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Impact Evaluation KALAHI-CIDSS Final Survey

The World Bank Group
in the Philippines

**Making Growth
Work for the Poor**

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ASIA-PACIFIC POLICY CENTER

Final Survey for the KALAH-I-CIDSS Impact Evaluation

REVISED FINAL REPORT

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Acronyms

ARMM	The Autonomous Region of Muslim Mindanao
CDD	Community-Driven Development
CEAC	Community Empowerment Activity Cycle
DSWD	Department of Social Welfare and Development
IPC	Institute of Philippine Culture
KALAHI-CIDSS	<i>Kapit-Bisig Laban Sa Kahirapan</i> -Comprehensive and Integrated Delivery of Social Services
LGC	Local Government Code
LGUs	Local Government Units
MIBF	Municipal Inter-Barangay Forum
M&E	Monitoring and Evaluation
NSCB	National Statistical Coordination Board

Executive Summary

The KALAH-CIDSS project was set up in 2002 to alleviate rural poverty. The project seeks to achieve this by providing resources to poor rural municipalities for investment in public goods and by reviving local institutions for people's participation in governance. KALAH-CIDSS is targeted at the poorest 25 percent of municipalities in 42 of the poorest provinces in the Philippines. As of December 2010, the project had covered 4,583 barangays¹ in 200 municipalities and supported 5,645 sub-projects, worth PHP 5.7 billion; and benefiting about 1.26 million households. Participating communities follow very detailed participatory processes, repeated three times in each participating municipality, to secure resources for investments in public goods.

A rigorous impact evaluation was designed in 2003 to evaluate project impacts on poverty reduction, social capital, empowerment, and governance. Quantitative data were collected on about 2,000 households in 135 barangays in 2003, 2006, and 2010. Data were gathered on a broad range of indicators from a sample of KALAH-CIDSS municipalities and from comparable municipalities that did not receive project support. Similarly, qualitative data were collected in a subsample of 20 barangays in 2005 and 2010. This report presents results from the quantitative component of the evaluation.

Available data indicate that participation rates in project activities are relatively high,

¹ A barangay is the lowest administrative unit in the Philippines; corresponding to a village.

suggesting that households and locally elected officials in targeted municipalities see value in the KALAH-CIDSS approach. About 80 percent of households in treated municipalities indicated being aware of the project. Three in every five expressed their satisfaction with the project. Elected local officials also view the project in a positive light; 75 percent of LGU officials indicated they were satisfied with the project. Respondents identify infrastructure improvement, better access to services, and community empowerment as project benefits. Feedback from barangays that were not prioritized (i.e., did not receive subproject financing) during the Municipal Inter-Barangay Forum (MIBF) was more negative.

The project had a positive impact on household consumption. Specifically, per capita consumption increased by about 5 percent as a result of the project. Those impacts are stronger for households that were classified as poor in 2003 and for households living in barangays that received one or more subprojects. This is consistent with the view that long-term impacts will require sustained efforts and both social and physical investment.

Additional survey findings on household employment and marketing suggest how these positive impacts came about. First, the project led to a 4-percentage point increase in labor force participation compared to what would have happened otherwise. Second, the survey found that households in KALAH-CIDSS communities diversified their sources of income: they are now slightly more likely to be working in more

than one sector. Third, the positive impacts might come from improved production practices. In addition, while farmers are less likely to engage in multi-cropping as a result of the project, they appear more likely to sell their produce.

The project led to improvements in basic service delivery. First, the proportion of households visiting a health facility when sick increased. This change seems to be driven by an increase in the use of public barangay health stations compared to private hospitals and clinics. Second, the project had a positive impact on accessibility. Specifically, a 6-percentage point increase in the proportion of households whose house is accessible year-round can be attributed to the project. Third, the project had a small positive impact on access to level 2 and level 3 water systems.² However, given the relatively large nature of water investment in the sample municipalities, this impact appears limited. The impacts on access to safe water are slightly larger but still limited. Fourth, project implementation appears to have led to

2 In the Philippines, a level 2 water system consists of a piped water system with a communal water point (e.g. stand-pipe). A level 3 water system introduces private water points (e.g. house connection).

an increase in secondary school and college enrollment, but, surprisingly, to a small decline in elementary school enrollment. However, given the relatively small amount of investments in school buildings in the barangays sampled for the impact evaluation, this correlation might not be a result of the project.

The project also had positive impacts on a number of social capital and barangay governance outcomes, which have been shown to be important determinants of household welfare. Consistent with the project development objective, KALAH-CIDSS led to an increase in participation in barangay assemblies, associated with greater knowledge about the barangay's income and expenses. In addition, the project led to increased organizational membership, as well as improved trust levels. Surprisingly, however, the project had a negative impact on the proxy used for collective action. It is unclear whether this last result is driven by a decrease in households' willingness to contribute to such activities, or by a decrease in the need for collective action. Those impacts are less dependent on the barangay being prioritized, suggesting a greater role for social preparation in determining impacts on local dynamics.

1. Introduction

The *Kapit-Bisig Laban Sa Kahirapan*-Comprehensive and Integrated Delivery of Social Services (KALAHI-CIDSS) project was set up in 2002 as the flagship anti-poverty project of the government of the Philippines. The project aims to achieve its poverty-reduction goals by providing resources to poor rural municipalities for investment in public goods. The project also aims to revive local institutions for people's participation in governance. The project adopts a Community-Driven Development (CDD) strategy and is now one of the three pillars of the convergent social protection programs under the Social Welfare and Development Reform Agenda of the Department of Social Welfare and Development.

As of December 2010, the project had covered 4,583 barangays in 200 municipalities and supported 5,645 subprojects, of which 93 percent had been completed. These subprojects are worth PHP 5.72 billion and benefit about 1.2 million households. Participating communities follow very detailed participatory processes, repeated three times in each participating municipality, to secure resources for public good investments.

A rigorous impact evaluation was designed in 2003 to evaluate project impacts on poverty reduction, social capital, empowerment, and governance. Quantitative data were collected on about 2,000 households in 135 barangays in 2003, 2006, and 2010. Data were gathered on a broad range of indicators from a sample of KALAHI-CIDSS municipalities and of comparable municipalities that did not receive project support. Similarly, qualitative data were collected in a subsample of 20 barangays in 2005 and 2010. This report presents results from the quantitative component. Results from the qualitative component of the impact evaluation are available separately (IPC 2010).

The report is organized as follows. Section 2 provides background information on the project strategy and implementation procedures. Section 3 discusses the impact evaluation design. Section 4 presents the results, and Section 5 concludes. More detailed information on the evaluation and the analytical methodology, as well as additional results, are available in Annexes 1–5.

2. The KALAH-CIDSS Strategy

The goal of KALAH-CIDSS is to reduce poverty through community empowerment and improved local governance, as well as through investments in basic social and economic infrastructure and services.

The beneficiaries of KALAH-CIDSS are among the poorest of the poor. The project works in 42 of the poorest provinces in the country and, within these provinces, the poorest 25 percent of municipalities.³ The choice of provinces is based on poverty incidence as computed by the National Statistical Coordination Board (NSCB), while the choice of municipalities is based on

a poverty ranking methodology developed by Balisacan, Edillon, and Ducanes (2002). A map of project coverage is available in Annex 1.

The KALAH-CIDSS project is implemented in phases. Table 1 shows the coverage and duration of each phase. Each phase benefits from lessons learned in previous phases, particularly with respect to implementation strategies.

As of December 2010, a total of 5,645 sub-projects had been financed in 4,583 barangays for a total KALAH grant value of PHP 5.72 billion. The project operates in 200 out of 1,512

Table 1. KALAH-CIDSS Coverage by Phase

Phase/Duration	Municipalities	Barangays
I (January 2003–June 2006)	11	201
II (June 2003–December 2006)	56	1,291
III-A (October 2004–December 2007)	34	883
III-B (January 2006–December 2008)	29	727
IV (August 2006–July 2009)	54	1,127
KC 1 Extension (February 2010–May 2011)	16	354
Total	200	4,583

Source: KALAH-CIDSS Progress Report (Fourth quarter 2010).

3 Concerns about the capacity of regional DSWD offices to cover a large number of municipalities prevented the program from targeting the poorest municipalities regardless of their province of origin. In

addition, a decision was made not to implement the project in ARMM. A similar project, the ARMM Social Fund, was implemented instead.

municipalities in the Philippines. Financed sub-projects can be classified into five main groups: (1) basic access infrastructure, including roads, footpaths, bridges, culverts, and access trails; (2) basic social services, including community water systems, barangay health stations, school buildings, daycare centers, electrification, and housing/shelter; (3) environmental protection and conservation, including flood control, drainage, sea walls, artificial coral reef sanctuaries, and sanitation facilities; (4) common service facilities, including final-harvest facilities and other community enterprises; and (5) capacity building and skills training. The project provides resources to the beneficiary municipalities for three subproject investment cycles. A cycle follows a four-stage process, known as KALAH-CIDSS Community Empowerment Activity Cycle (CEAC). The main stages of the process are as follows:

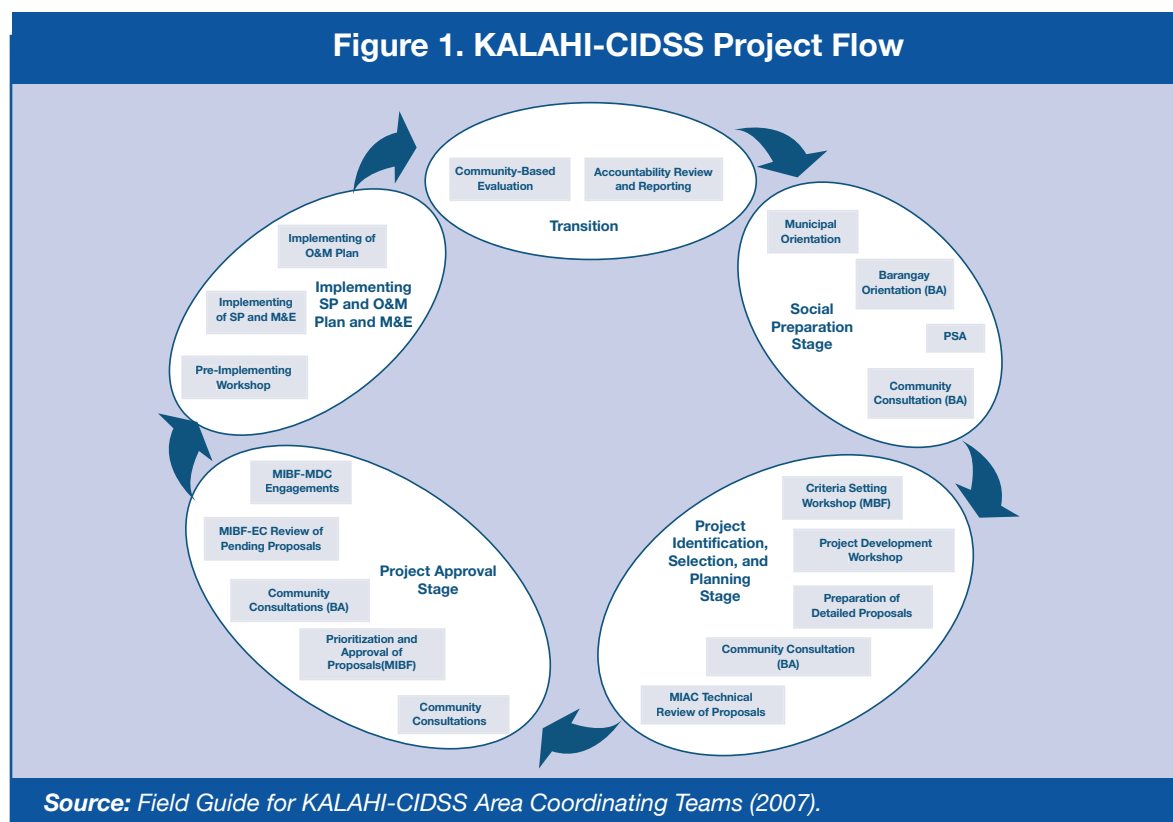
- 1) Social preparation
- 2) Subproject identification and conceptualization

- 3) Subproject prioritization
- 4) Subproject implementation.

An additional stage, transition, occurs between implementation and social preparation for the next cycle. Part of the transition is the implementation of a community-based evaluation. Here the residents assess their participation in the project and the changes that resulted from this participation. Another critical activity in this stage is accountability review and reporting. In this activity, community volunteers and barangay and municipal LGU officials review and report on their adherence to the project implementation principles.

