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Impact of Financial Inclusion Using Community Investment Fund on Poverty Graduation in Rural Sindh of Pakistan

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Abstract

Financial inclusion offers significant benefits to the unbanked poor population, but barriers such as low literacy, lack of trust in formal financial institutions, and high transaction costs often hinder the use of formal banking services. On the other hand, the Community Investment Fund (CIF) is a revolving grant managed by community-based organisations that provides a low-cost, sustainable solution. The paper examines the impact of financial inclusion through CIF funds on poverty graduation in Rural Sindh, Pakistan. The Poverty Scorecard (PSC) tool is used to assess the changes in the poverty status of CIF loan and grant beneficiaries using before-and-after approaches. A household survey dataset from rural Sindh, covering 4,023 randomly selected households, is analysed. The findings suggest that financial inclusion through community investment funds has positively impacted poor households and helped them graduate from a lower poverty band to a higher one. Compared to conventional sources of finance like Microfinance Banks, the findings suggest that CIF loans appear to be largely cost-effective. We thus recommend increasing CIF coverage for poor segments of the population in Pakistan, as it provides a low-cost, sustainable solution for poverty graduation and increases the cost-effectiveness of social protection programmes in the country.

Keywords: Poverty, Financial Inclusion, Microfinance, Community Investment Fund, Community-Driven Development

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1. Introduction

A large proportion of the population, particularly poor households and women in Pakistan, does not have access to the formal financial system. The Government of Sindh, in collaboration with the Rural Support Programmes (RSPs) and other non-governmental organisations working in Sindh, has introduced several interventions to extend financial services to underserved populations. Government of Sindh commenced the People's Poverty Reduction Programme with the implementing organisations—the Rural Support Programmes (RSPs) in Sindh through innovative financial services such as the Community Investment Fund (CIF) and Income Generating Grants (IGG), components funded by the European Union (EU) under the Sindh Union Council and Community Economic Strengthening Support (SUCCESS) program, which provided financial services to women through community organisations in rural Sindh. In this context, this research paper aimed to assess the impact of financial inclusion through the Community Investment Fund (CIF) on poverty graduation among poor households in rural areas of Sindh province, Pakistan.

(Rural Support Programmes Network (RSPN), 2021) (Rural Support Programmes Network (RSPN), 2023)The EU-funded SUCCESS programme is based on the RSPs' integrated community-driven development strategy. It involves the three tiers of local institutions formed by women living in rural areas, which are Community Organisations (COs) formed by women at neighbourhood level, Village Organisations (VOs) – a federation of COs at village level, and Local Support Organisations (LSOs) – a federation of VOs at union council level. In Pakistan, among the organisations involved, the Rural Support Programmes (RSPs) have pioneered community-driven development approaches since 1982, when Aga Khan Foundation set up the Aga Khan Rural Support Programme (AKRSP) as a catalytic organisation to work in northern Pakistan (Gilgit-Baltistan and Chitral). The AKRSP's approach was later replicated across Pakistan, and now there are nine RSPs in the Rural Support Programme Network (RSPN). Through its member RSPs, RSPN reaches 8 million rural households in Pakistan, representing a population of over 55 million across 152 of 158 districts.

(Asli Demirguc-Kunt, 2018)(World Bank Group, 2014) (Armendariz & Morduch, 2010) (Beck, Demirgüç-Kunt, & Peria, 2008)While financial inclusion can offer significant benefits to unbanked populations, particularly in poverty alleviation and economic empowerment, demand-side barriers such as low literacy, extreme poverty, lack of trust in formal financial institutions, high transaction costs, geographic isolation, limited financial infrastructure, and cultural or social norms often hinder the use of formal banking services (;). On the supply side, banks are reluctant to lend to poor households due to the lack of collateral and the perceived risk of non-repayment, further excluding them from financial services. CIF emerged as an alternative financial service to address the constraints poor households face in accessing financial services. Therefore, this research addresses the following key questions: In addition, the study contributes to research on community-based financial inclusion by examining revolving loans and income-generating grants within the same poverty-scorecard framework. CIF involves repayment, whereas IGG provides one-time assistance to households experiencing more severe deprivation. Therefore, differences in eligibility criteria and financing arrangements matter when interpreting changes observed among beneficiaries (Chibba, 2009; Khalil, 2013; RSPN, 2016).

1) Do CIF and IGG ensure the inclusion of women from the poor and poorest households in the development process?
2) Does access to CIF/IGG reduce poverty among women by improving the poverty scorecards of the poor and poorest households?
3) Do CIF/IGG provide cost-effective financial access to the poorest and poor households?

