

Department of Economics



What Is the Effect of the Reform 'Implementation of the Social Accountability Framework' in the Cambodian Highlander Villages?

- A quasi-experiment using the Difference-in-Difference method

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Abstract

This paper studies the change of Cambodian Highlander villagers' knowledge about their citizens' rights to access public services provided by the commune council, primary school and commune health center. The awareness of citizens' rights is estimated to change as an effect of the reform 'Implementation of the Social Accountability Framework' (I-SAF). The research is set up accordingly to a quasi-experimental design. The measurement of this research is based on the I-SAF posters and its 'Interface meetings' that communicate these rights. Given the information on where the reform takes place, I assigned treatment and control group 'as if' they were randomly chosen. I collected a data set in villages in the provinces of Mondulhiri and Ratanakiri. The data set comprises of 350 observations prior to and after the implementation. It was not possible to interview the same person twice. Thus, the observations are analyzed according to whether they belong to the treatment (12 village observations) or control village (12 village observations). The data is analyzed with the difference-in-difference method, and using OLS estimator. I take use of the principal-agent theory for this paper. Principal-agent theory has previously been used in some settings where there is an information campaign, as a mean to analyze increased awareness. The results of the study show an increase between 17 and 47 percentage points in knowledge of citizens' rights in commune council, primary school and health center. Citizens knowledge of the existence of the posters do not show any significant results.

Key words: Quasi-experimental research, Difference-in-Difference, Cambodian Highlander Villages, I-SAF, Social Accountability, access your rights, OLS estimator, principal-agent theory.

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1. Introduction

In the absence of relevant knowledge, how are citizens going to enjoy their right to public service delivery? It is argued that decentralization of power, such as making local official politics more open and transparent together with an effort to streamline political decisions with citizens' preferences, is an efficient way to fight poverty (Raffinot, 2015:199). This works only if it is associated with the reinforcement of citizen's control over the power¹. (Raffinot, 2015:199). To alleviate poverty through the reinforcement of citizen's control must start with their enhancement of relevant knowledge.

The purpose of this study is to measure the effect of an information campaign on Cambodian citizens' rights and standards in commune councils, primary schools, and health centers. The study is a quasi-experiment that is designed in accordance with the implementation of the reform I-SAF. The information campaign consists of public posters and meetings held that shall disperse the Cambodian citizens' rights and standards in commune councils, primary schools, and health centers.

I randomly chose the villages to go to based on the ISAF implementation information provided by Care Cambodia. I chose 6 villages where I-SAF would be implemented between September 2016 and January 2017, and 6 villages where it was not implemented during that period, but will be on a later stage. The former is the treatment, and the latter is the control group. The first measurement took place in all 12 villages in August 2016, prior to implementation. The second measurement was carried out in February 2017, also in 12 villages. The villages that were to be implemented were carefully assigned with a geographical distance to reduce a spill-over effect. This type of experimental setting allowed me to isolate the effects to study the implementation effect.

The population in the research study is the Highlander villagers, one of the most marginalized groups in the Cambodian society. Poverty is extreme, and there is a general lack of knowledge about civic rights among this group. I focus on Highlander villages in the provinces of Ratanakiri and Mondulkiri, where the illiteracy rate is 69%. The data set comprises of 350 observations before and 400 observations after the implementation of the

¹ Participatory budgeting, analysis of the local public services performances etc.

reform, and I measure the impact of the treatment at two times. Due to administrative and resource constraints, I was not able to consistently interview the same persons twice. Therefore, and because the reform implementation is on village level where all villagers had the same opportunity to take part in the implementation, I study the average knowledge in each village. The data set is a panel data set. I analyze the data using the method Difference-in-Difference (DD), and use OLS regression to calculate the DD estimator's effect.

The geographical area for this study remains quite unexplored in terms of experimental research. This research paper will contribute to survey research in the development context, corroborate to the realm of experimental research on the measurement of knowledge, and be among the initiators to develop data for the public use² on a fairly unexplored area in northeastern Cambodia.

During the research period (August 2016-March 2017), Cambodians went to the commune council to register for the upcoming commune council election that takes place on June 4, 2017. This may have had an impact on the study. I-SAF informs the citizens about their rights to access commune council services, such as voting for a commune councilor every fifth year. The questionnaire I used reflects the I-SAF content, including the commune council services. Hence, the commune council election may have had an impact on the respondents to my research.

The experiment show that there is an increase in awareness about the public services in Commune council, primary school and commune health center. The outcome of citizens' awareness is highest regarding commune council, showing statistically significant results of 28-47 percentage points (pp) increase. The awareness of health center rights show results of 17-39 pp increase, and the primary school 18-42 pp increase. The citizens are less aware about the Commune council, health center, and primary school posters that communicates the citizens' rights.

The disposition of this essay is the following: Chapter 2 describes the theoretical framework and previous research. Chapter 3 provides background information on the Cambodian governance and I-SAF information relevant to this paper's measurement. Chapter 4 describes the experimental research and the data set. Chapter 5 explains the empirical strategy. Chapter

² See in the reference list on where to access the data set.

6 provides the result of the collected data, and finally the conclusion of this research is found in chapter 7.

2. Previous Research & Theoretical Framework

This section discusses previous research related to the research topic. It also outlines the theoretical framework for the following discussion of this research. The literature presented below is limited to scientific proof about reform or program implementation in development countries. It focuses on how information campaigns, like I-SAF, may have an impact on peoples' knowledge. The literature also focuses on research of different reforms that aims to improve public service delivery. I use principal-agent theory to outline my theoretical framework and hypotheses to explain the outcome.

Previous research

Lack of information and poor governance leads to distortion of the delivery of citizens' public service provision. By engaging citizens in taking part of commune council actions would improve electoral constituency for good governance, and develop the accountability and transparency of governmental work (Fujiwara and Wantchekon, 2013:254). But, increased transparency of institutions does not automatically lead to good governance (Banerjee and Duflo, 2012:402). Banerjee and Duflo (2012) argue that such effect depends on how the programs are implemented, but also that, although their pessimistic view, minor changes in institutions governance may have a positive impact on the aimed reform objective. Nguyen (2008) conducted a field experiment on imperfect information in Madagascar. Nguyen claims that accessible information in educational settings is essential for accessing its public service provision (Nguyen, 2008:33). In the health service sector, the poor are confined with the same problem that affects all, namely the deficiency of information (Banerjee and Duflo, 2012:126). The difference is that the wealthier populations take the surroundings, and health care for granted. In poor societies, the lack of information is however a force of enduring the poor in poverty. (ibid. 127-128) Moreover, measuring information is not easy (Karlan and Zinman, 2005:1)

Increase awareness and involve local citizens in decision making have lately become a mean to increase transparency, as well as develop a bottom-up approach in the public service delivery chain in middle- and low-income countries (Reinikka & Svensson, 2003:2; Banerjee

et al., 2010:3, Beasley and Huillery, 2015:2). Reinikka & Svensson (2003) study an information campaign conducted using newspapers in Uganda. The campaign aimed at increasing the citizens' knowledge about the allocation of education funding. The research finds that the campaign largely increased the awareness of the allocation of the education funding among the poorest. (Reinikka & Svensson, 2003:21) Involving the local citizens in public service delivery determines whether a program is effective. Banerjee et al. (2010) write that participants of a three-step intervention of a policy on 'providing information on existing institutions, training community members in a testing tool for children, and training volunteers to hold remedial reading camps' (the Sarva Shiksha Abhiyan program) resulted in a greater knowledge of the institutions, which was the policy objective. Beasley and Huillery (2015) also examine an implementation of a program and that seeks to involve local citizens, and notably parents, in school management as an attempt to give the communities power and improve quality in the schools. In short-run, they find that the citizens are becoming more involved but they were unable to influence the decision making in the committees. They point out that one reason of why the program implementation failed was because the targeted population lack information and knowledge to improve the quality in the schools.