Monitoring and evaluation (M&E) also is a key feature of the project. In addition to the activities carried out during the transition stage, there is an internal M&E system, a number of localized—but externally conducted—process evaluations, and a more comprehensive and externally conducted impact evaluation. The M&E component aims to determine how well KALAH-CIDSS

Figure 1. KALAH-CIDSS Project Flow



Source: Field Guide for KALAH-CIDSS Area Coordinating Teams (2007).

has achieved its objectives and to generate insights and lessons learned to inform the design of poverty reduction projects in the future.

Participating municipalities receive a per-cycle grant equivalent to PHP 300,000 for each barangay. The barangay allocations are determined through a competitive process, the Municipal Inter-Barangay Forum (MIBF), step 3 above. As a result, while some barangays do not receive any subproject in the three cycles, some of them might be prioritized more than once. Criteria against which to rank subproject proposals are developed by the communities themselves and tend to emphasize poverty concerns.

Each stage of the CEAC process has a set of relevant activities, as shown in Figure 1. In general, the first cycle can be completed in 12 to 14 months⁴ for communities new to the KALAHI-CIDSS process. Subsequent cycles tend to take less time.⁵

4 According to DSWD, before implementation in the Phase 3 area, a project cycle takes 14 months to be completed. Subsequent cycles often take less time—from 8 to 10 months.

5 From interview with Ms. Consuelo Acosta, SOW III of the DSWD.

3. Impact Evaluation

3.1 Objectives of the Impact Evaluation

A set of general objectives were established at the start of the impact evaluation. These are the following:

- 1) To evaluate the extent to which poverty is reduced in the target municipalities
- 2) To evaluate the extent to which communities have been empowered and governance has been improved
- 3) To examine the process by which poverty has been reduced.

These objectives were maintained in each of the survey rounds of the evaluation, while specific objectives were also set.

3.2 Analytical framework

The design of the survey is based on the analytical framework, first discussed in Balisacan et al. (2000) and subsequently modified to consider KALAHI-CIDSS interventions. Figure 2 illustrates this framework.

3.2.1. Household Welfare

The evaluation adopted a comprehensive definition of household welfare and poverty. It encompasses several dimensions: deprivation in

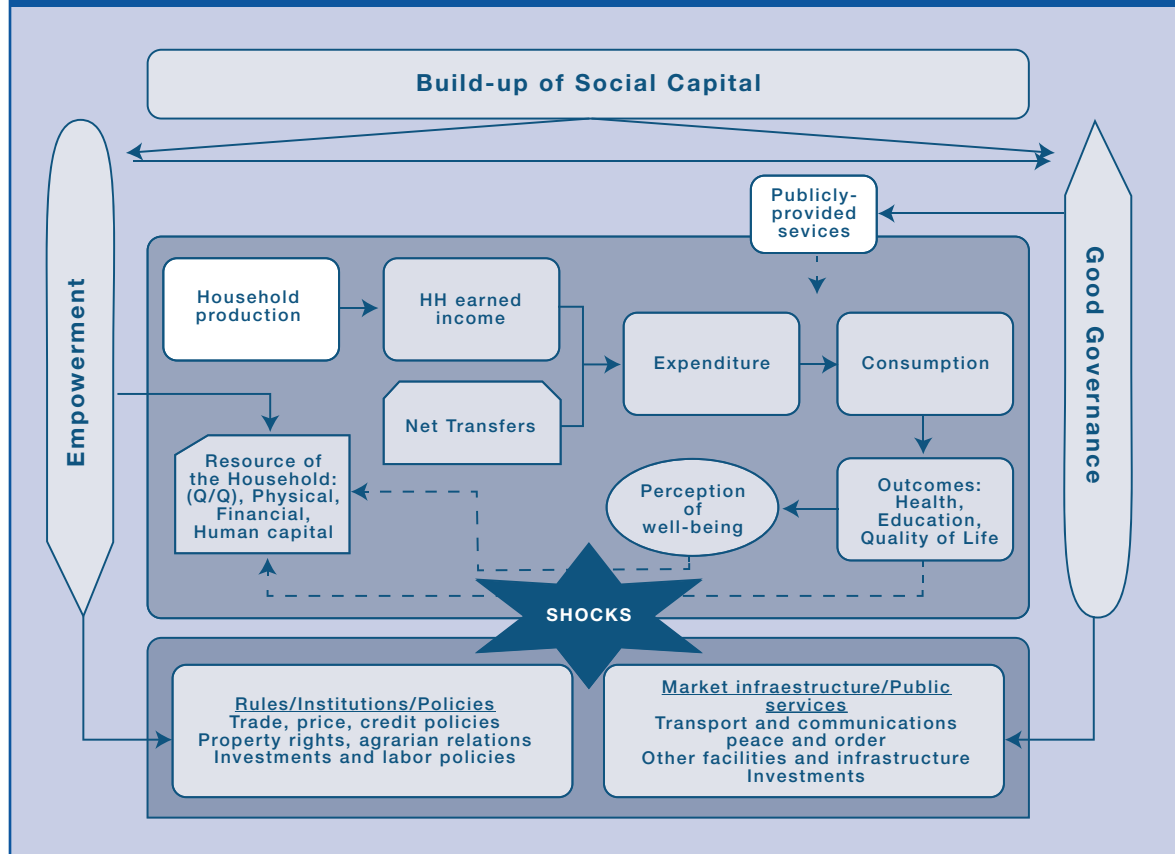
means, outcomes, and even perception of one's state of well-being. There is a strong relationship between and among these three dimensions. Deprivation in means (income or source of livelihood) will result in poor outcomes (including poor health and nutrition, poor housing conditions, low educational attainment of family members) unless the family is able to procure publicly provided goods and services. Poor outcomes will result in a perception of being poor.

3.2.2. Some Determinants of Household Welfare

The most direct determinants of household welfare are household decisions regarding production and consumption. Decisions on production involve the use of potential labor supply and other household assets, (e.g., land, financial assets, future earnings and credit, if available). Decisions on consumption govern the allocation of the family budget for food and nonfood items, medical care, higher education, and improvements in housing, for example. In rural areas, where subsistence farming is prevalent, production and consumption factors and decisions are often intertwined.

A host of factors influence household decisions on production and consumption. First, the availability of adequate market infrastructure and quality public services such as roads, irrigation facilities, public schools, and health centers should lead to improved household welfare.

Figure 2. Analytical Framework



Second, available evidence indicates that social capital is an important determinant of household welfare.⁶ The build-up of social capital benefits the individual directly. It has been shown that farmers with higher social capital are more likely to adopt modern (new) technology (Narayan and Prichett 1997; Edillon 2010). Some types of social capital also facilitate technology diffusion, and hence learning. Bridging social capital has been credited as an effective strategy to “get ahead” (Putnam 2000). Barham and Chitemi (2009), looking at smallholder farmer groups

in Tanzania, found that “groups with a greater number of activities and maturity are more likely to have improved marketing performance.”

Finally, governance practices at the local level are also important determinants of household welfare. Indeed, with the enactment of the Local Government Code (LGC) in 1991, the responsibility of providing many public goods and services has been devolved to Local Government Units (LGUs), along with the fiscal resources and the ability to raise local taxes.⁷ However, gains from decentralization might not materialize in areas where accountability is weak, as local officials might not respond to their constituents’ needs. Given that both informal and

6 The social capital of the individual is defined as the resources that can be mobilized from interpersonal relationships based on trust or the desire to maintain a trust relationship (Edillon 2010). On the other hand, the social capital of a society is defined as “the institutions, the relationships, the attitudes and values that govern interactions among people and contribute to economic and social development” (World Bank 1998).

7 However, there have been reports coming from the LGUs themselves that the devolved resources are not commensurate to the devolved responsibilities.

formal institutions matter for local governance and the difficulty in distinguishing between the two empirically, results on social capital and governance will be reported jointly.

3.2.3. Channels through which KALAH-CIDSS can affect Welfare

There are at least three channels through which the KALAH-CIDSS project can influence household welfare. First, the project provides resources for investment in public goods. This should lead to improved infrastructure at the local level, which should translate into improved household welfare. The demand-driven nature of subproject selection should ensure that selected subprojects respond to local needs.

Second, KALAH-CIDSS uses innovative strategies of participatory planning, implementation and management of local development activities. These improve the capabilities of beneficiaries to identify subprojects that are catalytic to local development. More importantly, these strategies are expected to build up social capital at both the individual and community levels.

Third, KALAH-CIDSS promotes good governance. First, the quality of governance is improved by the introduction of systems and procedures (on subproject proposal and approval, bidding and procurement, and financial management) that encourage transparency, people's participation, accountability, and the like. Second, governance is also improved by having an empowered constituency that knows what they need and knows how to demand it. This way, governance structures would be encouraged to become more responsive to the needs of their constituencies. The project procedures are consistent with the LGC, which includes several provisions that are intended to promote community participation in local governance through the appointment of civil society representatives to local development councils. This provides the venue through which the needs of marginalized and underserved constituencies can be considered by the political leadership.

3.3 Research Design

The impact evaluation followed a time series control group design, with baseline, midterm, and final endline surveys conducted in treatment and comparison municipalities. The treatment group consisted of beneficiary municipalities, while the comparison group was chosen from municipalities within the same sample provinces with similar characteristics to the treatment municipalities, but not receiving project support.⁸ Given that the evaluation was not part of the original project design, alternative evaluation designs (such as random assignment) were ruled out. The treatment municipalities were drawn from among the poorest quartile municipalities in the beneficiary provinces supported under Phase III-A of the project. In this way, it is expected that these areas would have benefited from lessons learned from early phases of project implementation.

Project implementation in Phase III-A municipalities started in October 2004. The sample provinces were chosen to represent the distribution of beneficiaries by island group: Albay in Luzon, Capi in Visayas, and Zamboanga del Sur and Agusan del Sur in Mindanao. In addition, in two of the provinces (Albay and Agusan del Sur) qualitative data were collected in 2005 and 2010.

Available information indicates that the control group provides credible estimates of what would have happened in the treatment municipalities in the absence of the project. Given the strict poverty targeting procedures used by the project, control municipalities are slightly richer than the treatment municipalities but appear similar along other dimensions (Chase and Holmemo 2006).

The key identifying assumption in the impact evaluation is that, without the project, the two

8 Refer to Chase and Holmemo (2005) for a detailed discussion of the methodology used to select the control municipalities.

groups of municipalities (treatment and comparison) would have evolved similarly. While it is impossible to test this hypothesis directly, it is possible to test if prior to the project the two groups evolved similarly; this is the so-called “parallel trend” hypothesis. Rejection of the parallel trend hypothesis would cast doubts on the validity of our estimation strategy. As indicated in Annex 2, we attempted to test the parallel trend hypothesis. The results provide convincing evidence that control and treatment municipalities would have evolved similarly over the period covered by our data had the project not been implemented.

The baseline survey was conducted in the fall of 2003.⁹ The baseline covered a total of 2,400 households in 132 barangays in the four provinces. There were two treatment and two control municipalities in each province. The same households were interviewed during the midterm and endline surveys, except for those lost to attrition. The midterm survey was conducted from October to December 2006.^{10 11}

9 In 2005, however, the Spanish Agency for International Cooperation (AEIC) funded one cycle of KALAH-CIDSS implementation in Malinao, which is originally the control municipality corresponding to Pio Duran. To address the disruption in the evaluation study, the municipality of Oas was selected as a replacement and a baseline survey was conducted in this new control municipality in 2005. The replacement of Malinao as one of the control municipalities in Albay increased the number of barangays covered to 135. The methodology for selecting Oas is fully discussed in the final report of the supplementary data collection (APPC 2006).

10 Except in Agusan del Sur, where it was extended to January 2007 because of peace and order conditions.

11 As of the completion of the midterm survey, the treatment municipalities had already completed the first cycle and the second cycle was ongoing. In all provinces except Zamboanga del Sur, only one in three sample barangays proceeded to subproject implementation toward the end of 2005. The other barangays were not prioritized, meaning that their proposed subprojects were not funded in the first cycle. In Zamboanga del Sur, two out of three sample barangays were among the prioritized barangays.

The final, endline, project evaluation started three years after the completion of the midterm assessment. Data collection began on the last week of February 2010 in Albay, Capiz, and Zamboanga del Sur. Operations in Agusan del Sur followed a month later due to peace and security conditions. The survey was completed within a month in the first three provinces, and in Agusan del Sur by the third week of April. The differing time periods during the year when the baseline, midterm and endline surveys were conducted created some problems with time-varying indicators and questions.¹²

By the time the final survey was conducted, all the subprojects had been implemented and most of them had been completed for more than a year and a half.¹³ As such, the endline evaluation captured longer-term impacts than most evaluations which tend to have smaller time frames. As a result, measured impacts are more likely to be sustained. About two-thirds of the treatment barangays received funding for their proposed subprojects.