The paper is structured as follows. Section 1 introduces the topic. Section 2 provides a review of the literature. Section 3 presents the hypotheses and associated indicators. Section 4 describes the data and methodology. Section 5 discusses results and findings in detail. Section 6 concludes the paper.

2. Review of Literature

Over the past two decades, substantial evidence has indicated that a large proportion of the global population remains excluded from the formal financial system. Often, the poor, women, and

microenterprises are disproportionately affected by this exclusion, restricting their opportunities to work, earn and live a decent life. Therefore, financial inclusion is considered an important policy intervention to mitigate poverty, support food security, improve health, reduce income and gender inequalities, and promote women's empowerment. The United Nations General Assembly (UNGA) considers it as a key enabler to achieve at least seven of its Sustainable Development Goals (UNSGA, 2015).

Sahay et al. (2015) consider financial inclusion as a multidimensional concept. It is perceived as a policy instrument for pursuing objectives including "sustainable and inclusive economic growth, employment generation, poverty reduction, and income equality" (Omar & Inaba, 2020). In addition, it seeks to mitigate global poverty through the inclusion of groups previously excluded from formal finance – women, people living in remote areas – by providing them with financial resources at an affordable rate (Bold et al., 2012; Chibba, 2009; Kpodar & Andrianaivo, 2011; Neaime & Gaysset, 2018; Sarma & Pais, 2011).

Financial inclusion is an important policy intervention for achieving the linked objectives of poverty reduction and women's empowerment. In Kenya, financial inclusion has helped women-headed households save more, shift from agriculture to micro-enterprises, and reduce extreme poverty by 22 per cent (Demirgüç-Kunt et al., 2017). When provided with savings accounts, women in Kenya saved more and invested 60 per cent of their savings in their businesses (William & Tanveet, 2014). In Nepal, opening a savings account was attributed to higher spending on food (15%) and education (20%) by women-headed households (Karlan et al., 2016). Savings accounts helped farmers in Malawi invest 13 per cent more in machinery, raising farm output by 15 per cent (Muralidharan et al., 2016).

In Pakistan, the poor mostly acquire loans from informal sources. Lack of income and resources forces poor households to borrow at high interest rates to meet basic necessities of life, and the difficulty of collateral leaves them dependent on informal lending channels. Therefore, there remains great potential for the microfinance sector to grow in Pakistan (Anwar, 2005).

Pakistan has the third-highest unbanked adult population in the world at 100 million. However, the share of adults with a bank account has risen to 20 per cent from a low base of 10 per cent in 2011; the share of unbanked women has changed comparatively little since then (Demirgüç-Kunt et al., 2018). Poor households, particularly those in rural areas, have limited access to formal credit institutions in Pakistan. The unmet financial needs of poor households by these institutions led to the emergence of alternative avenues of credit provision in Pakistan – microfinance schemes being the major initiative to this end.

Table 1: Service Charges of Major Microfinance Banks in Pakistan

	Service charges	**Tenure**	**Loan Ticket**
Khushahli Bank			
SarsabzKarobar	25% APR	3-12 months	20,000 – 150,000
KhushaliQarza Plus	33% APR	6-18 months	50,000 - 150,000
Khushali Livestock Loan	33% APR	3-24 months	50,000 – 150,000
First Microfinance Bank			
Agriculture	31.40%	-	150,000
Livestock	31.40%	-	150,000
Enterprise	31.90%	-	150,000
Finca Microfinance Bank Limited			
Finca KarobariQarza	28-29%	6 - 18 months	25,000 – 150,000
Finca MaweshiQarza	28-29%	6 - 18 months	50,000 - 150,000
Finca KashtkarQarza	32%	3 – 12 months	50,000 – 150,000

Source: Websites of the respective institutions.

Inefficiencies, default risks, greater reliance on cash, and a persistently large unmet need for credit paved the way for the National Financial Inclusion Strategy (NFIS) (2018). It aimed to 1) increase the use of digital payments; 2) expand the deposit base; 3) promote SME finance; 4) increase agricultural

finance; 5) increase the share of Islamic banking (Government of Pakistan, 2018). Notwithstanding these objectives, the NFIS (2018) failed to put due emphasis on the most underserved population – the women, particularly those living in rural areas. Women's participation through CIF can empower women by increasing their intra-household decision-making, economic participation and mobility.

Outreach and cost-effectiveness of microfinance remain contested because borrowing costs for poor households are reported to be high. Table 1 indicates that Microfinance Banks (MFBs), which espouse to cater to the poor population, have interest rates that may be unaffordable of the same segment. Khushali Bank, the largest MFB in Pakistan, charges interest rates of 25 to 33%, depending on the loan type and amount. Similarly, interest rates charged by the First Microfinance Bank are reported in the range of 31-32%. Finca Microfinance Bank is no exception, with interest rates between 28-32%. High operating costs of bank branches meant that MFBs found it difficult to reach potential borrowers in remote and far-off areas, particularly women.