Not having substantial information about ones right, and not know how to participate in public service provision is a significant constraint to enjoy public service delivery. Providing information is a sufficient mean to nurture participatory action. By increasing awareness about public service delivery among citizens, they may be able to enjoy it. (Banerjee et al., 2010:4)

Principal-Agent Theory

The principal-agent theory is commonly used to analyze asymmetric information and public services (Maskin and Tirole 1992:2; Devarajan and Reinikka 2002:7, 9-10). Asymmetric information refers to when one actor possesses more information than another and act to maximize his or her own good. In neoclassic economic theory, a simple assumption is that individuals behave rationally to utility-maximize (Laffont & Martiort, 2002:1-2). If public service delivery is poor, one way to improve it is to increase the awareness among citizens on what they have the right to. With increased awareness citizens may stand up for these. (Devarajan and Reinikka 2002:6; Clarkson, 2007:837, see also Angrist et al., 2002; Gneezy, Meier and Rey-Biel, 2011; Banerjee et al 2010; Banerjee et al 2015 etc.) Through this, one may overcome the problem of principal-agent. (Devarajan and Reinikka 2002:10)

In the context of this quasi-experiment, there is a present principal-agent problem between the public service provider (agent) and citizens of the Highlander villages (principal). The public service provider – staff working at commune councils, primary schools, and health centers – possesses more information than the principal and take use of that for his or her own best. The citizens of the Highlander villages are less aware of their rights and standards. The public service provider is assumed to be better off not sharing information with the citizens'. That is, to not provide the public service. Thus, given that the agent utility maximizes for his or her own good, that and there is an asymmetric information between the agent and the principal, the problem arises.

A problem with principle-agent theory is “nonverifiability,” which means that a third party, such as a court, has difficulty observing information when both the principle and the agent have the same information.

I assume that having received information that increases the citizens' awareness of their citizens' rights and standards about the public service provisions in commune council, primary school and health center, the citizens will act to stand up for their rights. This assumption is noted to be somewhat weak, as I cannot prove that the individuals will use their knowledge acquired after the implementation of I-SAF. In addition to the evidence from previous research on that people will act on received knowledge, Easterly claims that scientific proof is developed although subject to the absence of a general theory (Easterly, 2008:96). Thus, the research question can still be answered by stating whether there is an increase in knowledge or not. I use the only existing data that measures I-SAF. With this limitation in mind, I carefully draw the conclusions.

The thesis research question is ‘What Is the Effect of the Implementation of the Social Accountability Framework’ in the Cambodian Highlander Villages?’, and the hypotheses are: H₁: The posters will increase the highlanders' knowledge of citizens' rights and obligations communicated on the I4C posters; H₂: The Interface Meetings will increase the Highlanders' knowledge of citizens' rights communicated in the meetings; and H₃: With increased awareness about citizens' rights to access public service provision in commune councils, primary schools, and commune health centers, the citizens' will maximize their own good. (As argued above, maximize one's good in this context means stand up for one's rights.)

3. The I-SAF in Cambodia

This chapter will briefly present the Cambodian historical situation and its governance development. Thereafter a concise description of the I-SAF reform and related to the study will be presented.

3.1. Cambodia and its Governance Development

Several severe endeavors have touched Cambodia during the last century, such as neighboring conflicts, affected by the World War (I and II), French colonization and decolonization, and civil war. Each epoch has somehow contributed to a poor public governance. In mid XX century, Cambodia became independent and subsequently faced a prosperous democratic development (Lai To and Othman, 2017:33-40). Following, in 1974, the Khmer Rouge, with the leader Pol Pot, transformed Cambodia into a totalitarian regime and orchestrated a genocide in the country. (de Walque, 2006: 223-224; de Nike et. al. 2000:4-6) Consequently, democracy was eliminated.

The Khmer Rouge era oppressed the country's inhabitants and made the state apparatus less transparent. In this regime, citizen's rights were taken away their rights, and they were forced to work for a government led agriculture production. Those civilians who were, considered according to the Pol Pot adherents to be, educated and many other for no reason given were mechanically killed. During the Pol Pot regime, nearly 2 million Cambodians were assassinated.

The dense oppression of the civilians during this period reflects their behavior today, and there is a general absence of a speaking up culture in the civil society. With speaking-up, I refer to an act of attempt to ensure your access to your rights. The democratic instability has been a pervasive state in Cambodia since the Khmer Rouge era. Attempts to rebuild the public sector was mainly initialized when democracy was constitutionalized in Cambodia in 1993. (Heuveline, 1998: 49, 59; Sen, 2008, Roberts 2000: xiv, 3) The reestablishment after the genocide implied reconstructing public services, such as education and health services, which had been completely teared down. (Godfrey et. al., 2000, Pedregal et. al., 2015:172; Clayton, 1998:5-8)

Several attempts are continuously performed to reconstruct and develop the poor governance of public services in Cambodia (Ear, 2007:70). Since 1990, there have been continuous

attempts to improve the health and education sectors. A particularity with the country is that it has a very centralized government (ibid.: 85). To diminish this top-down approach, the Government adopted two laws to establish a local governance in the beginning of 2000.³ These laws implied the establishment of the commune governance including commune council elections, as an attempt to increase the governance and make the top-down public service delivery mixed with a bottom-up approach (Plummer and Tritt, p. 60).

To sum up, historical events have brought a low level of knowledge about one's rights to the Cambodian citizens, a low speak-up culture, and a top-led state apparatus. The laws adopted in 2000 aimed to diminish these tendencies. However, a first attempt to reach those is that the citizens have knowledge about their rights.

3.2. Implementation of the Social Accountability Framework

The I-SAF is the first of its nature and is a joint initiative implemented by the National Committee for Sub-National Democratic Development, a sub-unit of the Cambodian Ministry of Interior, and the Civil Society Organizations in Cambodia (Demand-Side Operational Guidelines for I-SAF Components 1-3:6; Plummer, 2015:1). I-SAF aims to 'empower citizens, strengthen partnerships between sub-national administrators (SNAs) and citizens, and enhance the accountability of SNAs and local service providers' in primary education, commune health center (henceforth referred to as 'health center') and commune council. (Demand-Side Operational Guidelines for I-SAF Components 1-3:6). The implementation period is from 2015-2018, and the reform aims to benefit 8 million Cambodians out of a national population on 15 000 000, and in 120 out of 165 districts around the country (Care Cambodia, 2016; Landfakta Kambodja, 2015). Post 2018, the Government has planned to expand the reform and implement it across the country.