The evaluation was designed to estimate the impacts of the KALAH-CIDSS intervention as a whole. However, it is also possible to compare changes in barangays that were and were not prioritized (i.e., received subproject investments funding), but those results are more tentative. Some of the pre-project differences between the two sets of barangays could also affect the outcomes of interest.

Previous impact evaluations suggested that CDD projects might affect poor and non-poor households differently (Voss 2008). In light of those findings and the lack of evidence on the gender

12 Adjustments were made to the questionnaire to maintain the same reference period for time-varying indicators. This entailed asking for the information pertaining to the current quarter, and then for the same information pertaining to the previous quarter.

13 Three-fourths of the projects were completed by 2008, while the rest were completed by June 2009.

impacts of development projects in the Philippines, the team decided to carry out subgroup analyses. To reduce concerns about data mining, the choice of subgroup analyses to be carried out was made prior to the endline data being available. Further, all disaggregated results (pre-project poverty levels and gender) are reported either in the main text or in Annex 4.

3.4 Survey Instruments

The survey instruments used were extensively field-tested before the baseline survey, and necessary adjustments were made before each additional survey. The instruments were designed to capture information on the following indicators (cf. Annex 4):

- *poverty indicators*, including means, outcomes, and the perception of well-being
- *social capital indicators*, including indicators on groups and networks, collective action, social inclusion, and information and communication
- *governance and empowerment indicators*, including indicators measuring transparency, participation, accountability, responsiveness and flexibility, continuity and sustainability, and compliance, consistency and rule of law.

In addition to these indicators, questions that capture the extent of participation in KALAH-CIDSS activities were added to the midterm survey. For the final survey, some additional questions were included, especially those of operational relevance to the Department of Social Welfare and Development (DSWD) and the World Bank for implementing similar programs in the future.

Three sets of questionnaires were utilized, each one for a different type of respondent (house-

hold, barangay, and municipality).¹⁴ The questionnaires are available in Chase and Holmemo (2005).

3.5 Limitations of the Study

The analysis presented in this report is bound by a number of limitations. These are due to factors beyond the control of the evaluators and could have not been remedied ex ante within the existing budget. Following are the factors that may affect the analysis.

Only about two-thirds of the sixty-six treatment barangays in the survey areas received funding for subproject implementation. This proportion is lower than the figure for the entire group of Phase III-A provinces, where about 80 percent of barangays in KALAH-CIDSS municipalities received at least one subproject. Most of the treatment barangays surveyed that had received subproject funding had undertaken a single cycle of subproject implementation. Eight of these barangays received funding for two subprojects.

Common to all CDD operations, KALAH-CIDSS finances a number of different subprojects that are likely to affect different dimensions of household welfare. Indeed, one would not expect similar impacts for a farm-to-market road and for a school building. As a result, project impacts are diluted over a broad range of outcome indicators. Further, due to limited sample size, no attempts were made to distinguish impacts by types of subprojects.

The attrition of the panel household may also in-

14 The same questionnaires were used for treatment and control municipalities. The only differences were that a small module on KALAH-CIDSS implementation was included in treatment areas. The related questions were placed at the end of the questionnaire to avoid bias associated with beneficiaries knowing that the data were being used to estimate KALAH-CIDSS impacts. The questionnaires were finalized after extensive consultations with the Department of Social Welfare and Development (DSWD) and the World Bank.

fluence results. Households dropping out of the sample—mainly due to migration or death—at any point in the duration of the study cannot be avoided.¹⁵ If this attrition is not random across the treatment and control groups, failure to account for it could yield biased estimates. As pointed out by Baulch and Quisumbing (2010), attrition

15 See Annex 3 for a full discussion on attrition

cannot be remedied globally by simply adjusting the weights. Instead, the correction should be outcome-specific. Addressing this concern, however, is beyond the scope of this report, although the limitation is recognized. Initial results suggest that such attrition is unlikely to significantly bias the results, as the levels and determinants of attrition do not appear to differ between the control and treatment groups.

4. Analysis of Project Impacts

This section assesses changes in key indicators in our survey areas over time. Only households interviewed in all three survey rounds (baseline, midterm, and final) residing in the same barangays are included.

The discussion begins with a description of the project accomplishments in the survey areas (Section 4.1). Also included are perceptions of households and local government officials regarding KALAH-CIDSS. Then the project outcomes are presented according to the framework for analyzing household welfare outcomes discussed in the previous section. The differences in project outcomes between treatment and control areas over time are tested, first using tests of comparisons of means (Section 4.2), and then through regression analysis for a selected set of indicators (Section 4.3).

4.1 KALAH-CIDSS Accomplishment in Survey Areas

The implementation of KALAH-CIDSS in the evaluation areas started in October 2004, about a year after the baseline survey was conducted. In the initial cycle, eighteen barangays in the treatment areas were given funding to implement their respective subprojects. Fourteen barangays were prioritized in the second cycle and another eighteen in the third cycle. Overall, about two-thirds of the sixty-six treatment barangays in the survey areas were recipients of KALAH-CIDSS

subprojects. Available evidence indicates that poorer barangays and barangays with a higher participation in barangay assemblies prior to subproject implementation were more likely to be prioritized (Labonne and Chase 2009).

The choice of subprojects implemented in recipient barangays corresponds to the most pressing needs, as identified by the community members in the respective localities. The profile of subprojects is summarized in Table 2. About 33 percent of the subprojects funded are roads and 24 percent are community water systems. Other preferred subprojects are pre- and final-production facilities, health stations, daycare centers, and school buildings. This corresponds favorably to the problems identified by respondents during the baseline survey (Labonne and Chase 2009).

Individual subproject costs varied from Php 400,000 to Php 3.8 million (about \$8,400 to \$80,000¹⁶). The most costly are road subprojects, which average Php 2 million per subproject.¹⁷ In the survey areas, most of these road subprojects were for the rehabilitation of farm-to-market roads. The water system subprojects were all level 2 systems, with an average cost

16 All dollar amounts are U.S. dollars unless otherwise indicated.

17 Implementing LGUs share a 30 percent counterpart of the total cost

Table 2. Types of Subprojects Implemented	
Subproject Types	#of barangays that implemented
Road (average 1.695km)	18
Water System	13
Pre- and Post-Production Facility	7
Health Station	5
Daycare Center	4
School	2
Economic/Livelihood Support (Trading Center, Market, Mini Port/Wharf)	2
Foot/Small Bridges	1
Drainage Structures (Culverts, Overflow, Spillway)	1
Electrification	1
<i>Source: : KALAH-CIDSS monitoring data.</i>	

of Php 1.6 million.¹⁸ Most of these subprojects were constructed after the midterm survey was conducted (about 62 percent). By June 2009, all of the subprojects covered in cycle 3 were completed.

4.1.1. Perceptions on KALAH-CIDSS

Among the households in the sample treatment barangays, 80 percent were aware of the project, and some of them participated directly in subproject implementation (for example, as volunteers).¹⁹ About 65 percent indicated they participated in the preparatory and planning

stages, while 31 percent participated in the subproject implementation stage. The majority of those participating in the early stages were women (about 62 percent), while the men participated or were involved in the later stages. These volunteers devoted 2.5 hours of their time during the preparatory stage and about 9 hours (among men) during the construction of the subprojects.

Three in every five households interviewed expressed their satisfaction with KALAH-CIDSS. The ratio is higher among barangay LGU officials, where three in every four officials were satisfied. When asked about the benefits of KALAH-CIDSS, the most recurrent responses were infrastructure improvement and better access to services. Among barangay officials, community empowerment was also frequently noted. While there was also negative feedback about the project, this was mostly among barangays that were not prioritized for subproject funding.

18 In the Philippines, a level 2 water system is defined as one that pipes water from the source to a communal distribution point such as a stand-pipe.

19 Households were also asked about their awareness of the KALAH-CIDSS grievance redress system; only 18 percent knew of the system.

4.2 Key Evaluation Results

Double-difference estimates of project impacts are computed by comparing the value of the difference between the treatment and control group in the variables of interest at final with the baseline value of the difference. These estimates capture longer-term impacts, rather than the short-term impacts that tend to be the focus of evaluations. Key results are presented in the main text below, with additional results in Annex 4.

The double differences were subjected to tests of statistical significance. The results are reported in the tables as a string of either “+” or “-”. A positive sign indicates a positive project impact. The number of plus signs indicates the level of significance at which the hypothesis is rejected (“+” rejected at 10 percent, “++” rejected at 5 percent, and “+++” rejected at 1 percent). On the other hand, a minus sign indicates a negative project impact.

4.2.1. Key Welfare Impacts

In this section, we look at the impacts of KALAH-CIDSS on key welfare outcomes. Specifically, we start by looking at the impacts on per capita consumption and then move on to impacts on labor force participation and production practices.

As indicated in Table 3, the project led to a 5 percent increase in per capita consumption.²⁰ This is in addition to the increase that occurred in the control group between 2003 and 2010. If we distinguish households by their initial poverty status, we observe that among poor households, the increase was higher in the treatment group

by 5 percent.²¹ Conversely, among the non-poor households, the increase was lower in the treatment group by 2 percent.

In addition, we looked at the non-food share of expenditures, which is arguably a good measure of welfare. The idea is that the poorer the household, the smaller their share of non-food consumption. Consistent with the above findings on consumption, the project had a positive impact on the share of non-food expenditures. A 1.4 percentage-point increase can be attributed to the project, or 4.5 percent of the baseline value.

Consistent with nationwide trends, poverty incidence²² has decreased from baseline to end line in both treatment and control groups. Double-difference estimates indicate that the project contributed an additional 0.4 percentage points to the decrease. The small decline in poverty incidence—despite the size of the impacts on per capita consumption—seems to suggest that the impacts were greater for households at the bottom of the wealth distribution. Despite evidence of improvements in welfare outcomes, the incidence of self-rated poverty has decreased only slightly in both treatment and control groups. Moreover, the decrease was more pronounced in the control group, by 1.8 percentage points.

We now look at project impacts on labor force participation and production practices. The rationale is that positive impacts on labor force participation and production practices could explain the positive impacts on per capita consumption.

Labor participation rates have decreased from their previous levels in both control and treatment areas (Table 4). This is likely to be due to the negative impacts of the global financial crisis. Importantly, however, the decline is less marked in KALAH-CIDSS areas. Specifically,

20 We use the natural logarithm. Extreme values unnecessarily pull averages and may mask the actual changes of pooled estimates. By using the natural logarithm, the double-difference can be interpreted as percent difference between the two groups.

21 A household is classified as poor in 2003 if their per capita expenditures at baseline were lower than the official regional poverty line.

22 Computed using published poverty lines.

Table 3. Key Welfare Outcome Indicators

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Annual per capita expenditure (in 2010 prices)							
Full Sample	9.51	9.76	9.82	9.67	9.90	9.93	0.05 +++
Among households classified as poor in 2003	9.15	9.56	9.45	9.25	9.65	9.50	0.05 +++
Among households classified as non-poor in 2003	10.04	10.05	10.06	10.12	10.16	10.16	-0.02 - - -
Nonfood share to total expenditure	33.0	43.0	41.6	37.2	45.1	44.4	1.4 +++
Annual water expenditure (in 2010 prices)	6.04	6.58	7.25	6.30	6.65	6.75	0.75 +++
Annual transportation expenditure (in 2010 prices)	7.53	7.93	7.82	7.91	8.08	8.00	0.20 +++
Non-poor (expenditure-based incidence), % of households	40.5	57.6	60.2	48.1	67.1	67.4	0.4 +++
Self-rated non-poor, % of households	29.0	31.0	31.5	32.2	38.1	36.6	-1.8 - - -
<i>Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively; - - -, - -, - sign is negative and significant at the 1%, 5% and 10% level, respectively;</i>							
<i>*Ddiff = double difference (see Annex 2).</i>							
<i>Source: Household questionnaire.</i>							

available data indicate that the project increased labor force participation by 4 percentage points compared with what would have happened in the absence of the project. The impact is even stronger for women, with a 5.8 percentage point increase in labor force participation when compared with the counterfactual.

