD+ follows national/international norms, empowers and engages multiple stakeholders simultaneously, and has a local to global scope. These differences could influence REDD+ implementation in community forests. As stated by [Komba and Muchapondwa \(2017\)](#) "... asking households in developing countries to participate in REDD+ usually means asking them to compromise the important direct benefits they obtain from forests", which is equally true while introducing REDD+ within community forestry practice in Nepal.

The experiences so far from REDD+ readiness and piloting schemes are mixed despite the articulation of seven safeguards, including respect to knowledge and rights of indigenous people and local communities and their full and effective participation ([UNFCCC, 2010](#)). Some scholars argue that REDD+ is a cost-effective climate change mitigation policy ([Komba and Muchapondwa, 2017](#)), which provides financial assistance to developing countries and local communities ([Angelsen et al., 2012](#)). While others criticize REDD+ as a new conservation fad ([Koch, 2017](#); [Lund et al., 2017](#); [Redford et al., 2013](#)) that limits access to forests and compromises local people's customary rights ([Poudel, 2014](#); [West, 2012](#)) and slows or reverses the promising trend of community-based forest management in developing countries ([Phelps et al., 2010](#)). A recent review of the role of community-based forest management to achieve forest carbon benefits and social co-benefits suggests that REDD+ is likely to reduce forest degradation but not necessarily the deforestation ([Pelletier et al., 2016](#)). Findings like these call for assessment of social and biophysical impacts of REDD+ pilot projects implemented in community forests.

Within this background, examining post-piloting responses of households on likely adoption of REDD+ and factors that affect their familiarity with REDD+ goal provide empirical insights for REDD+ implementation and policy making, which is limited in the existing literature ([Poudel, 2014](#)). This study aims to contribute to this knowledge gap based on a post-piloting survey of 600 households from two watersheds in central Nepal – Kayarkhola and Ludikhola ([Fig. 2](#)). This study deviates from other REDD+ studies in two ways: (i) it uses household level data on firewood and fodder demand and (ii) it considers the contribution of private land to fulfill these demand, which truly reflects the level of household dependency on community forests for forest products. The latter is also important because, in most cases, the usual practice of community forestry is to use a quota system to supply these forest products to households without differentiating household needs, leading to potential over- or under-allocation of resources.

As observed by others in examining the factors affecting household dependency on forests ([Bastakoti and Davidsen, 2017](#); [Oli and Treueb,](#)

[2015](#); [Pandit and Bevilacqua, 2011b](#); [Shrestha and Shrestha, 2017](#)), a number of hypotheses in relation to REDD+ adoption by forest users, and respondent's familiarity with REDD+ goal are proposed. Firstly, respondent's knowledge on REDD+ goal is positively associated with likely adoption of REDD+; secondly, the poor, female and older respondents are less likely to be familiar with REDD+ goal; and finally, the greater contribution of private land in supplying forest products (i.e., firewood and fodder) is positively associated with likely adoption of REDD+ and respondent's knowledge of REDD+ goal.

### 1.1. Conceptual model and a brief review of adoption and participation literature

Community forestry users in Nepal are economically and socio-demographically heterogeneous with different levels of dependency on forests for forest products. If a new program, such as REDD+, is introduced in community forests, familiarity with program goal and its likely adoption would be affected by a range of factors, including household characteristics, intervention characteristics, and contextual factors, such as compatibility of intervention objectives with existing practices, and the institutional and policy environment ([Fig. 1](#)).

Theoretically, the present study is supported by adoption ([Schirmer and Bull, 2014](#); [Prokopy et al., 2008](#)) and participation ([Oli and Treueb, 2015](#); [Dolisca et al., 2006](#); [Lise, 2000](#)) literature. The adoption literature focuses on factors affecting the adoption of agricultural and forestry practices and commonly argues that adoption of a land management practice depends on personal, social, cultural, and economic factors as well as on the characteristics of the practice itself. For example, the adoption of land conservation practice by land holders depends on relative advantages of the practice (perceived benefits against costs), socio-demographic and farm characteristics, individual and social learning processes, and institutional framework and support, among other things ([Bull and Thompson, 2011](#); [Pannell et al., 2006](#); [Prokopy et al., 2008](#)). Similarly, factors affecting the adoption of carbon sequestration and large scale afforestation emphasizes land holders' socio-demographic characteristics and the economic returns from adopted practices as key factors ([Schirmer and Bull, 2014](#); [Torres et al., 2010](#); [van Kooten et al., 2002](#)).

The participation literature focuses on factors affecting participation in forestry programs and indicates that several respondent- and household-specific factors affect household behavior ([Atmis et al., 2007](#); [Dolisca et al., 2006](#); [Lise, 2000](#)). Respondent- and household-specific factors include education, age, gender, caste, household size, income, technical assistance, condition of the forest and household's dependency on forest ([Coulbaly-Lingani et al., 2011](#); [Dolisca et al., 2006](#); [Larson et al., 2015](#); [Lise, 2000](#); [Oli and Treueb, 2015](#); [Subedi and Timilsina, 2016](#)). For example, higher dependency on forest and better

Download English Version:

<https://daneshyari.com/en/article/6544763>

Download Persian Version:

<https://daneshyari.com/article/6544763>

[Daneshyari.com](https://daneshyari.com)