The districts are chosen according to the implementing partners presence around the country. Therefore, the targeted population for I-SAF is not based on specific characteristics of the population. The implementing partners are not present in certain areas to carry out I-SAF, but it should be noted that they are working in specific areas because that organization believes is it necessary. That is, an organization implementing I-SAF is placed in a region because the population there may fit its priorities. This is the case with Care Cambodia, for example,

³ The Laws are called "Organic Laws" see Voice and Action: Social Accountability for Improved Service Delivery (P146160) by Plummer for a more throughout description of these laws in English.

which is active around the country but particularly in regions inhabited by ethnic minorities, which is an area of focus for this organization.

After a complete implementation of I-SAF, citizens are expected to have information about policies, national standards, and budget in respective sectors. Citizens are also expected to have increased access to services they, according to the national laws, have the right to. I-SAF aims to further raise citizen's voices, and create a dialogue between the citizens and the public service provider. Some citizens in each target village are also appointed to be a Community Accountability Facilitator (CAF) to bridge the relations between the local citizens and the public service provider. The implementation of I-SAF is conducted by the Cambodian Government and the implementing partners, and the reform is systematically implemented all over the country. (ibid)

The reform has three operational parts that are directly in contact with the local citizens, and implemented on a one year-cycle between 2015-2018. These are:

- 1) Access to information and open budgets.
- 2) Citizen monitoring
- 3) Existing Planning Process

This thesis is focusing on part one 'Access to information and open budget', which is the ground stone and the first part of the implementation of the reform (Demand-Side Operational Guidelines for I-SAF Components 1-3:22). Access to information and open budget has the purpose of making the citizens informed about their rights and obligations about the public service provision in primary education, health center and commune councils. Subject to the limit of the scope of this thesis, I will not describe remaining parts of I-SAF.

The implementation of part one 'Access to information and open budget' has two purposes. Firstly, to disseminate the information about local citizens' rights and obligations and secondly, to make them budget literate (Demand-Side Operational Guidelines for I-SAF Components 1-3:26). Focusing on the former part, the latter is redundant to describe. The implementation on access to information comprises of posters (*Information for Citizens*, I4C posters) about what citizens have the right to or are obliged to report regarding primary school, health center and commune council administration that are put up in targeted villages primary schools', health centers' and commune councils'. Thereafter, local implementers are

assigned to organize village meetings called ‘Interface Meetings’ where they gather the citizens in the targeted communes to describe what is written on the posters and what that implies for them, on an annual basis (Demand-Side Operational Guidelines for I-SAF Components 1-3:26). By doing so, the implementation on ‘access to information’ aims to reassure and also reach the people who have not seen the posters, and communicate this part of the policy’s message to the illiterate population (69% of the survey population). In these meetings, all inhabitants in the target villages are invited to participate. Hence, they all have equal opportunity to learn what the I-SAF and I4C communicate.

4. The Quasi-Experimental Design and Data Collection for I-SAF

This chapter discusses the format of a quasi-experimental design, how I-SAF is studied and measured from this perspective, and possible difficulties with this type of design, such as internal and external validity problems.

Quasi-experimental studies are argued to be most appropriate method when scrutinizing the treatment effect of a program or a reform implementation (Duflo et. al., 2006:3; Stock & Watson, 2015: 131). A quasi-experiment can be conducted if there is an exogenous intervention – often a (governmental) reform or program – that changes conditions or environment of group of individuals (Wooldridge, 2013:457). Through the experimental design, one can assign a treatment and control group “as if” they were randomly assigned (Stock & Watson, 2015: 131). That is, knowing about where a reform takes place and randomly select a sample of the targeted group; it also allows to take use of the villages that are not yet treated and assign them to the control group. This allows for the researcher to use the OLS regression and measure the treatment as the variable of interest, and thereby estimate the causal effect (ibid). A well-executed quasi-experiment can provide consistent estimates of causal effects (Stock & Watson, 2015:131; Cook et al., 2005:17).

4.1. The Cambodian Highlanders and the Survey Population

As mentioned in chapter 3, the whole reform aims at targeting 8 million Cambodians, including the Highlander communities. The target population for this research is the Highlanders in Cambodia, and the survey population contains of the citizens living in 12 Highlander villages in the provinces Ratanakiri and Mondulhiri in the first measurement and 12 in the measurement after the implementation of the reform (see Table 1).

Table 1: Treatment and Control Villages Pre- and Post-Implementation

Treatment				Observations,	Observations,
#	Village	Commune	Province	August 2016	February 2017
1	Batang	Ba tang	Ratanakiri	29	30
2	Kam Bak	Teun	Ratanakiri	35	35
3	Nang Hai	Seda	Ratanakiri	35	35
4	Prouk	Ba Tang	Ratanakiri	24	30
5	Thamei	Seda	Ratanakiri	36	35
6	Ul	Ba Tang	Ratanakiri	35	35
Total individual observations of the treatment group				194	200
Total village observation of the treatment group				6	6
Control				Observations,	Observations,
#	Village	Commune	Province	August 2016	February 2017
1	Kachon	Kachon	Ratanakiri	30	36
2	Krala	Pouy	Ratanakiri	16	31
3	Pa-Arlunngkhung	Lungkunt	Ratanakiri	17	35
4	Srae Preah	Srae Preah	Mondulkiri	23	31
5	Sre Khtom	Sre Khtom	Mondulkiri	35	30
6	Yaim	Seant	Ratanakiri	35	37
Total individual observations of the control villages				156	200
Total villages observation of the control group				6	6
Total of collapsed individual observations into village: $\sum_{i=1}^n \text{villages} = 24$					

Ratanakiri and Mondulkiri have a dense population of Highlander people. The size of this population lacks correct number. However, an estimate is that the Cambodian Highland villages comprises of 130,000-264,000 people. This represents around 1,4 percent of the population, where around 102,000 lives mainly in the provinces Ratanakiri, Mondulkiri, but also in Stung Treng, and Kratie (ADB, 2002:5; ADB, 2005:4; Eherentraut 2011:92). In 2008, Ratanakiri had a population of 149,997 people living in the province, and 87% of them lived in rural areas in Ratanakiri. In Mondulkiri the population was 60,811, whereof 92% lived in rural parts, also measured in 2008. (NIS, 2008:8-10) This shows that a large share of the total population in both provinces is Highlander people. Moreover, a typical village in these provinces contain of 20-60 households, with several generations living in one.

The Highlander people is a part of the most marginalized groups in Cambodian society. The Highlander villages are rural, and the poverty in these is extreme. The villagers possess constrained resources and financial means. A large part of this population is illiterate, speak

only local languages (not the national language Khmer or have constrained communication possibilities in Khmer) and has a large school drop-out rate. The Highlanders have their own cultural uniqueness that includes customs and traditions, such as instead of using public health services they cure diseases and giving birth at home among other. Thus, Highlander communities are separated from the rest of Cambodian society. (Plummer, 2015:6).

Because of this population being so isolated and requiring of extra support (translation in to the local languages, extra support of empowerment etc), an effect of the implementation on this population could mean that with the same tools, I-SAF may have greater impact on less isolated part of the national population, e.g., the literate people may better take in what the posters and interface meetings aim to communicate.

The survey population for this research is the citizens living in the Highlander villages in Ratanakiri and Mondulkiri. The villages were chosen according to the requirements of a quasi-experiment and the Difference-in-Difference model assumptions (see below for further explanations in Difference-in-Difference). That is, the villages are chosen based on the geographical I-SAF implementation scheme. Selected villages in a later stage to be implemented. I-SAF covers not only Highlander villages, but also Khmer communities. Subject to this paper, the target and survey population are only described. Accordingly, the geographical division for this paper is assigned to where the Highlander people live and where I-SAF is being implemented.