In addition, the employment profile had become more diverse in the treatment group at final survey. We observed an increase in the proportion of households, with workers employed in more than one sector in our treatment group (2 percentage point difference from baseline). This implies that beneficiary households now have access to more employment opportunities. In the control group, the proportion has decreased between the baseline and final surveys.

As seen in Table 5, a majority of households were engaged in agricultural activities (crop farming,

livestock production, and fishing). However, we observed a steady decline over the past seven years, more so among treatment households. At baseline, 78 percent of households in treatment areas were engaged in crop farming. This has decreased by about 15 percentage points in the final survey. The drop is also significant in the number of households raising livestock and poultry (about 13 percentage points). This observation is consistent with the increasing diversity of employment pointed out earlier.

The survey found a significant increase in the number of agricultural households in treatment areas that were marketing their produce. That is, there is a movement away from subsistence farming and toward integration in local markets. Among those engaged in crop farming, the increase of those selling their produce is 14 percentage points higher in treatment versus control areas. For those households engaged in fishing,

Table 4. Profile of Employment

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	‘03	‘06	‘10	‘03	‘06	‘10	
Labor Force Participation Rate							
All	70.5	72.4	67.2	73.6	75.0	66.1	4.3 +++
Male	93.5	90.6	88.5	92.7	90.9	84.4	3.2 +++
Female	44.5	51.4	43.6	53.1	57.8	46.4	5.8 +++
Employment rate (% of those in labor force)							
All	98.8	97.8	99.0	98.4	96.8	98.6	0.1 +++
Male	99.3	98.2	99.1	98.6	97.7	98.7	-0.3 - - -
Female	97.5	97.0	98.6	98.2	95.2	98.3	0.9 +++
Heterogeneity: HH members employed in > 1 sector	24.3	28.3	26.3	31.9	31.9	30.2	3.6 +++
<p>Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively - - -, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively *Ddiff = double difference (see Annex 2).</p> <p>Source: Household questionnaire.</p>							

Table 5. Household Production Practices

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Crop farming and gardening							
Engaged in crop farming	78.4	73.2	63.8	64.5	61.4	56.8	-6.9 --
Practices multi-cropping	34.7	25.4	26.6	31.2	28.3	28.5	-5.5 --
of which, % sold their produce	64.1	72.9	79.9	80.2	83.9	82.1	14.0 ++
Livestock and poultry							
Engaged in livestock and poultry	82.8	80.2	69.2	74.5	71.2	62.7	-1.8 --
of which, % sold their produce	45.1	43.3	46.5	57.4	43.2	47.6	11.2 ++
Fishing							
Engaged in fishing	24.3	28.3	26.3	31.9	31.9	30.2	-2.1 --
of which, % sold their produce	30.7	34.4	56.9	52.1	44.1	55.6	22.7 ++
<p>Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively - - -, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively *Ddiff = double difference (see Annex 2).</p> <p>Source: Household questionnaire.</p>							

the increase in marketing is 22.7 percentage points greater in the treatment areas versus the control areas. For those engaged in livestock and poultry production, there was an increase in treatment areas and a decrease in control areas, for a net difference of 11.2 percentage points.

4.2.2. Access to Basic Services

This section focuses on access to basic services. We started by testing for improvements in barangay access conditions and then checked whether they translated into improvements in household access. Subprojects were expected to improve

the quality and quantity of facilities in the treatment municipalities, which could then be used by households.

As shown in Table 6, the study observed an increase in access by barangay residents to basic facilities and services. We observed generally more barangays with health services, postharvest facilities, and improved water systems in 2010 compared to 2003. The increases were significantly higher in treatment barangays compared to control barangays. These results are expected, as these were the types of subprojects commonly financed under the project.

Table 6. Barangay Access Conditions							
Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
% of barangays with							
Market	16.7	18.2	15.2	13.0	13.0	5.8	5.7 +++
Stores	95.5	87.9	92.4	84.1	92.8	94.2	-13.2 - - -
Financing institution	18.2	42.4	33.3	24.6	37.7	30.4	9.4 +++
Postharvest facilities	63.6	72.7	66.7	65.2	59.4	60.9	7.4 +++
Waterworks system	39.4	68.2	71.2	47.8	59.4	71.0	8.6 +++
Elementary school	86.4	87.9	90.9	81.2	84.1	82.6	3.1 +++
Secondary school	22.7	21.2	22.7	18.8	17.4	20.3	-1.4 - - -
College	1.5	1.5	1.5	1.4	1.4	1.4	0.0
Barangay health service	75.8	78.8	83.3	87.0	79.7	75.4	19.2 +++
Hospital	1.5	4.5	1.5	1.4	2.9	2.9	-1.4 - - -
Type of Roads in barangay (%)							
Dirt	38.6	31.4	31.0	48.9	30.2	29.1	12.1 +++
Gravel	44.2	47.9	55.3	31.0	36.5	44.9	-2.8 - - -
Asphalt	2.8	3.2	0.3	0.9	2.9	0.2	-1.8 - - -
Cement	14.3	17.6	13.4	18.3	26.3	23.7	-6.3 - - -
Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively - - -, - -, - sign is negative and significant at the 1%, 5% and 10% level, respectively *Ddiff = double difference (see Annex 2).							
Source: Barangay questionnaire.							

Increases in the proportion of both treatment and control barangays with financial institutions were likewise reported, with treatment areas having higher increments. While the project did not directly provide micro-credit and livelihood subprojects, this could be an indication of increased business and agricultural activities in the KALAH-CIDSS areas. It may also be due to micro-finance institutions similarly targeting poor municipalities, and/or targeting those areas and populations that are benefiting from KALAH-CIDSS social mobilization support.

We observed a small increase in the proportion of KALAH-CIDSS barangays with elementary schools. However, there was little or no change in the proportion of barangays with secondary schools and colleges in both KALAH-CIDSS and non-KALAH-CIDSS areas. This is to be expected, as secondary schools and colleges are typically not barangay-level investments that the project tends to finance.

The survey data indicate that there was a deterioration in road infrastructure, particularly in the treatment barangays. From 2003 to 2010, the proportion of asphalt and cement roads decreased in the treatment barangays, while it increased in the control barangays. The difference, as shown in Table 6, is 1.8 percentage points for asphalt and 6.3 percentage points for cement roads. On

the other hand, the proportion of dirt roads decreased for both treatment and control barangays. As expected, the decrease is much larger in the control areas (where road improvement has been greater) compared to the treatment areas. These findings on the state of roads are at odds with the results of the analysis of household access conditions discussed below.

We now look at other welfare impacts of KALAH-CIDSS and test whether improvements in barangay access conditions translated into improvements in household access. Table 7 summarizes the access conditions of households.

Consistent with the large number of roads financed under the project in the sample municipalities, more houses are accessible year-round as a result of the project. Specifically, the increase is 6.7 percentage points higher in treatment than in control areas. The discrepancy with the previous set of results might be due to the way in which the data on roads were collected; survey questions asked only about the composition of roads and not about the extent of the road network.

In both treatment and control groups, the proportion of households with access to level 2 and

Table 7. Household Access Conditions (% of households)

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Water (level 2 and 3)	47.7	46.8	44.3	52.9	51.1	49.0	0.6 +++
Safe water	86.2	84.5	88.9	83.5	73.9	82.3	3.9 +++
Water-sealed toilet	54.5	62.7	68.5	61.6	70.7	72.7	2.8 +++
House accessible all-year long	43.6	58.9	56.3	61.9	72.3	67.9	6.7 +++

Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively

---, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively

*Ddiff = double difference (see Annex 2).

Source: Barangay questionnaire.

level 3 water systems went down.²³ On the positive side, however, more households now have access to safe water, compared to 2003. The increase in access to safe water is 3.9 percentage points higher in treatment areas than in control areas. Given the number of water systems supported by the project in our sample areas, the size of the impact appears limited. The same is true for households with water-sealed toilets. There were increases in both groups; however, the increase

is 2.8 percentage points higher in treatment areas compared to those in control areas.

Use of health facilities has significantly increased in the treatment group (Table 8). As a result of the project, the proportion of respondents who reported going to a health facility when sick increased by 6.3 percentage points in the treatment areas, compared with changes that took place in the control group.²⁴ Services provided by health facilities, particularly Barangay Health Stations, seem to have improved. This is indicated by the

23 In the Philippines, a level 2 water system consists of a piped water system with a communal water point (e.g. borewell). A level 3 water system introduces private water points (e.g. house connection).

24 The reference period is for the six months prior to the survey.

Table 8. Health Care Satisfaction Rating (% of households)

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Got sick and visited a health facility	43.5	42.8	47.0	49.8	49.7	47.0	6.3 +++
Type of facility visited							
Government hospital	13.9	14.4	17.3	14.7	11.2	13.4	4.7 +++
Private hospital	8.3	6.8	13.0	6.9	9.9	18.6	-7.0 - - -
Private clinic	22.1	21.9	14.7	19.2	20.6	16.7	-4.9 - - -
Rural Health Units	11.3	8.8	11.6	15.0	7.9	17.3	-2.1 - - -
Barangay Health Stations	42.6	32.4	42.0	43.6	39.8	28.7	14.2 +++
Do you get the needed services?							
Government hospital	43.5	66.3	68.4	57.4	65.6	71.9	10.5 ++
Private hospital	46.3	85.4	90.5	46.4	86.6	84.4	6.3
Private clinic	62.6	90.6	91.2	75.8	90.2	91.6	12.7 +++
Rural Health Units	66.9	61.9	58.7	56.4	63.7	63.8	-15.6 - - -
Barangay Health Stations	32.0	53.8	61.3	39.8	53.0	58.2	10.8 +++
Time to health facility < 15 min.	43.8	42.3	44.8	47.6	51.8	47.2	1.4 +++
Time to health facility 15 - 30 min.	31.3	27.7	27.3	24.3	22.1	29.2	-8.8 - - -
<p>Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively - - -, - -, - sign is negative and significant at the 1%, 5% and 10% level, respectively *Ddiff = double difference (see Annex 2). Source: Barangay questionnaire.</p>							

increase in the number of respondents reporting they were provided with the service they required. The increase is 10 percentage points higher in treatment than in control barangays.

The results regarding school participation rates are mixed. For both control and treatment groups, the enrollment rates in elementary school decreased from 2003 to 2010 (Table 9). The decrease is more pronounced in the treatment group, specifically 1.6 percentage points more compared to the control group. For secondary school, there were increases in both groups, with the increase in the treatment group being 1.3 percentage points higher than the control. For college level enrollment, there was an increase in the treatment group, while a decrease in the control group, with a net positive change in the treatment group of 5.4 percentage points.

4.2.3. Governance and Social Capital

This section focuses on the governance and social capital impacts of the project. We start by using the responses of barangay officials to the barangay questionnaire and then move on to measures of social capital and participation in governance activities from the household survey.

Table 10 compares the number of times (over the previous six months) that authorities in treatment and control municipalities visited sample barangays. In 2010, the municipal/city mayor visited both treatment and control barangays 3.9 times, compared to 3.2 for treatment and 2.5 for control in 2003, reflecting a significantly larger increase in visits to control barangays. For other government officers and staff, the differences between the treatment and control barangays

Table 9. School Participation Rates (% of school-age children)

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
All							
Elementary	93.0	84.3	90.5	88.6	88.1	87.7	-1.6 ---
Secondary	79.0	73.5	84.2	85.0	78.1	88.9	1.3 +++
College	8.2	7.9	10.6	15.4	11.7	12.4	5.4 +++
Male							
Elementary	92.4	83.9	91.1	90.2	90.5	86.7	2.2 +++
Secondary	74.7	68.0	79.1	69.9	72.9	81.7	-7.3 ---
College	5.7	5.6	5.9	13.6	9.3	10.0	3.8 +++
Female							
Elementary	93.7	84.6	90.0	87.0	85.5	88.9	-5.6 ---
Secondary	83.4	79.3	89.8	100.9	83.8	96.7	10.6 +++
College	11.0	10.7	16.4	17.6	14.8	15.4	7.6 +++
Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively ---, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively *Ddiff = double difference (see Annex 2). Source: Household questionnaire.							

varied. In all cases, the number of visits by government officers and key staff increased between 2003 and 2010. The increase is higher in the treatment barangays for the municipal planning officer and the agricultural extension officer. A greater increase was noted in the control group for the agrarian reform officer, doctor/health officer, and midwife.

An underlying assumption of community-driven development (CDD) is that the approach helps to build or strengthen social capital that will improve immediate subproject implementation and contribute to longer-term governance outcomes. As such, indications of increased social capital are commonly sought in evaluating the impact of CDD operations.