In contrast to the high interest rates charged by microfinance banks, the community mobilisation approach through the Community Investment Fund may offer a lower-cost financing mechanism. Sindh Union Council and Community Economic Strengthening Support — SUCCESS programme, funded by the EU, launched a poverty reduction programme in 2016 in eight districts of Sindh province, Pakistan. CIF was a key component of this project.

However, improved access to finance does not necessarily establish sustained poverty reduction. Households' capacity to use financial resources productively may also depend on their assets, local markets, livelihood opportunities, and access to supporting institutions. Similarly, women's participation in community organisations should be distinguished from independently measured changes in their decision-making power. These considerations provide a more cautious basis for discussing the link between inclusion, poverty, and empowerment (Holloway et al., 2017; Sahay et al., 2015).

Unlike the comparatively costly branch-based operations of MFBs, CIFs are run by local community institutions and are expected to operate at lower institutional cost than MFBs, as the institutional overheads of Community Organisations (COs) are lower than those of government and other financial institutions, including microfinance. In this context, it is important to examine the cost-effectiveness of CIF relative to other conventional microfinance loan programmes in Pakistan. Below we discuss the novel features of community investment funds and other similar interventions.

2.1.Community Investment Fund (CIF)

CIF is a revolving capital fund managed by community-based organisations. Unlike microcredit institutions, which rely on specialised structures and are therefore costly to maintain in remote areas, CIFs are run by local community institutions, which may make them a lower-cost and potentially sustainable solution for providing funds to the poor. Further, formal Microfinance Institutions (MFIs) often lack the appropriate lending mechanisms to serve poor segments of the community.

The Society for Elimination of Rural Poverty (SERP) pioneered CIF in Andhra Pradesh in the late 1990s (Khalil, 2013). In Pakistan, the RSPN and Punjab Rural Support Programme introduced CIF in 2007 in District Layyah, Punjab (Shore Bank, 2009). Since its introduction, CIF has expanded considerably. According to 2012 estimates, the total CIF amount disbursed by RSPs in Pakistan is approximately PKR 1.6 billion/USD 15.6 million, and the total number of borrowers is 146,917 (cited from Khalil, 2013).

CIF is targeted at women living in households at or below the poverty line. These poor and marginalised segments of the society are often not part of the conventional financial services offered by the banks. Several factors contribute to this exclusion. First, potential beneficiaries live in areas where coverage by formal financial institutions (FFIs) is either absent or patchy at best. Second, extending credit to these people is considered risky, as they may not be able to repay the loan. Third, complex procedures and lack of collateral make the poor reluctant to access these services (DFID, 2006; SBP, 2011). As a result, formal financial institutions often fail to serve those who need credit

most. CIF is an alternative way to provide these unserved and underserved poor households with affordable, accessible financial services at their doorstep.

CIF has been presented as a potentially transformative mechanism, as it provides revolving credit to the poorest for income-generating activities to help lift them out of the poverty trap. These loans are complemented by guidance and Micro Investment Plans (MIPs) to ensure efficient use of borrowed funds to start income-generating activities. Through initial small loans, CIF consumers learn to manage cash and become eligible for larger loans later on. CIF relies on the federated women's organisations that decide on the issues of CIF and its continued management.

CIF, in its introductory phase, in Union Council Jamal Chapri (District Layyah, Punjab), followed two different delivery mechanisms. The first was a direct lending approach implemented by PRSP with support from the RSPN, and the second was an indirect delivery mechanism that provided CIF loans through the LSO structure, also implemented by PRSP with funds provided by the RSPN to its LSO structure. Demand for this approach increased among the poorest communities, especially women, leading to more CIF services being offered by rural support organisations. This expansion of CIF was largely funded by the Pakistan Poverty Alleviation Fund (PPAF) and the Government of Sindh through the Union Council Based Poverty Reduction Programme (UCBPRP).

2.2. Income Generating Grants (IGG)

Unlike CIF, which is a loan, Income Generating Grant (IGG) is a one-time cash grant to the poorest community members. These grants are accompanied by guidance for these poor, which may help them initiate income-generating activities to increase their household incomes. Women lead this effort through Community Institutions (CIs). For targeting women for the IGG, a Poverty Scorecard is used, and households with a Poverty Score between 0 and 11 become eligible to access IGG. Micro Investment Plans (MIPs) are also used to support households' needs and guide them in using the IGG grant effectively. IGG targets the most vulnerable women who cannot repay the cash assistance they receive.