The treatment and control villages are designated according to the information on where in Ratanakiri and Mondulkiri the intervention took place between August 2016 and February 2017. Out of an approximation of 338 villages in Ratanakiri and Mondulkiri, 56 were assigned to undergo the implementation of I-SAF in the latter half of 2016 (National Data Resource).⁴

To reduce spill-over effects, villages in both provinces were located given that they had a significantly long distance between the implemented and not implemented villages. By this I can assume that the studied citizens do not travel between the villages. The distance between the treatment and control villages is considered to diminish the spill-over effects. However, it

⁴ The figures are approximately because the administrative division in Cambodia changes relatively often, and the latest accessible resource is from 2004. It is therefore difficult find an exact number.

is impossible to claim with certainty that the villagers in Ratanakiri and Mondulkiri do not talk or visit each other. I-SAF targeting is based on commune level (but implemented on village level). This means that most part of the implementation group is being implemented. A requirement for this study was that the survey should study one village per commune. For the control group, this was possible; for the treatment group, I had to assign several villages in one commune. But most importantly is that the assigned treatment and control villages are not sharing the same commune (see Table 1). This allowed the experiment to control for lower rates of spill-over effect.

Additionally, another condition in the appointment of the villages was that the possible treatment and control villages should be similar. That is to say, they should face similar possibilities and preconditions to assume the parallel trends. The Highlander villages are one of the most rural populations in Cambodia, and access to information is assumed to develop relatively similarly.

Moreover, in these villages, the main population works on the crop field. The production of crops changes depending on seasons, and province. In August 2016, it was just after a rice season, and the rainy season had started. Thus, during the measurement in August a large part of the villagers was at home. In February, it was cashew season in Mondulkiri, and Cassava season in Ratanakiri, and therefore, less people in the villages. Although their activities depend on the seasons, villages considered are agricultural communities. There is in general one primary school in each village, and the village has access to commune council and commune health center, within a distance possible to reach by motorbike.⁵ Secondary education is limited among the villagers. A final condition considered when appointing the villages for this research, was that no similar governance project was conducted prior to, or under the studied period.

It is impossible to control for perfectly similar villages, but the targeting of Highlander villages according to the above allows the assumption that the villages would experience parallel trends without the intervention of I-SAF. That is, the villages chosen for this research are approximately similar prior to the intervention and will develop similarly in the absence of I-SAF. Given the assumption of parallel trends, the change in knowledge in the treatment

⁵ Each village has at least 10 motorbikes and if needed to go to the health center, or other, the villagers lend their motorbikes to each other (observed situations)

villages relative to the control villages, assigned for this research, allows me to analyze the change in knowledge as the effect of the reform.

After controlling for geographical distances, similarities of village characteristics, six villages were randomly chosen for treatment, and six for control. (Resource: Deliberation with Care staff responsible for governance projects and who are knowledgeable about the Highlanders). Finally, the interviewed population is above 18 years old, and I aimed for a gender and age balanced sample in the survey.

Although this attempt to assign equivalent villages to control, I cannot assume that there is no hidden bias that exists in my research. This is not a concern in randomized research between the treatment and control groups. (Rosenbaum, 2005:6) Because this research is quasi-experimental, it does allow me to assign the treatment and control groups ‘as if they were randomly chosen, but hidden bias is not impossible to find in the data set.

4.2. The Measurement

In August 2016, the observed individuals were 350, where 194 observations belong to the treatment group and 156 belong to the control group.⁶ In February 2017 where the observed individuals 200 treatment and control group respectively. As mentioned above, the I4C is implemented on village level and all villagers have equal opportunity taking part of the implementation in the treatment villages, thus the measurement of the reform is on village level.

The treatment effect of I-SAF is measured through a questionnaire with closed interview questions (see Annex II). The questions ask about the knowledge of the Cambodian citizens’ rights and obligations, which are described on the posters and explained in the Interface meetings. The questionnaire also covers general background such as where citizens live, to locate the treatment and control areas, age, gender, type of household (single or shared), and if the interviewee is assigned something called ‘ID Poor’. ID Poor is a certificate that gives extra support in terms of reduced price for public service provisions, given that the citizen proves his or her constrained economic resources. The resources are measured based on the applying citizen’s living conditions, such as whether the person has roof and floor in his or

⁶ The difference of observed individuals in the treatment group and control group are due to constrained time and working hours during the data collection.

her house, whether the person possesses productive area, buys rice for credit, etc. (Ministry of Planning, 2013:13) The variables that cover the general information, however, aim at providing a possibility to further scrutinize the outcome in stratum.

There is a difficulty measuring civilians' knowledge, and especially at few points in time, because the outcome depends on the respondent's memory, which may have not been sharp for some variables of interest at the measurement time. (Rosenbaum, 2005:3)

Between 2015-2018, I-SAF's first part of the policy I4C is implemented in 120 out of 165 districts around the country on a village level. The data collection is conducted in 12 Highland people villages (2 in the Mondulkiri province and 10 in Ratanakiri, see Table 1). The survey population was categorized to belong to a village that I-SAF was either going to be implemented between September 2016 and January 2017, or not implement in the provinces of Ratanakiri and Mondulkiri, but which are going to be implemented further on. This allows me to categorize the villages 'as if' they were randomly assigned and thereby measure the causal effect of the change in knowledge. In the best of all possible worlds, a well performed randomized trial, where an external intervention randomly assigns people from one group who are unable to communicate but shares the same characteristics would perfectly measure the causal effect. However, such a method is complex and expensive, and not possible to conduct for this research. Quasi-experiment, however, is useful for when the treatment group is already known, as in the case of the implementation of I-SAF and thereby allows me to view the treatment and control groups 'as if' they were randomly assigned (Stock & Watson, 2015:131, 521-524; Wooldridge, 2013:547).

The quasi-experiment faces some constraints. The experiment has less support for counterfactual inferences than a correctly randomized experiment. This implies that a quasi-experiment allows for control groups to differ from the treatment condition other than the presence of the treatment. By stating alternative explanations of why, one may get a more valid estimation of the outcome. A difficulty with this is that some of these explanations may be context driven, which may hurt the generalizability (Shadish, Cook and Campbell, 2002:14-15)

The first measurement was conducted in August 2016. At this point in time no I4C implementation⁷ in treatment or control group was performed. The baseline survey was argued to be important as such creates control variables appropriate to the research, and decreases the variability of final outcomes. The absence of a baseline might endanger the reliability of research. During September 2016-January 2017, I4C was implemented in the assigned treatment villages, but not in the control groups. In a later stage, I4C will also be implemented in the control group villages. The second measurement was conducted in February 2017. This type of data collection provides with it a complete picture how the randomization of the interviewed villagers was conducted, and gives the opportunity to improve data collection procedures (Duflo et al. 2006:45).

The people who are interviewed for this research were chosen randomly in the villages. The aim was to interview 30-35 individuals⁸ in each village. Given that the villages contain 20-60 households, it allowed me not to capture all inhabitants in the villages, but a larger part.

An interview was conducted if the citizens were in the village, above 18 years old, sober, and wanted to participate in an interview. Sometimes the villagers' fields were attached to the villages and if the citizens working wanted to participate in the research, they were also interviewed. As far as possible, the survey population aimed to reach a gender and age balanced sample.