The results of the household survey on questions pertaining to issues of trust and solidarity—proxies for social capital—are quite interesting (Table 11). The 12.3 percentage point increase in the proportion of respondents indicating that most people in their barangay can be trusted can be attributed to the project. Impacts on trust in local officials, in national officials, and in strangers were also positive but smaller. The respon-

dent households were also less trusting of other people with regard to money matters; however, in this case the decrease was larger among the treatment group.

With regard to helping other people, the household survey revealed that more households in both treatment and control areas indicated that other people would lend them money if needed. The increase was higher in control areas by 1.1 percentage points. On the other hand, more households in treatment areas perceived that people in their respective barangays were willing to help other people if needed. The net difference was 7.6 percentage points, as compared to the baseline and control areas.

The survey found a decline in the proportion of households reporting their barangay was peaceful. However, the decline was more pronounced in control barangays, indicating that the project had a positive impact on peace and order.

KALAHI-CIDSS aims to directly increase the involvement of targeted communities with local government through increased participation in barangay assemblies. The final survey indicates

Table 10. Number of Visit by Authorities*

Indicator	Treatment			Control			Ddiff** 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Mayor	3.2	4.1	3.9	2.5	2.5	3.9	-0.6 - - -
Planning officer	1.3	1.8	3.2	1.1	1.4	1.9	1.1 +++
Agrarian reform officer	2.8	1.8	2.9	2.6	1.7	3.0	-0.4 - - -
Social worker	4.7	5.1	3.2	2.8	2.4	2.6	-1.3 - - -
Agriculture extension worker	1.8	3.2	4.7	3.3	7.8	5.7	0.5 ++
Doctor/health officer	1.1	1.1	2.1	1.8	1.8	2.5	0.3 -
Midwife	33.5	32.5	20.5	16.0	29.2	12.8	-9.8 - - -

* During the six months prior to the survey; **Ddiff = double difference (see Annex 2).
- - -, - -, - sign is negative and significant at the 1%, 5% and 10% level, respectively

Source: Barangay questionnaire.

Table 11. Trust and Solidarity (% of households)

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Perceived there is peace and order in the barangay	83.2	76.6	74.7	86.3	80.1	75.4	2.3 +++
Perceived crime and violence decreased in the barangay	30.7	25.1	31.8	35.6	27.2	29.9	6.9 +++
Most people in the barangay can be trusted	54.5	54.8	59.0	62.4	62.1	54.5	12.3 +++
Local officials can be trusted	53.0	36.0	38.2	49.5	37.3	33.6	1.1 +++
National officials can be trusted	39.5	27.2	28.6	39.1	26.0	23.8	4.4 +++
Strangers can be trusted	5.7	3.1	2.9	8.8	4.2	2.4	3.6 +++
People can be trusted w/ regard to money	22.5	17.6	19.1	18.4	17.7	18.1	-3.0 - - -
Less likely to be taken advantage of	17.1	21.1	28.7	22.3	23.7	28.6	5.3 +++
Other people will lend money	59.7	62.9	60.8	61.1	65.4	63.2	-1.1 - - -
Willingness to help if needed	76.4	80.1	78.6	77.0	82.6	71.5	7.6 +++

Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively

- - -, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively

*Ddiff = double difference (see Annex 2).

Source: Barangay questionnaire.

Table 12. Participation in Barangay Activities (% of households)

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Participated in collective action	60.7	59.8	55.3	54.4	57.6	51.7	-2.7 - - -
Willingness to contribute to barangay activities:							
time	75.7	78.5	74.6	74.4	77.1	72.5	0.9 +++
money	38.4	51.2	51.3	43.9	50.2	46.5	10.3 +++
Member of organization	31.7	38.0	48.4	31.3	42.1	42.7	5.3 +++
Attended barangay assemblies	62.9	73.9	72.2	62.1	57.2	66.3	5.0 +++
Knows budget of the barangay	11.8	13.0	16.2	13.0	12.1	14.4	3.1 +++
Joined in barangay dev't. planning	30.3	36.3	28.1	26.0	20.9	28.4	-4.5 - - -
Confidence to participate	39.7	35.4	41.6	36.5	30.4	40.3	-1.9 - - -

Notes: +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively

- - -, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively

*Ddiff = double difference (see Annex 2).

Source: Barangay questionnaire.

that the proportion of households in the treatment group who attend barangay assemblies is 5 percentage points higher than it would have been in the absence of the project (Table 12). The proportion of households who were aware of the income and expenditure details of their barangay LGU has also increased. Specifically, a 3 percentage point increase in awareness can be attributed to the project.

We also observed significant increases in organizational membership—a typical measure of social capital—with a 5.3 percentage point difference between treatment and control areas.

However, some unexpected trends were observed regarding the participation of households in barangay planning activities. The proportion decreased from 30 percent in the baseline to 28 percent in the final survey. On the other hand, for the control group, we observed an increase from 26 percent in the baseline to 28.4 percent in the final survey.

In addition, we noted a lower proportion of treatment and control group households participating in collective action activities. The decrease is 2.7 percentage points greater in the treatment group compared to the control group, and more marked in barangays that implemented subprojects. This seems to be counter-intuitive and contrary to what CDD hopes to achieve. However, a potential explanation is that the project increased returns to economic activity, which is consistent with results on labor force participation and production practices discussed above, and thus the opportunity cost of contributing time to community subprojects has increased. This is also consistent with the study's finding of a sizable increase in the proportion of households that were willing to contribute money for a community subproject (about 10 percentage points, or 26 percent of baseline levels). Households might be moving away from time contributions for collective action activities, and toward monetary contributions for the same purpose.

4.3 Results from regression analysis

We now test whether results discussed in section 4.2 are robust to alternative methodologies. Regression analysis is used to clarify the attribution of the changes observed as being due to project interventions or to other control variables.

The basic regression models estimated are the following:

$$(1) Y_{ipt} = a + b_1 * \text{midterm}_{ipt} + b_2 * \text{post}_{ipt} + c * \text{KC}_{ipt} + d_1 * \text{midterm}_{ipt} * \text{KC}_{ipt} + d_2 * \text{post}_{ipt} * \text{KC}_{ipt} + I_1 * \text{Albay}_{ipt} + I_2 * \text{Capiz}_{ipt} + I_3 * \text{Zambo_sur}_{ipt}$$

$$(2) Y_{ipt} = a + b_1 * \text{midterm}_{ipt} + b_2 * \text{post}_{ipt} + c * \text{SPI}_{ipt} + d_1 * \text{midterm}_{ipt} * \text{SPI}_{ipt} + d_2 * \text{post}_{ipt} * \text{SPI}_{ipt} + I_1 * \text{Albay}_{ipt} + I_2 * \text{Capiz}_{ipt} + I_3 * \text{Zambo_sur}_{ipt}$$

where

Y_{ipt}	is the observation on variable Y on the individual i residing p in barangay p at time t,
midterm_{ipt}	takes on the value 1 if the observation is taken during the midterm survey, 0 otherwise
post_{ipt}	takes on the value 1 if the observation is taken during the final survey, 0 otherwise
KC_{ipt}	takes on the value 1 if p is in a KALAH-CIDSS beneficiary municipality, 0 otherwise
SPI_{ipt}	is 1 plus the cumulative number of subprojects implemented in barangay p as of time t. Barangays in KALAH-CIDSS municipalities that have not implemented subprojects at time t will have SPI_{ipt} equal to 1; those in non-KALAH-CIDSS municipalities will have SPI_{ipt} equal to 0

$Albay_{ipt}$	takes on the value 1 if p is in Albay, 0 otherwise
$Capiz_{ipt}$	takes on the value 1 if p is in Capiz, 0 otherwise
$Zambo_sur_{ipt}$	takes on the value 1 if p is in Zamboanga del Sur, 0 otherwise.

The variable SPI is introduced to further differentiate among KALAH-CIDSS beneficiary barangays. The innovative strategy of KALAH-CIDSS has resulted in marked differences in project intervention among the beneficiary barangays. A barangay with more subprojects implemented has more project inputs, both in terms of the hard infrastructure and soft capability-building components. Outcomes could vary according to the amount of project inputs, not just by whether or not the barangay is a KALAH-CIDSS beneficiary. As discussed earlier, results on the impacts of receiving a subproject are more tentative than results on the impacts of residing in a KALAH-CIDSS municipality. As a result, estimates from model 1 are more credible than estimates from model 2.

The dummy variables $Albay$, $Capiz$, and $Zambo_sur$ are included to capture fixed effects that are due to province location. Examples of these are geoclimatic variables, provincial LGUs, or even regional economic performance.

The parameter of interest is in d_2 . It represents the improvement in Y at final over the baseline that could be attributed to project effects, holding constant the effect of the other factors including province effects. Put differently, the parameter captures long-term project impacts. The coefficient c captures the differences between the treatment and the control group at baseline and the coefficient d_1 captures short-term project impacts.

We do not include additional controls for time-varying household characteristics, as they might be affected by project implementation. As a

result, their inclusion might lead to biased estimates of project impacts.

The following discussion applies these regression models to key outcome indicators. In each table, “Midterm*KALAH-CIDSS” captures the project impact measured during the midterm survey and “Final*KALAH-CIDSS” captures the long-term project impacts (i.e., measured in 2010). Given the timing of subproject investment in the treatment barangays, the analysis focuses on the long-term impacts. For ease of presentation, the parameters of interest are highlighted in **bold** in the tables.

4.3.1. Key Welfare Impacts

KALAH-CIDSS aims to empower the household by building the social capital of the community and in the process, improving governance. As indicated above, impacts might be different on poor and non-poor households. Hence, project impact on socioeconomic status (as measured by real per capita expenditure) is analyzed separately for the poor and the non-poor.

Table 13 shows that project impact on the socioeconomic status of the poor is positive and significant. Other things remaining the same, the increase in per capita expenditure is about 6 percent higher in treatment than in control municipalities. Those in barangays with more subprojects enjoy even higher increases. Compared with a poor household in the control group, a poor household increases its per capita expenditure by 7.5 percent with each subproject implemented.

The above results regarding the project impact on socioeconomic status is supported by the observed effect on the share of nonfood items in the budget (Table 14). This variable serves as a proxy for household welfare. If a higher proportion of the budget goes to non-food items, this suggests that the household is enjoying higher living standards.

Once we account for the number of subprojects

Table 13. Per Capita Expenditure				
Indicator	Model 1		Model 1	
	Coefficient	Std. Error	Coefficient	Std. Error
<u>Poor households</u>				
KALAH-CIDSS recipient (dummy)	-0.0969	0.0246 ***		
# of subprojects implemented			-0.0973	0.0246 ***
Interaction w/ time				
Midterm*KALAH-CIDSS	0.0077	0.0345		
Final*KALAH-CIDSS	0.0568	0.0415 *		
Midterm*# of subprojects			0.0407	0.0231 **
Final*# of subprojects			0.0746	0.0301 ***
Intercept	9.1745	0.0259 ***	9.1743	0.0260 ***
<u>Non-Poor households</u>				
KALAH-CIDSS recipient (dummy)	-0.0783	0.0366 **		
# of subprojects implemented			-0.0782	0.0366 **
Interaction w/ time				
Midterm*KALAH-CIDSS	-0.0232	0.0465		
Final*KALAH-CIDSS	-0.0269	0.0505		
Midterm*# of subprojects			0.0155	0.0354
Final*# of subprojects			0.0360	0.0338
Intercept	10.0697	0.0549 ***	10.0710	0.0551 ***
***, **, * significant at the 1%, 5% and 10% level respectively. Time and location effects were included in the model, though results are not shown. Source: Household questionnaire.				

that were implemented in a barangay, we find a positive project effect. The estimates indicate that each additional subproject increased the non-food share of household consumption by 2.6 percentage points.

The table also shows that the project did not, however, significantly affect changes in the proportion of the self-rated poor in the treatment municipalities as compared with control areas. This is consistent with the framework illustrated in Figure 2 which shows the longer transmission from project intervention to perception of

well-being. Perhaps what is needed is for the increase in income to be sustained for a longer period of time.