It is important to note that the population survey does not capture a complete picture of all citizens in all the visited villages and is constrained to only 24 village observations, and that is because of resource constraints. The data collection was conducted by one interpreter who spoke the local languages and English, and me. Thus, the survey is somewhat limited to represent all villagers as well as the whole Highlander community in Cambodia.

⁷ The implementation of I4C means that no posters were up (or had just been put up the last month) and no meeting with the villages inhabitants were conducted.

⁸ The number of interviewee was in general between 30-35 per village. The number of interviews deviates mostly in the first measurement, August 2016. That is because, it was rainy season and due to logistics and safety reasons the data collection team (the interpreter and me) had to end before we had reached the target number per village.

4.3. Data

The data set is organized into a panel data set. It comprises of the questionnaire that was used for this research data collection (see Annex II). I use questions 1-4 to explain the outcome of the change in knowledge. Hence, these questions are the variables of interest. Descriptive data on these variables are shown in Table 2.

The outcome of question 1 explains whether the citizens have seen the Commune Council, primary school, and health center posters. This describes the effect of the posters and may contribute to the explanation of its impact vis-à-vis the impact of the interface meetings on the reform implementation. The answers are coded 1 if the respondent has seen a poster, and 0 otherwise. If the respondent did not answer the question the cell is left blank. Questions 2-4 have several sub-statements that ask the citizens about their knowledge on what the posters and the interface meetings communicate. The answers to these statements are coded 1 if the respondent believes, according to what is mentioned in the questionnaire, that a statement corresponds to his or her citizen right or standard, and otherwise 0. For instance, question 1. What are the standards or your rights in the Commune administrative services? have seven statements, and each statement could take on a value of 0 or 1. If the respondent said “yes” to the statement ‘You can elect commune councilors every five years, to represent you.’ it is coded as 1. If the interviewee did not answer a question, the cell was left blank. (see Table 2)

Table 2 – Descriptive Data on Collapsed Villages

Variable	Mean	Std. Dev	Min	Max
Gender	.52	.07	.43	.75
Age	35.21	2.15	32.07	39.70
Household	.95	.07	.70	1.00
Illiterate	.69	.11	.46	.97
Income Source	.80	.21	.30	1.00
ID Poor	.77	.11	.53	.92
1. Seen the I4C Posters				
1.1 Poster Health Center	.20	.12	.00	.50
1.2 Poster School	.19	.12	.00	.50
1.3 Poster Commune Council	.11	.10	.00	.31
2. Commune Council Information Knowledge				
2.1. Commune Council Elect Councilor Every 5 th Year	.61	.27	.16	.94
2.2. Commune councilor Host Annual Village Meetings	.29	.19	.05	.68
2.3. Commune Council Display Meeting Time etc.	.22	.16	.03	.58
2.4. Commune Council Present Budget and Project Planning	.16	.08	.00	.36
2.5. Commune Council Respond to Complaints etc.	.46	.23	.06	.86
2.6. Commune Council Provide Birth Certificate	.63	.19	.29	.94
2.7. Commune Council Display Information	.14	.08	.02	.34
3. Primary School Information Knowledge				
3.1. Free Education in Primary School	.80	.12	.54	1.00
3.2. One Teacher and 42 Students	.14	.13	.00	.43
3.3. Teach for 228 Days per Year	.09	.07	.00	.23
3.4. Each Student Provided 3-4 Books	.54	.19	.00	.81
3.5. Toilet at Primary School	.32	.25	.00	.76
3.6. Teach Equality	.73	.12	.47	.90
4. Health Center Information Knowledge				
4.1. Health Center Staff 8-11 on Duty	.26	.19	.03	.86
4.2. Health Center 24-Schedule Working hrs.	.43	.25	.00	.90
4.3. Health Center Receive 12 Drug Deliveries Per Year	.23	.21	.00	.74
4.4. Health Center Toilet	.15	.14	.00	.53
4.5. Health Center Hold Management Meetings	.14	.10	.00	.31
4.6. Health Center Post Information	.23	.14	.05	.63

Note: The observations are 24. The variables presented after the answers of the respondents are collapsed into village level.

As the interventions of the posters and interface meetings are on village level, the measurement of the reform is analyzed on village level (see in the sub-chapter 3.2 describing I-SAF). Thus, the respondents are assigned to belong to a treatment or control village, and the measurement level was collapsed from individual level to village level. A dummy variable

called 'isTreatment' is created to explain whether a respondent belongs to the treatment or the control village. The treatment villages take the value of 1 and the control villages a value of 0. The number of observations are with the collapsed data set 24: both treatment and control have n=6 prior to implementation and n=6 after the implementation (see Table 1).

The data set also accounts for the two measurement periods. The first measurement was conducted in August 2016, prior implementation of the reform. Between September 2016 and January 2017, the I4C posters were put up by the Cambodian Government, and the interface meetings were conducted in, for this research assigned to be, the treatment villages. Thereafter, a second measurement was conducted in February 2017. To account for these different times in the analysis, a time variable was created, called "After". "After" takes the value of 0 in the measurement conducted in August 2016, prior to the intervention, and 1 for the measurement performed in February 2017.

I create an additional dummy variable that is the interaction term called 'DD'. This variable captures the average knowledge of the citizens in both prior to and post implementation. That is the treatment variable 'isTreatment' multiplied by the time variable 'After'. This gives a value of 0 in both treatment and control groups in the measurement in August 2016, as well as the control group in February 2017, but a value of 1 in post implementation stage in the treated group.

Moreover, several dummy variables are created to account for Gender (1=female), Household (1=shared household), Income source (both M/F=1), ID Poor (1=yes). Worth noting is that the citizens in the sample have constrained knowledge whether they still have the ID Poor and/or if they are eligible. Therefore, I assume that ID Poor is not a reliable variable and will not use this variable in the analysis.

4.4. Internal & External Validity

Internal validity problems may arise when scrutinizing causal relationships between variables of interest and the independent variables. Failures of randomization, or to follow the treatment control, and problems with attrition, experimental effects and instrument validity for quasi-experiments need to be assured to not occur.

Firstly, regarding the possible failure of randomization, and as mentioned above, there might be unobserved factors in the treatment and control group that influences the outcome of the variables of interest that explain my results. This may cause a failure in randomization. However, all types of influences are tried to be mapped out in chapter 4 and 6. There might be other factors that have influence on the variables of interest, but those I cannot control for. (Stock & Watson, 2015:548-549)

All villages assigned to treatment underwent the implementation and none of the assigned control villages were implemented during the period of study. Hence, failure of following the treatment protocol would not pose any issue on this level of implementation. However, it should be noted that during the intervention of the interface meetings, some villagers may have decided to not be present, or could not attend. Reasons for their absence may have been that there was a price to pay for attending that meeting such as field work, illness, etc. (ibid)

Attrition problems and experimental effects, such as the Hawthorne effect are also of low likeliness to disturb the internal validity. The attrition problem does not arise as it was impossible to interview one person twice; thus, there was no loss of participants. There was no reason for the respondents of the survey to believe they were experimental subjects. (Stock & Watson, 2015:549)

The external validity threat poses in the part of data collection, where there may be external events that affects the outcome and make it difficult to generalize the results. (ibid) To the extent of my knowledge, these possible effects on the outcomes are dealt in chapter 4 and 6.

Finally, it should be noted that the questions in the questionnaire may have components that for some of the respondents were apprehended as challenging to respond. The responses to the questions may therefore have changed because of willingness to not say what the respondents believe, or fear of saying something wrong, etc. The results may also have been affected because of the interviewer (me) was not local.

5. The Empirical Model

This chapter outlines the Difference-in-Difference model, and its applicability to the empirical model I use to measure the change in knowledge of the implementation of I-SAF.

This research evaluates the causal effect of the reform by using the Difference-in-Difference model (DD). DD allows one to assess the differences in pre- and post-implementation stage of the I-SAF. The villages, in which the interviews are conducted in August 2016 and February 2017, are divided into treatment and control groups. These groups were before the implementation relatively homogenous and are geographically separated. Given the discussion in chapter 4, I can assume that the development of the control and treatment group would be the same for both groups, in the absence of the I-SAF implementation (Stock & Watson, 2015:130-131, 542). Accordingly, with the setup I have done of the study of the I-SAF implementation I can evaluate the causal effect of the intervention.

This DD model, together with the quasi-experimental set-up of this research, allows me to measure the average change of the variables of interest over time on both groups to evaluate the treatment effect of the implementation (ibid.). The treatment of I-SAF is binary, and thereby the treatment effect is $E(Y|X = 1) - E(Y|X = 0)$. (ibid, 130-131) The DD estimator is then:

$$\begin{aligned}\hat{\beta}_i^{difference-in-difference} &= (\bar{Y}_{treatment, post-implmenentation} - \bar{Y}_{treatment,pre-implmenentation}) \\ &\quad - (\bar{Y}_{control, post-implmenentation} - \bar{Y}_{control, pre-implmenentation}) \\ &= \Delta \bar{Y}_{treatment} - \Delta \bar{Y}_{control}\end{aligned}$$

The $\Delta \bar{Y}_{treatment}$ is the average change of the research variables of interest between pre- and post-implementation period (0 or 1 respectively) for the treatment villages, and $\Delta \bar{Y}_{control}$ is the average change of the research variables of interest between pre- and post-implementation period (0 or 1 respectively) for the control villages. This estimate allows me to measure the treatment effect of the intervention of I-SAF. (ibid.)

Accordingly, to answer the question “What Is the Effect of the I-SAF Reform in the Cambodian Highlander Villages?” it is necessary to compare pre- and post-implementation of the subpart I4C to determine the treatment effect (ibid. 539). As a reminder, the hypotheses are: H₁: The posters will increase the highlanders’ knowledge of citizens’ rights and obligations communicated on the I4C posters; H₂: The Interface Meetings will increase the highlanders’ knowledge of citizens’ rights and obligations communicated in the meetings; and H₃: With increased awareness about citizens’ rights to access public service provision in

commune councils, primary schools, and commune health centers, the citizens' will maximize their own good.

The key is to measure whether the I4C posters and the interface meetings increase the citizens' knowledge by studying how the variables of interest changes from the first to the second measurement by using OLS multiple regression analysis (ibid). I use all variables of interest $\epsilon \{1.1, \dots, 4.6\}$ (see Table 2 under 'Commune Council Information Knowledge', 'Primary School Information Knowledge' and 'Health Center Information Knowledge') to do the regressions.

$$Y_{j,After} = \beta_0^j + \beta_1^j * isTreatment + \beta_2^j * After + \beta_3^j * After * isTreatment$$

The regression is a function of Y where ($j = 1.1, \dots, 4.6$) and $_{After}$ indicates the time after the intervention. The outcome of the above described function measures the change of the average knowledge of what I4C and the interface meetings communicates in treatment and control group from August 2016 till February 2017. β_0^j measures the level of knowledge in the absence of the implementation of I-SAF. $isTreatment$ is the treatment group variable, where 0 signifies control and 1 is treatment group. $After$ is a binary variable measuring the time, and is assigned 0 in pre implementation and post implementation is assigned 1. The interaction term is produced with $After * isTreatment$, and it will only take the value of 1 in the treated villages and after the implementation, otherwise its value is 0.

Although the DD is established for assessing the causal impact of a program, it also faces some drawbacks. (Angrist & Pischke, 2009: 228-229; Duflo et. al., 2006:3) Due to serial correlation in DD measurement, the standard errors may understate the actual standard deviation, and thereby demonstrate over-estimated significance levels. The difficulty determining the effect of a program may be at the expense of the research validity. Commonly, DD estimates are based on long time series that may create wrong inferences. I control for this problem by only studying the before and after an implementation in a two-time series analysis. (Bertrand et al., 2004:250, 273-274)

6. Results

In this part, I present the results obtained from the OLS regression measuring the DD estimator. Here, I present the general change of knowledge in post implementation stage

versus pre-implementation. Through this, I will be able to conclude the final outcome of the I4C intervention in the studied highlander villages in northeastern Cambodia.

Firstly, before responding to the research question, its question and the research hypotheses are presented as a reminder. The question is: What Is the Effect of the Reform ‘Implementation of Social Accountability Framework’ in the Cambodian Highlander Villages? And the hypotheses are H₁: The posters will increase the highlanders’ knowledge of citizens’ rights and obligations communicated on the I4C posters; H₂: The Interface Meetings will increase the highlanders’ knowledge of citizens’ rights and obligations communicated in the meetings; and H₃: With increased awareness about citizens’ rights to access public service provision in commune councils, primary schools, and commune health centers, the citizens’ will maximize their own good. With this, the results are easier to interpret.

I4C Posters

The I4C posters were put up in all commune councils and commune health centers associated to the treatment villages as well as each school in these villages. The posters that describe what is also communicated during the interface meetings do not show any statistically significant results (See column 5 in table 3). That is the commune council, primary school, and commune health center bypassed the villagers unnoticed. This can be explained through mainly three observations made during the data collection. Firstly, the literacy is constrained to few people in the villages; the teacher, village chief⁹; and a few of those who have continued education on a higher level than secondary school (a rare phenomenon in the surveyed villages). 31% of the population studied is literate. Even if the posters would be observed by the citizens, a large part of the population would not understand what they say. Secondly, there are numerous other posters mainly put up at the commune council and the commune health center, but also inside primary schools. An extra poster added on to the wall of posters, except for the primary schools, which was the only one put up outside at the wall of the school and by itself. Moreover, several respondents to the survey could say that they believed they have seen a poster, although there was none up in the studied area. Thirdly, several of the posters were noted to have fallen down shortly after they were put up, due to weather conditions, or not put up at all because the recipients of the posters did not know what to do with them.

⁹ The village chief is a semi-official indirectly appointed by the Government to bridge relations between the villagers and the public affairs.

Table 3: Regression of I4C Posters

	Baseline				End Line	OLS: Impact	R ²	
	Treatment		Control		Comparison	of Treatment		
	Mean	# of Individuals,	Mean	# of Individuals	Overall Mean	#of Villages		Treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Variables of interest – I4C pre- and post-implementation of the reform</i>								
Have you ever seen the commune council, primary school, and health center posters in your commune?								
Commune council	.08	194	.02	155	.17	24	.05 (.06)	.59
Primary school	.13	194	.09	156	.13	24	.05 (.10)	.12
Health center	.18	194	.10	156	.27	24	.13 (.09)	.53

Robust standard error in parenthesis, *** Significant at 1 percent level, ** Significant at 5 percent level, * Significant at 10 percent level.