4.3.2. Access to Basic Services

Household accessibility has improved significantly in the beneficiary barangays. The results are summarized in Table 15. As a result of the project, on average, households are 6 percentage points more likely to be accessible year round. Similarly, there is a 4 percentage point increase in the proportion of households with access to

Table 14. Other Welfare Measures

Indicator	Model 1		Model 1	
	Coefficient	Std. Error	Coefficient	Std. Error
<u>Share of nonfood</u>				
KALAH-CIDSS recipient (dummy)	-4.0509	1.0255 ***		
# of subprojects implemented			-4.0569	1.0254 ***
Interaction w/ time				
Midterm*KALAH-CIDSS	2.0739	1.1270 **		
Final*KALAH-CIDSS	1.3847	1.1076		
Midterm*# of subprojects			2.8414	1.0114 ***
Final*# of subprojects			2.6244	1.0062 ***
Intercept	36.5316	1.3072 ***	36.5513	1.3112 ***
<u>Self-rated poor</u>				
KALAH-CIDSS recipient (dummy)	-0.0361	0.0246		
# of subprojects implemented			-0.0361	0.0246 *
Interaction w/ time				
Midterm*KALAH-CIDSS	-0.0384	0.0292 *		
Final*KALAH-CIDSS	-0.0183	0.0299		
Midterm*# of subprojects			-0.0054	0.0254
Final*# of subprojects			0.0129	0.0250
Intercept	0.3566	0.0264 ***	0.3574	0.0264 ***
***, **, * significant at the 1%, 5% and 10% level respectively. Time and location effects were included in the model, though results are not shown. Source: Household questionnaire.				

safe drinking water in the treatment areas, compared with households in control barangays. Both estimated impacts are statistically significant. In contrast, access to level 2 and level 3 water supplies has not changed significantly in the treatment barangays compared to the control barangays.

As expected, improvements in year-long accessibility in treatment barangays seem to be driven by subproject investments (Table 15). Year-long access increased by 11 percentage points for each subproject implemented in the barangay.

4.3.3. Governance and Social Capital

The improvement in trust among community members is positive and significant in the treated barangays (Table 16). When the barangays are further differentiated by the number of subprojects implemented, improvement in intra-barangay trust remains significant (as compared with control barangays).

The project did not result in any significant change in the trust individuals have in local government officials. In contrast, we observe a

Table 15. Access to Amenities				
Indicator	Model 1		Model 1	
	Coefficient	Std. Error	Coefficient	Std. Error
<u>House accessible all year long</u>				
KALAH-CIDSS recipient (dummy)	-0.1426	0.0336 ***		
# of subprojects implemented			-0.1425	0.0336 ***
Interaction w/ time				
Midterm*KALAH-CIDSS	0.0448	0.0361		
Final*KALAH-CIDSS	0.0595	0.0360 *		
Midterm*# of subprojects			0.0960	0.0321 ***
Final*# of subprojects			0.1091	0.0307 ***
Intercept	0.6479	0.0287 ***	0.6495	0.0289 ***
<u>Water system (levels 2 and 3)</u>				
KALAH-CIDSS recipient (dummy)	-0.0320	0.0399		
# of subprojects implemented			-0.0316	0.0399
Interaction w/ time				
Midterm*KALAH-CIDSS	0.0103	0.0422		
Final*KALAH-CIDSS	0.0040	0.0403		
Midterm*# of subprojects			0.0278	0.0381
Final*# of subprojects			0.0366	0.0357
Intercept	0.5127	0.0351 ***	0.5141	0.0353 ***
<u>Safe water</u>				
KALAH-CIDSS recipient (dummy)	0.0214	0.0232		
# of subprojects implemented			0.0215	0.0231
Interaction w/ time				
Midterm*KALAH-CIDSS	0.0801	0.0292 ***		
Final*KALAH-CIDSS	0.0392	0.0230 **		
Midterm*# of subprojects			0.0289	0.0302
Final*# of subprojects			0.0139	0.0214
Intercept	0.9030	0.0170 ***	0.9022	0.0171 ***
***, **, * significant at the 1%, 5% and 10% level respectively. Time and location effects were included in the model, though results are not shown. Source: Household questionnaire.				

marked improvement in trust toward national officials. This improvement is significantly higher in treatment barangays than in control barangays. This may be because KALAH-CIDSS is

known as a project of the national government.

The project succeeded in increasing attendance in barangay assemblies at the midterm. The in-

Table 16. Social Capital: Trust

Indicator	Model 1		Model 1	
	Coefficient	Std. Error	Coefficient	Std. Error
<u>People in the barangay can be trusted</u>				
KALAH-CIDSS recipient (dummy)	-0.2858	0.1023 ***		
# of subprojects implemented			-0.2849	0.1024 ***
Interaction w/ time				
Midterm*KALAH-CIDSS	0.0770	0.1293		
Final*KALAH-CIDSS	0.3881	0.1383 ***		
Midterm*# of subprojects			0.2014	0.1127 **
Final*# of subprojects			0.3536	0.1114 ***
<u>Trust local government officials</u>				
KALAH-CIDSS recipient (dummy)	0.1146	0.1005		
# of subprojects implemented			0.1149	0.1004
Interaction w/ time				
Midterm*KALAH-CIDSS				
Final*KALAH-CIDSS	0.1118	0.1448		
Midterm*# of subprojects			-0.0750	0.1154
Final*# of subprojects			-0.0181	0.1105
<u>Trust national government officials</u>				
KALAH-CIDSS recipient (dummy)	0.0760	0.1118		
# of subprojects implemented			0.0761	0.1116
Interaction w/ time				
Midterm*KALAH-CIDSS	-0.0654	0.1298		
Final*KALAH-CIDSS	0.2808	0.1540**		
Midterm*# of subprojects			-0.0412	0.1185
Final*# of subprojects			0.0809	0.1282
***, **, * significant at the 1%, 5% and 10% level respectively. Time and location effects were included in the model, though results are not shown. Source: Household questionnaire.				

crease is significantly different between those in treatment and control barangays. However, attendance was shown to have decreased by the final survey. When compared against baseline levels, the change observed in treatment barangays is no longer significantly different than the change observed in the control barangays (Table 17).

Participation in collective action activities has decreased significantly in barangays that implemented one or more subprojects. This was observed during the midterm and final surveys. As indicated previously, a potential explanation for this unexpected result is that, as a result of the project, the opportunity cost of contributing time to collective action activities has gone up.

Table 17. Participation in Governance

Indicator	Model 1		Model 1	
	Coefficient	Std. Error	Coefficient	Std. Error
<u>Participation in collective action activities</u>				
KALAH-CIDSS recipient (dummy)	0.0780	0.0276 ***		
# of subprojects implemented			0.0782	0.0276 ***
Interaction w/ time				
Midterm*KALAH-CIDSS	-0.0402	0.0377		
Final*KALAH-CIDSS	-0.0273	0.0302		
Midterm*# of subprojects			-0.0478	0.0296 *
Final*# of subprojects			-0.0544	0.0263 **
<u>Attendance in barangay assemblies</u>				
KALAH-CIDSS recipient (dummy)	0.0164	0.0315		
# of subprojects implemented			0.0167	0.0316
Interaction w/ time				
Midterm*KALAH-CIDSS recipient	0.1589	0.0353 ***		
Final*KALAH-CIDSS recipient	0.0504	0.0413		
Midterm*# of subprojects			0.0838	0.0309 ***
Final*# of subprojects			0.0187	0.0328
***, **, * significant at the 1%, 5% and 10% level respectively. Time and location effects were included in the model, though results are not shown. Source: Household questionnaire.				

5. Conclusions and Recommendations

The results of the KALAH-CIDSS' impact evaluation indicate that the project led to improvements in household welfare, accessibility, and social capital. It has, however, shown mixed results with regard to participation in governance.

The project led to a 5 percent increase in per capita expenditures. Those in barangays with more subprojects enjoy even higher increases. The same is true for the share of non-food items in the household budget. This has increased in both groups between the baseline and final surveys, with the increase among beneficiary households being significantly higher than the increase among non-beneficiary households. Households in beneficiary barangays with more subprojects are observed to have experienced even higher increases in the nonfood share of household budgets. However, while expenditures have increased, the increase alone attributed to KALAH-CIDSS is not sufficient to reduce poverty significantly.

In addition, the project led to an increase in the proportion of those engaged in agriculture activities (farming, livestock, and fishing) that market their produce, implying that production levels have increased beyond subsistence. Moreover, households have probably become less vulnerable due to an observed increase in the diversification of income sources among beneficiary barangay households.

Household accessibility has also improved

significantly. As a result of the project, on average, there are more households in the treatment barangays with year-long accessibility and access to safe water than in the control barangays. As can be expected, year-long accessibility has improved even more in beneficiary barangays that received subproject financing.

The survey yields mixed results in the level of institutional trust and participation in governance. Organizational membership has increased significantly among households in treatment barangays compared to those in control barangays. Participation in barangay assemblies was also strongly positive in treatment versus control barangays during the midterm review, but was shown to have declined by the time of the current, end-of-project, evaluation. Trust in national government officials has improved significantly. However, little change or difference in the levels of trust was recorded for local government officials. This may be explained by the fact that KALAH-CIDSS is known to be a national government project.

The project had a negative impact on the extent of participation in collective action activities. However, it also had a positive impact on the willingness of households to contribute money for activities that would benefit the community. This suggests that households might be choosing to substitute contributions of time with those of money.

The study yielded a number of useful insights,

as DSWD is currently expanding coverage with the ultimate goal of a nationwide program.

First, consistent with the diverse nature of investments supported by the project, impacts tend to be very diffuse. Impacts are recorded along a broad range of indicators, but they tend to be relatively small. This is to be expected as, for example, a farm-to-market road will not yield similar impacts as a school building, but it needs to be carefully accounted for when designing such evaluations.

Second, impacts on per capita expenditures recorded during the final survey were higher

than those observed after the midterm survey. Further, impacts tended to increase with the number of subprojects received by the communities.

The above observations, combined with the relatively small size of per capita allocation (about PHP 300/cycle), suggest that long-term impacts on poverty reduction will require sustained efforts and both social and physical investment. DSWD could explore increasing either the number of subproject cycles and/or the municipal allocations. Alternatively, DSWD could introduce different poverty criteria for barangays to be eligible to participate in the MIBF.

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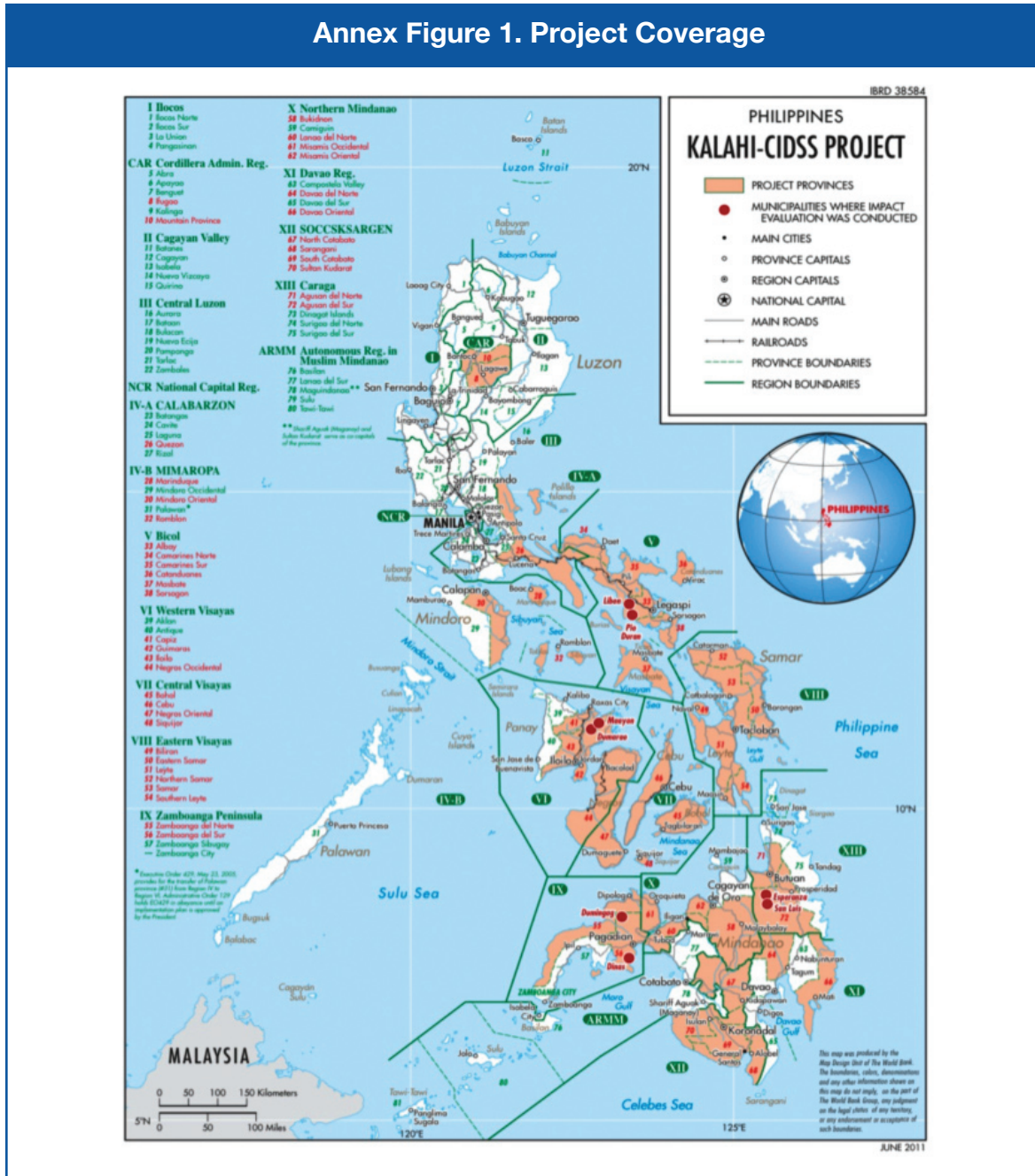
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Annexes

Annex 1.

Project Coverage Map

Annex Figure 1. Project Coverage



Annex 2.

Analytical Methodology

Project impacts are analyzed using two related methods.

T-Test

The first simply computes for the double difference. If Y_{ivt} is the variable of interest observed in village v at time t . The village is either in the control (C) or beneficiary (B) group and time is either in year 2003 ($t=0$) or in year 2010 ($t=1$). We then the following data:

Y_{iB0} is the observation from the beneficiary communities in 2003,

Y_{iC0} is the observation from the control communities in 2003,

Y_{iB1} is the observation from the beneficiary communities in 2010,

Y_{iC1} is the observation from the control communities in 2010,

The double difference in Y is given by:

$$(Y_{B1} - Y_{B0}) - (Y_{C1} - Y_{C0})$$

The t-test can be applied to the double-differences to determine if the differences observed are significant.

Regression Analysis

It is also possible to carry out a difference-in-differences evaluation through regressions analysis. Consider the following equation²⁵ for observation i :

$$(1) Y_{ipt} = a + b * Bene_{ip} + c * time_{it} + d * Bene_{ip} * time_{it} + e * X_{ipt}$$

Where

$Bene_{ip}$ is 1 if the observation is taken from a beneficiary municipality and 0 otherwise,

25 Omitting the error term

$time_{it}$ is 1 if the observation is taken at time 1 and 2 otherwise.

Equation (1) implies that the variable Y is affected by the project intervention (), passage of time, and by another variable X .

If the observation is taken from a beneficiary municipality at time 0, then we have

$$(2) Y_{iB0} = a + b + e * X_{iB0} ,$$

and if the observation is taken from a beneficiary municipality at time 1, then we have

$$(3) Y_{iB1} = a + b + c + d + e * X_{iB1} ,$$

Concerning an observation from a nonbeneficiary municipality at time 0 we have

$$(4) Y_{iC0} = a + e * X_{iC0} ,$$

and an observation from a nonbeneficiary municipality at time 1 is given by

$$(5) Y_{iC1} = a + c + e * X_{iC1} ,$$

The double difference is given by:

$$(Y_{iB1} - Y_{iB0}) - (Y_{iC1} - Y_{iC0}) = d + e[(X_{iB1} - X_{iB0}) - (X_{iC1} - X_{iC0})]$$

The project impact is given by d but the double difference we observe involves the impact of the changes in X . Of course, if either e is zero or there are no changes in X , then the observed double difference could be attributed to the project. The more general case is that one or both do not hold. Regression analysis enables us to distinguish the project impact (d) from the impact of the other variables $X(e)$.

This method is applied to a selected set of variables. The list was finalized after consultation with DSWD and the World Bank.

The analyses were carried out using the survey package of R ²⁶ to take account of the complex survey design of the impact evaluation²⁷.

26 The R system for statistical computing software is supported by an international collaboration of computer scientists and statisticians. R provides a wide variety of statistical (linear and nonlinear modeling, classical statistical tests, time-series analysis, classification, clustering) and graphical techniques, and is highly extensible. The S language is often the vehicle of choice for research in statistical methodology, and R provides an “open source” route to participation in that activity. The survey analysis package of R is written by Thomas Lumley of the University of Washington.

27 See APPC (2003) for a full discussion of the sampling design of the impact evaluation.

Testing the Parallel Trend Hypothesis

The key identifying assumption in the impact evaluation is that, without the program, the two groups of municipalities (treatment and comparison) would have evolved similarly. While it is impossible to test this hypothesis directly, it is possible to test if prior to the project the two groups evolved similarly, the so-called parallel trend hypothesis. Rejection of the parallel trend hypothesis would cast doubts on the validity of our estimation strategy.

We use data from the Family Income and Expenditure Survey (FIES). The FIES is a large-scale nationally representative survey carried out every three years by the National Statistics Office (NSO). We have access to the 2000 and 2003 data. Out of the 16 municipalities included in the KALAHICIDSS impact evaluation sample, 13 were included in both the 2000 and in the 2003 FIES samples. This leaves a repeated cross-section of households in 13 of our sample municipalities. As a result, we are able to test whether the changes between 2000 and 2003 in the treatment and control group were similar.

For each outcome indicator (per capita food consumption, per capita nonfood consumption, log per capita food consumption, and log per capita nonfood consumption), we run four different regressions: with and without municipal dummies, and with and without household controls. We can't reject the parallel trend hypothesis (Annex Table 1). This provides convincing evidence that control and treatment municipalities would have evolved similarly over the period covered by our data had the project not been implemented.

Annex Table 1. Parallel Trend Hypothesis: Consumption

Panel A: Per capita food consumption

Placebo	-1.268	-0.634	-0.643	-0.177
	(1.052)	(1.079)	(0.835)	(1.079)
Observations		724	724	724
HH controls	No	No	Yes	Yes
Mun. Dummies	No	Yes	No	Yes
R-squared		0.15	0.38	0.47

Panel B: Log per capita food consumption

Placebo	-0.127	-0.043	-0.060	0.004
	(0.130)	(0.133)	(0.107)	(0.126)
Observations	724	724	724	724
Mun. Dummies	No	Yes	No	Yes
HH controls	No	No	Yes	Yes
R-squared	0.01	0.15	0.48	0.56

Panel C: Per capita non-food consumption

Placebo	2.464	4.202	5.969	5.744
	(5.633)	(5.478)	(7.232)	(6.971)
Observations	724	724	724	724
HH controls	No	No	Yes	Yes
Mun. Dummies	No	Yes	No	Yes
R-squared	0.00	0.02	0.07	0.09

Panel D: Log per capita non-food consumption

Placebo	-0.188	0.116	-0.052	0.121
	(0.199)	(0.303)	(0.156)	(0.287)
Observations	724	724	724	724
HH controls	No	No	Yes	Yes
Mun. Dummies	No	Yes	No	Yes
R-squared	0.02	0.12	0.46	0.50

Notes: Results from OLS regressions using 2000 and 2003 FIES data. The dependent variable is the per capita food consumption (PHP 1,000) in Panel A, the log per capita food consumption in Panel B, the per capita non-food consumption (PHP 1,000) in Panel C and, the log per capita non-food consumption in Panel D. The standard errors (in parentheses) are Huber-corrected and account for intra-municipality correlation. All regressions include time-specific dummies. * denotes significance at the 10%, ** at the 5% and, *** at the 1% level.

Annex 3.

Survey Operations

The table below lists the survey municipalities, whether each is treatment (T) or control (C) and the number of sample barangays in the sampled municipality.

Annex Table 2. Survey Areas				
Island group	Province	Municipality		# of barangays
Luzon	Albay	Pio Duran	T	9
		Oas	C	12
		Libon	T	12
		Polangui	C	12
Visayas	Capiz	Ma-ayon	T	6
		Pontavedra	C	6
		Dumarao	T	9
		President Roxas	C	9
Mindanao	Zamboanga del Sur	Dinas	T	6
		Tambulig	C	6
		Dumingag	T	6
		Dimataling	C	6
	Agusan del Sur	Esperanza	T	12
		Bayugan	C	12
		San Luis	T	6
		Veruela	C	6
Note: T – treatment, C – control				

Tracking Household Respondents

A tracking protocol was developed during the Midterm Survey and was also implemented during the Final Survey. Corresponding tracking forms were developed for this. The interviewers were instructed to track down original respondents to the best of their abilities using the following procedure which was again used in the final survey.

Case 1: Original sample household and original household member respondent are tracked.

- Interview the original household member respondent and collect data on her/his household. The interviewer asks the respondent first about the members of the original household s/he is still living with and then about the new members of her/his household, if any.

Case 2: Original sample household tracked but original household member respondent no longer lives in the household (either moved out or died).

- Fill up the individual tracking form for the original household member respondent.
- Interview another member of the original sample household who knows about the household's economic activities.
- In addition, if the original household member respondent moved to a barangay that is included in our sample, s/he should be tracked down and interviewed again. He/she will be asked the perception questions.

Case 3: Original sample household member respondent tracked but with a different household composition.

- Interview the original household member respondent and collect data on her/his "new" household. The interviewer asks the respondent first about the members of the original household s/he is still living with and then about the new members of her/his household, if any.

Case 4: Original sample household and original household member respondent moved within the municipality and in one of our sample barangays.

- Fill up the household tracking form. Ask the neighbors where the household moved.
- Locate the original sample household for interview.

Case 5: Original sample household and original household member respondent moved to another place.

- Fill up the household tracking form. Ask the neighbors where the household moved.

A field edit protocol was also included in the Operations Manual. Monitoring visits were conducted by APPC to ensure the quality of the survey.

Attrition

It was emphasized to the interviewers that the respondent households are those interviewed during the midterm. But even though maximum effort was exerted, attrition in a panel survey is inevitable. The following table shows the attrition rate in each province.

Annex Table 3 Attrition Rates by Province					
Province	Total Sample			Attrition Rate (%)	
	Baseline	Midterm	Final	Midterm to Final	Overall
Albay	600	560	511	8.8	14.8
Capiz	600	549	496	9.5	17.2
Zamboanga del Sur	600	498	438	12.0	27.0
Agusan del Sur	601	510	439	13.9	27.0
Total	2,401	2,117	1,884	10.9	21.5

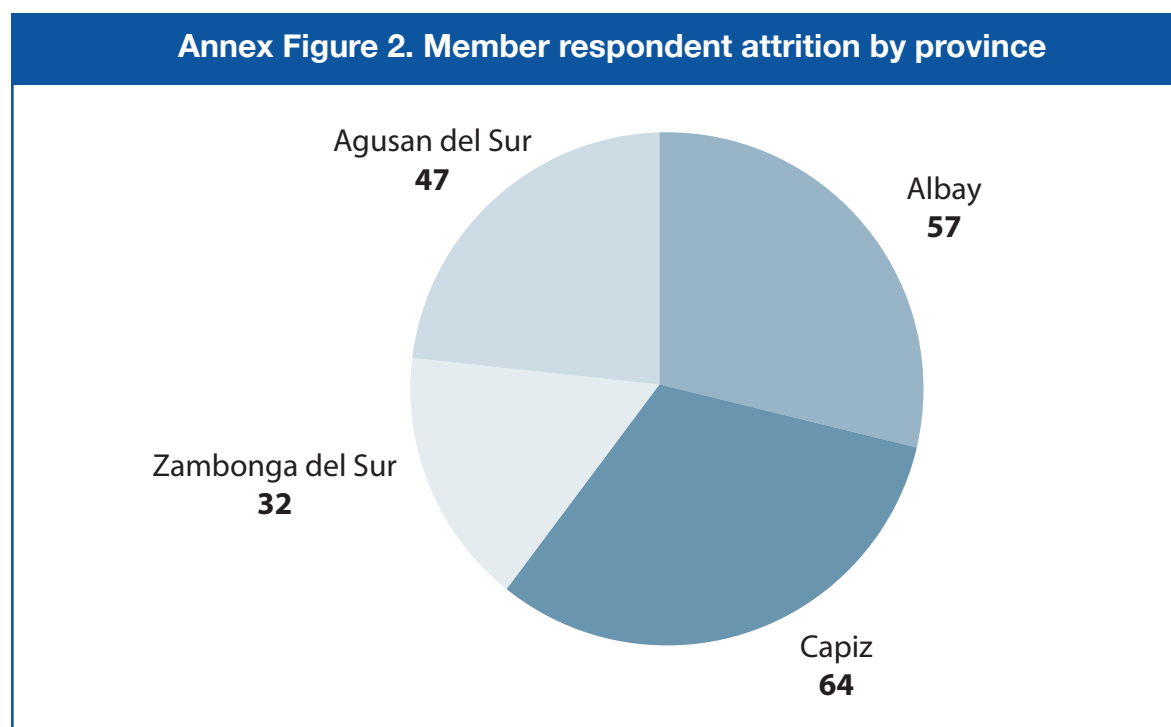
Total attrition from the number of respondents at this final round of survey is 10.9%, counting from the midterm total sample of 2,117 households. Agusan del Sur fained the highest with 13.1%. Albay and Capiz fained single digit attritions with the former holding the lowest at 8.8%. The overall attrition from the original sample of 2,401 reached 21.4%. This is not far from the projected attrition of 20%²⁸.