Commune Council

Table 4 presents the results of the studied population’s knowledge about their rights and standards that they believe should be provided by the commune council. Column 7 represents the treatment effect. Five out of seven variables show statistically significant results of an increase in knowledge among the treated villages. The increase among these is between 28 and 47 pp. Statement 2.5 ‘Commune councilors help to respond to your problem, respond to the complaints and answer the questions about commune services and projects’ show the highest increase, with 47 pp, and following is the variable of interest that explains citizens’ knowledge on whether they can elect the commune councilors every fifth year to represent them (statement 2.1 in table 4) with 45 pp.

It should be noted that the commune council election that will be held on June 4th, 2017, may have had an impact that affected the results. The villagers who went to the Commune council for register their vote, may have learnt about their right to vote.¹⁰ Also, literate villagers may have seen the Commune council posters and read them, which may have had an impact that I could not control for. However, the results of the posters do not show a large effect. Moreover, one could assume that by studying the reform over time, the commune council

¹⁰ In some cases, the villagers are not aware of what they are doing when they are voting or register to vote given the high rate of illiteracy.

variables should change drastically in relation to the variables of interest in primary school and health center if it was affected by the elections. Accordingly, there is a higher percentage point increase in commune council versus primary school, and health center. This is difficult to determine what that difference comes from the I-SAF intervention or the commune elections.

The lowest increase, but which do not show significant results, are the variables of interest that describe citizens' knowledge that the commune councilors present and inform about commune budget, plan, proposed projects to community people, and that the commune councilors display publicly the commune plan and budget, project information, working hours, list of services and fees. These variables show an increase in 9 pp. One could argue that transparency of commune councilors work would be unusual for the villagers to come across, and that this may be an explanation. But, other results such as the outcome of variable number '2.2 Commune councilors host annual village meeting to ask for your opinions on how commune funds should be spent' show the opposite.

Primary School

Column 7 in table 5 presents all the variables of interest that describe the treatment effect of the implementation of I-SAF. That is, this column explains the change of knowledge about citizens' rights and standards primary school. There is a general increase in all variables in this table; four out of six present statistically significant results on a range of 18-42 pp. Column six presents R^2 , and these variables, on the contrary to commune council, do not show any risk for overfitted models.

Statement 3.4: 'School should provide or lend each student 3 to 4 text books per year.' show an increase on 42 pp, and statement 3.5 School should have functioning and separate toilets for girls and boys show an increase of 40 pp. Statement 3.1 that explains that every child should have free education from age 6 until grade 9 presents a not statistically significant result. But, the citizens had already high knowledge both in control and treatment groups prior to the implementation (column 1 and 3 in table 5). This may be the reason for the insignificant and low result of 10 pp.

Primary school shows an overall higher knowledge compared to commune council and commune health center prior to the implementation (see table 5, column 1 and 3, compared to

column 1 and 3 in table 4 and 6 respectively). Given that the data set comprises of two time periods and each explanatory variable only can take on 0 or 1, it is not possible to get a high increase if the studied variable of interest is already saturated. Hence, the presented results in column 5 in table 5, that shows the treatment effect is low because the citizens had already relatively high knowledge about their rights and standards in primary school.

Health Sector

Table 6 presents the results of the studied population's knowledge about their rights and standards that they believe should be provided by the health center. Column 7 represents the treatment effect, and that shows an increase in each variable of interest, although only four out of six variables are statistically significant. The outcome varies from 17 to 39 pp regarding health sector knowledge. The highest knowledge increase (39 pp) is the awareness about the 24-hour standby duty for emergencies with the schedule and contact information posted at health centers. Given the high illiteracy, one could question this result. Weighing the contact information and 24-hour duty to the discussion to the unnoticed I4C posters (see discussion above), one may assume that the former is believed to be of greater importance than learning what a poster say. Hence, the stronger knowledge about the health centers emergency contact information and schedule. The statement 4.1 Health center will have 8-11 staff on duty working hours to provide you with good service show that citizens' knowledge has increased with 32 pp, and interestingly, the citizens have 28 pp higher knowledge about that Health centers should receive 12 drugs deliveries per year (statement 4.3, in Table 6).

Thus, there is a general increase overall in commune council, primary school, and health center. Most of the results show, with statistical significance, that the citizens have increased knowledge about what the reform aims to communicate. These results vary from 17 to 47 percentage points. The effect on knowledge was the lowest in primary school, but people tended to have a higher knowledge about their rights and the standards in primary school and that may explain for why there was a lower increase in this part.

Table 4: Regressions – I4C – Commune Council

	Baseline		End Line Comparison		OLS: Impact of Treatment		R ²	
	Treatment	Control	Overall	# of Villages	Treatment			
	Mean	# of Individuals	Mean	# of Individuals	Mean			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Dependent variables – I4C pre- and post-implementation of the reform</i>								
Commune Council: What are the standards or your rights in the Commune administrative services?								
2.1 You can elect commune councilors every five years, to represent you.	.34	194	.52	155	.82	24	.45*** (.10)	.83
2.2 Commune councilors host annual village meeting to ask for your opinions on how commune funds should be spent.	.14	194	.25	156	.43	24	.36*** (.09)	.70
2.3 Commune councilors must announce and display meeting time, topic and minutes of meetings on the notice board.	.17	194	.28	156	.24	24	.28** (.12)	.26
2.4 Commune councilors will present and inform about commune budget, plan, proposed projects to community people.	.16	194	.17	156	.14	24	.09 (.06)	.30
2.5 Commune councilors help to respond to your problem, respond to the complaints and answer the questions about commune services and projects.	.32	194	.48	156	.60	24	.47*** (.13)	.61
2.6 Commune councilors will provide you the birth, death and marriage certificate with dignity and respect and without any payment in addition to the official fees.	.47	194	.57	156	.77	24	.35*** (.09)	.74
2.7 Commune councilors will display publicly the commune plan and budget, project information, working hours, list of services and fees.	.12	194	.13	156	.16	24	.09 (.07)	.20

Robust standard error in parenthesis, *** Significant at 1 percent level, ** Significant at 5 percent level, * Significant at 10 percent level.

Table 5: Regressions – I4C – Primary School

	Baseline				End Line	OLS: Impact of		R ²
	Treatment		Control		Comparison	Treatment		
	Mean	# of Individuals	Mean	# of Individuals	Overall Mean	# of Villages	Treatment Effect	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3.1 Free schooling for every child starting at age 6 until grade 9.	.81	194	.72	156	.82	24	.10 (.08)	.32
3.2 Every class should have one teacher with no more than 42 students.	.16	194	.22	156	.11	24	.19* (.09)	.27
3.3 Teacher should teach 228 days of each year.	.11	194	.12	156	.06	24	.07 (.06)	.17
3.4 School should provide or lend each student 3 to 4 text books per year.	.43	194	.61	156	.58	24	.42*** (.13)	.38
3.5 School should have functioning and separate toilets for girls and boys.	.22	194	.42	156	.38	24	.40** (.18)	.33
3.6 Teachers help all students to learn equality.	.66	194	.73	155	.77	24	.18* (.09)	.23

Robust standard error in parenthesis, *** Significant at 1 percent level, ** Significant at 5 percent level, * Significant at 10 percent level.