28 Note that the total sample at baseline is inclusive of 20% oversample to account for attrition.

Annex Table 4. Reasons for Attrition								
Reasons for failure to track midterm household respondent	Albay		Capiz		Zamboanga del Sur		Agusan del Sur	
	Count	%	Count	%	Count	%	Count	%
Migration to								
other non-sample barangay	4	8.2	12	23.1	4	6.7	15	21.1
other non-sample municipality	9	18.4	9	17.3	20	33.3	22	31.0
other province	21	42.9	21	40.4	30	50.0	20	28.2
other country	-	-	1	1.9	-	-	-	-
Deceased	3	6.1	1	1.9	2	3.3	2	2.8
With serious illness	2	4.1	2	3.9	-	-	-	-
Refusal to be interviewed	5	10.2	3	5.8	-	-	2	2.8
Not enough info to track	5	10.2	3	5.8	4	6.7	8	11.3
Indefinite Return	-	-	-	-	-	-	2	2.8
Total Cases	49	100	52	100	60	100	71	100
% of Total Midterm Respondents		8.8		9.5		12.0		13.1

Migration is the leading reason for attrition across all areas. In Albay, Capiz and Zamboanga del Sur, migration to another province accounts for at least 40% attrition. Overall migration, either to another non-sample barangay, or non-sample municipality, or other province, and even another country account for as high as 87% attrition in Zamboanga to at least 70% in Albay. This can be attributed to the deterioration of peace and order along with poor access to sources of livelihood and basic services. Other reasons include illness, death, outright refusals and untracked households.

Equally important as locating the original respondent household is getting the same member respondent for the last round. Many of the social capital questions are perception based and thus it is ideal that the same member respondent during the previous rounds should be the same respondent in this final survey. However, of the 1,887 households tracked, 200 are replacement member respondents. The following pie chart shows the distribution across provinces.



Capiz had the most replacements with 13% of the total respondents. On the other end of the spectrum is Zamboanga with only 7% replacement member respondents. Primary reason for attrition is absence during the conduct of the survey. Other top reasons include death, temporary migration due to job search and illness.

Weight Adjustments

The weights have been recomputed with consideration for attrition. As before, there are two kinds of weights, the first concerns household variables and the second concerns member-specific variables. The weights are synthetic estimates of the sampling fraction corresponding to the sampling domain. Household weights are computed using the following formula:

$$w_{pms} = N_{pms} / n_{pms}$$

where $w_{pms h}$ is the weight given to each sample household h in province p , municipality m , and barangay stratum S ; $N_{pms h}$ is the total number of households; and n_{pms} is the number in the sample of households in province p , municipality m and barangay stratum s . Barangay stratum is determined after all barangays in municipality m are sorted in order of proximity to the poblacion (municipal center) and grouped into three equal groups.

Member weights are computed using the following formula:

$$w_{pmsai} = N_{pmsa} / n_{pmsa}$$

where w_{pmsai} is the weight given to each sample member i belonging to age-group in province p , municipality m and barangay stratum s ; N_{pmsa} is the total number of individuals of age group a , and n_{pmsa} is the number in the sample of individuals of age group a in province p , municipality m , and barangay stratum s . The age groups are the following: 0 to 6 years, 7 to 12 years, 13 to 16 years, 17 to 22 years, 23 years and above.

The N is computed using the 2000 population and forecasted to 2003 using the growth rate observed in the barangay stratum s in municipality m between 1995 and 2000. Meanwhile, the N corresponding to age group a is computed by simply assuming natural “growth” of the age cohort; that is, children below 1 will become 3 years old three years hence, and so on. This is adjusted for the “attrition rate” by age group observed between 1995 and 2000.

Annex 4.

Additional Results

Annex Table 5. Welfare Outcome Indicators

Indicator	Treatment			Control			<i>Ddiff*</i> 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Households with (%)							
Strong roof	38.3	41.8	45.7	46.5	52.9	54.8	-0.8 ---
Strong/predominantly strong roof	47.1	54.0	57.4	55.6	64.0	65.0	0.8 +++
Strong walls	16.3	18.7	16.7	23.1	27.8	20.4	3.1 +++
Strong/predominantly strong walls	36.6	44.6	38.8	44.3	50.3	44.0	2.6 +++
Tenure status of house and lot	95.1	98.8	99.0	95.3	98.0	98.1	1.2 +++
Floor area of house > 10 sq. m.	79.3	81.6	85.6	65.6	82.1	87.4	-15.5 ---
More than one room in the house > 1	86.4	89.9	86.6	75.1	90.3	87.1	-11.8 ---
Access to electricity	41.6	54.1	65.8	51.1	66.1	73.6	1.6 +++
Quality of human capital (members of school age)*	58.0	57.8	57.2	65.3	63.4	62.4	2.1 +++

* years of schooling over potential years of schooling; +++, ++, + sign is positive and significant at the 1%, 5% and 10% level respectively; ---, --, - sign is negative and significant at the 1%, 5% and 10% level, respectively

Source: Household questionnaire

Annex Table 6. Additional Results - Profile of Employment

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Potential labor force							
All	51.7	52.4	51.2	51.8	52.4	52.6	-1.3 ---
Male	53.1	53.3	52.1	52.2	52.6	52.9	-1.7 ---
Female	50.3	51.4	50.2	51.5	52.3	52.3	-0.9 ---
<p>+++ , ++ , + sign is positive and significant at the 1%, 5% and 10% level respectively --- , -- , - sign is negative and significant at the 1%, 5% and 10% level, respectively</p> <p>Source: Household questionnaire</p>							

Annex Table 7. Additional Results - Barangay Access Conditions

Indicator	Treatment			Control			Ddiff* 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
% of barangays that are less than 15 minutes away from nearest facility							
Market	90.9	81.8	81.8	73.9	75.4	79.7	-14.9 ---
postharvest facility	84.8	93.9	87.9	91.3	95.7	95.7	-1.3
elementary school	98.5	98.5	100.0	98.6	95.7	98.6	1.5 +++
secondary school	95.5	83.3	90.9	87.0	88.4	92.8	-10.3 ---
Barangay Health Service	97.0	95.5	97.0	91.3	91.3	94.2	-2.9 ---
Hospital	63.6	63.6	51.5	62.3	52.2	62.3	-12.1 ---
+++ , ++ , + sign is positive and significant at the 1%, 5% and 10% level respectively --- , -- , - sign is negative and significant at the 1%, 5% and 10% level, respectively							
Source: Barangay questionnaire							

Annex Table 8. Additional Results - Participation in Barangay Activities

Indicator	Treatment			Control			<i>Ddiff*</i> 2003 vs 2010
	'03	'06	'10	'03	'06	'10	
Time - collective action (hours - male)	9.4	5.3	4.1	3.3	4.9	3.8	-5.8 ---
Time - collective action (hours - female)	2.8	1.7	2.2	1.0	2.0	1.9	-1.4 ---
Time - collective action (hours)	12.1	7.0	6.2	4.3	6.9	5.7	-7.2 ---
Participation of ethnic minorities in:							
Organization	6.1	7.5	10.0	3.7	5.7	6.0	1.6 +++
Barangay assemblies	10.3	11.8	12.7	6.1	6.6	8.2	0.3 +++
Barangay dev't. planning	74.5	69.5	76.7	75.9	81.1	75.0	3.2 +++
Collective action activities	10.3	12.4	11.3	6.8	7.3	7.7	0.1 +
+++ , ++ , + sign is positive and significant at the 1%, 5% and 10% level respectively --- , -- , - sign is negative and significant at the 1%, 5% and 10% level, respectively Source: Household questionnaire							

Annex 5.

List of Analysis Indicators

<u>ID Variables</u>		Year
		Province
		Municipality
		<i>Barangay</i>
<u>Member specific variables</u>		
	DEMOGRAPHICS	Relationship to the household head
		Sex
		Age
		Marital status
	HEALTH	Type of facility visited
		Highest educational attainment
	SCHOOLING	Current level attending
		Type of school attending
		Means of transportation to school
		Reason for not attending school
		Occupation
	EMPLOYMENT	Kind of business/industry engaged in
		Class of worker
	ORGANIZATION MEMBERSHIP	Type of organization
		Meeting attendance
<u>Household specific variables</u>		
	ACCESS TO FACILITIES	
	Health	Health facility frequently visited
		Distance to health facility (proxied by time)

		Satisfaction rating
	Water	Type of main water source
		Distance to water source (in not in the house)
		Is water safe
		Distance to source of drinking water
	Sanitation	Type of toilet
	Road	Accessibility of house all year long
		Frequency of travel to the poblacion
		Fare cost from house to the poblacion
	Communication	Distance to working final office
		Distance to working telephone
		Type of telephone accessed
	Electricity	Access to electricity
	Housing characteristics	Type of housing unit
		Roof material
		Walls material
Ownership of durables/non-durables		Appliances
		Furniture
		Vehicles
AGRICULTURAL PRODUCTION PRACTICES		Crops planted
Crop farming and gardening		Crops sold
		Livestock/poultry raised
Livestock and poultry raising		Livestock/poultry sold
		Type of fishing
Fishing		Fish sold
HOUSEHOLD CONSUMPTION AND EXPENDITURES		3-day diet recall
	Food	Fuel
	Utilities	Light
		Water
		Transportation
		Clothing

Occasional expenses	Education
	Recreation
	Medical care
	Non-durable furnishing
	Durable furnishing
	Taxes
Other disbursements	House maintenance and repair
	Special family occasions
	Gifts and contributions
	Purchase/amortization of real property
	Payments of cash loan
	Installments
	Loans granted
SELF-RATED POVERTY/HUNGER	(SWS type questions)
PARTICIPATION AND SOCIAL CAPITAL	
Bayanihan/collective action	Type of bayanihan activities
	Usual representative (sex)
	Willingness to contribute time/money for barangay projects
	Likelihood of people in the <i>barangay</i> to help each other in times of need
Social cohesion and inclusion	Indication of exclusion (discrimination)
Trust and solidarity	Peace and order in the community (rating)
Groups and networks	Level of crime and violence (rating)
Governance	Membership to organizations
	Knowledge of the <i>barangay</i> development council
	Attendance in <i>barangay</i> assemblies
	Participation in civic gatherings (itemized)
	Information sources
	Knowledge of <i>barangay</i> finances
KALAHI-CIDSS EVALUATION	Knowledge of problems affecting the <i>barangay</i>

	Knowledge of <i>barangay</i> governance
	Awareness of the project
	Involvement in KALAH-I-CIDSS (preparatory and sub-project implementation phases)
	Usual representative
	Amount of time devoted
	Reasons for not participating
	Rating of KALAH-I-CIDSS implementation
<u>Barangay specific variables</u>	
PRECENCE OF FACILITIES (presence and maintenance)	Roads (by type)
	Establishments
	<ul style="list-style-type: none"> • Public (town hall, barangay hall, church) • Economic (market, banks, stores) • Utilities (electricity, water systems, telephone) • Social infrastructure (schools, public library. Barangay health centers, hospitals)
PRESENCE AND REPRESENTATION OF ORGANIZED SECTORS	Number of organizations
IMLEMENTATION AND <i>BARANGAY</i> DECISION-MAKING	Means of informing barangay residents of finances of the <i>barangay</i>
	Members of the BDC, designation and year of election (approval)
	BDC activities
	Number of <i>barangay</i> assemblies convened
SERVICES	Attendance in <i>barangay</i> meetings
	Frequency of council meetings
GOVERNANCE	Attendance of <i>barangay</i> LGUs in meetings
	Details on <i>Barangay</i> Development Plan
ALAH-I-CIDSS EVALUATION	Satisfaction rating oon KALAH-I-CIDSS
	Listing of benefits and negative impact (s)

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