Table 6: Regressions – I4C – Health Center

	Baseline				End Line Comparison		OLS: Impact of Treatment	R ²
	Treatment		Control		Overall Mean	# of Villages	Treatment Effect	
	Mean	# of Individuals	Mean	# of Individuals				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
<i>Dependent variables – I4C pre- and post-implementation of the reform</i>								
What are the standards or your rights in Health Center?								
4.1 Health center will have 8-11 staff on duty working hours to provide you with good service.	.19	194	.24	156	.29	24	.32** (.14)	.33
4.2 Health center should have 24-hour standby duty for emergencies with the schedule and contact information posted.	.25	194	.50	156	.51	24	.39** (.18)	.33
4.3 Health center should receive 12 drugs deliveries per year.	.11	194	.12	155	.35	24	.28** (.13)	.53
4.4 Health Center should have 2-3 separate working toilets for women, men and disabled persons.	.04	194	.15	156	.23	24	.22** (.10)	.41
4.5 Health center should hold monthly center management committee meetings, 12 per year.	.09	194	.12	154	.18	24	.17** (.06)	.41
4.6 Health Center will publicly post list of services, fees and budgets.	.13	194	.26	156	.26	24	.02 (.11)	.18

Robust standard error in parenthesis, *** Significant at 1 percent level, ** Significant at 5 percent level, * Significant at 10 percent level.

7. Conclusion

I study the impact of the information campaign, that aim to increase citizens' awareness about their right to access certain public service provisions provided by the Commune council, primary school and commune health center in Cambodian Highlander villages. I followed an implementation of the reform I-SAF and through that set up a quasi-experimental study.

The results show an increase in citizens' awareness about the Commune councils, primary schools, and commune health centers service delivery. The awareness varies among commune councils, primary schools and commune health centers, but overall there is an increase between 17 and 47 percentage points. The theoretical assumptions and previous research, which assumes that an individual who has knowledge about his or her right will take use of it, would thus say that the citizens may take use of their acquired knowledge and speak-up for their rights. It should not go unnoticed that the results face constraints in terms of generalization. The observations are 24; 6 treatment and 6 control villages. This means that when the reform is being scaled up, the results may deviate from what this research shows.

This research corroborates to the realm of experimental research on information campaign, and increase awareness of public service provision. By collecting quantitative data in an area, and on a topic that has, to the extent of my knowledge, not been done before, I also brought new components to this sphere. For further research, it would be interesting to test the theoretical assumptions, that is to investigate whether the studied population would speak up for their rights, with their enhanced knowledge.

A final note: I would like to thank all of you who have been involved making this research project possible. I particularly want to thank the I-SAF team at CARE Cambodia, Jan Noorlander also at CARE Cambodia, as well as the Care staff who assisted me in the translation of the local languages, throughout the data collection and my work on this project. A final thanks to my thesis supervisor Mahmood Arai who guided me greatly throughout this project.

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Annex II

I-SAF I4C Questionnaire

Read out the questions for the respondent

Gender	M/ F	Age	years old
Household	Single parent / dual or more parents'	Illiterate	Y/N
Income source from	M/ F	ID Poor	Y/N

Village	Commune	District
Province		

1. Have you ever seen the posters indicated below put up at health centers, schools and commune councils in your village and or commune?

Show the three I-SAF posters for the respondent.

- 1.1 Health center posters Yes/ No
- 1.2 School posters Yes/ No
- 1.3 Commune council Yes/ No

Respondents should here answer only 'yes' or 'no' on what the respondent believe is accurate according to his/her rights. Respondent may answer yes or no multiple times.

2. What are the standards or your rights in the Commune administrative services?

- 2.1 You can elect commune councilors every five years, to represent you.
- 2.2 Commune councilors host annual village meeting to ask for your opinions on how commune funds should be spent.
- 2.3 Commune councilors must announce and display meeting time, topic and minutes of meetings on the notice board.
- 2.4 Commune councilors will present and inform about commune budget, plan, proposed projects to community people.
- 2.5 Commune councilors help to respond to your problem, respond to the complaints and answer the questions about commune services and projects.
- 2.6 Commune councilors will provide you the birth, death and marriage certificate with dignity and respect and without any payment in addition to the official fees.
- 2.7 Commune councilors will display publicly the commune plan and budget, project information, working hours, list of services and fees.

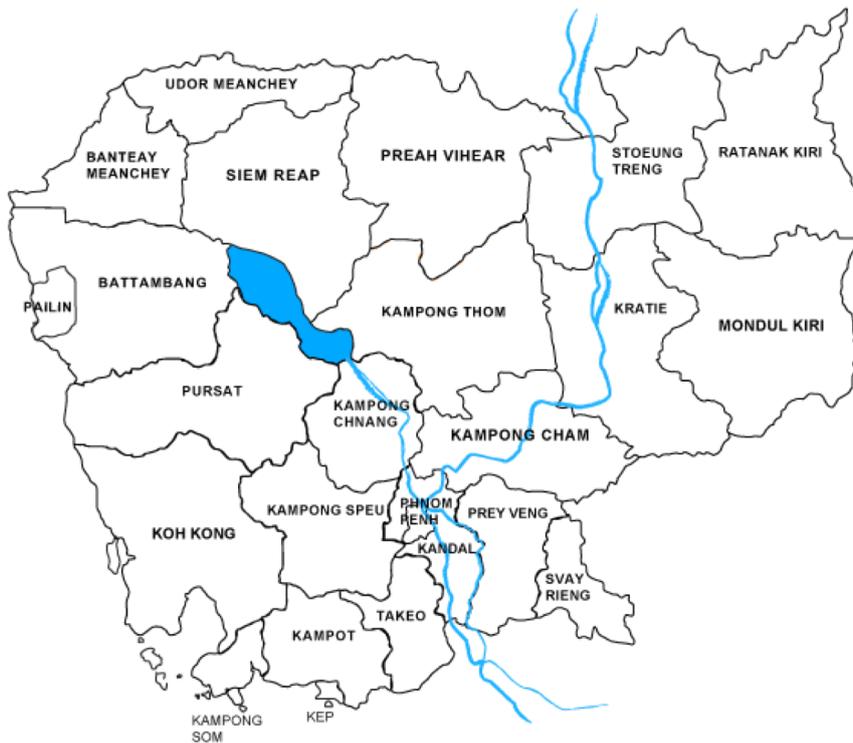
3. What are the standards or your rights at Primary school?

- 3.1 Free schooling for every child starting at age 6 until grade 9.
- 3.2 Every class should have one teacher with no more than 42 students.
- 3.3 Teacher should teach 228 days of each year.
- 3.4 School should provide or lend each student 3 to 4 text books per year.
- 3.5 School should have functioning and separate toilets for girls and boys.
- 3.6 Teachers help all students to learn equality.

4. What are the standards or your rights in Health Center?

- 4.1 Health center will have 8-11 staff on duty working hours to provide you with good service.
- 4.2 Health center should have 24-hour standby duty for emergencies with the schedule and contact information posted.
- 4.3 Health center should receive 12 drugs deliveries per year.
- 4.4 Health Center should have 2-3 separate working toilets for women, men and disabled persons.
- 4.5 Health center should hold monthly center management committee meetings, 12 per year.
- 4.6 Health Center will publicly post list of services, fees and budgets.

Annex III



Sample drawn from the provinces of Ratanakiri and Mondulkiri in north-eastern Cambodia.