3. Hypotheses and Indicators

The paper is structured around testing three hypotheses. For these hypotheses, specific indicators are used to analyse the impact of the financial intervention on poverty and women's empowerment.

H1: CIF and IGG ensure the inclusion of women from the poor and poorest households in the development process.

H2: Access to and utilisation of capital (CIF and IGG) improves the poverty score of beneficiaries' households.

H3: CIF/IGG provide cost-effective financial access to poor and poorest households.

The absence of a comparable untreated group limits causal interpretation. Changes in poverty scores between the 2016 baseline and the 2020 survey may reflect programme participation, but other household circumstances and changes in the local economy may also have contributed. Consequently, the findings are interpreted as changes observed among beneficiaries rather than estimates of effects attributable exclusively to CIF or IGG.

4. Methodology and Data

The study primarily uses quantitative methods, supplemented by qualitative information where relevant. Because a reliable comparison group is not available, the assessment uses a before-and-after intervention design to examine changes in poverty status associated with financial inclusion through community investment funds.

4.1. Quantitative Methods

The methodology for assessing the impact of community investment funds is based on household survey data collected as part of the SUCCESS programme assessment to examine changes associated with CIF. To examine the hypotheses, the analysis draws on the CIF/IGG survey of 4,023 women beneficiary households from sampled villages and union councils in each of the eight programme

districts, conducted between September and November 2020. In addition, the study uses baseline RSPN/RSPs Poverty Scorecard (PSC) survey data conducted in 2016 to examine changes in poverty scorecards and other indicators using a before-and-after approach.

4.2. Sampling Design and Household Survey Data

For the sampling design, Simple Random Sampling (SRS) technique was used to draw a sample from the population. The sampling calculations refer to 80% statistical power, a 95% confidence level, and a 3% standard error of estimate. A master sample comprising 2,007 CIF and 2,000 IGG beneficiary households was initially calculated.

First, the sampling frame comprising LSOs and VOs was used to select the Secondary Sampling Unit (SSU), Primary Sampling Unit, Sample household, and replacement Sample. Under the multistage sampling design, at stage one, from all tehsils of the district, "100 LSOs/Union Councils as a Secondary Sampling Unit (SSU)" were selected at random. At stage two, from each LSO, "Two Enumeration Units**:** Villages/VOs per LSO" were randomly selected as Primary Sampling Units (PSUs). At stage three, at least 5 beneficiary households were selected from each village using the random number method. Sample lists, with an additional 25% replacement sample, were prepared before field operations and shared with RSPN and field teams for data collection.

The total population of beneficiaries who received a CIF loan at least 365 days (one year) before the 2020 CIF and IGG survey comprised 66,306. Beneficiaries who had received a livestock loan accounted for 82%, followed by agriculture at 10% and enterprise at 8%. Considering variation in the beneficiary population, master sample allocation was made using the Probability Proportion to Size technique. PPS assigns smaller proportions to the Agriculture and Enterprise loan categories, yielding small samples that may not support reliable category-level generalisation.

In this regard, we adjusted PPS sample allocations. The sample adjustments were based on a 95% confidence level and standard errors of estimate (7%–10%). A simple random sample estimator yields a sample size of 196 for a lot when the standard error is 7%, and 96 when it is 10%. The multistage selection of villages and households, together with supplementary sampling in underrepresented categories, also warrants care when extending findings beyond surveyed beneficiaries. District- and livelihood-specific comparisons would require appropriate consideration of sampling weights and clustering. Furthermore, direct comparisons between CIF and IGG beneficiaries should account for differences in initial poverty scores and programme eligibility. Probability-proportional-to-size sampling has been used to allocate the master sample to each district. However, to generalise the findings at the district level, the sample was adjusted to a minimum sample size of 196 with a 95% confidence coefficient and a 7% standard error of estimate, and the sample by category remains above 96 with a 95% confidence coefficient and a 10% standard error of estimate sample size. Therefore, during the inception phase, it was decided that the adjusted sample for each district should be at least 96.

A similar approach was adopted to draw a sample for livestock, agriculture, and microenterprise loans for IGG beneficiary households. Therefore, the samples for each category, i.e., agriculture 400, enterprise 400, and livestock 1,200), were computed for the study. Tables A1–A4 in Annex I show sample distribution for CIF and IGG impact assessment survey for eight SUCCESS programme districts. The beneficiary population was unevenly distributed, with unequal distribution of beneficiaries by category and by district. This uneven distribution also occurred in the sampled LSOs and VOs, and the required sample numbers were not available in the selected LSOs and VOs. However, given the reserved share for enterprises and the livestock category during the survey, an additional random sample was drawn to meet the sample coverage requirement.

5. Results and Findings

This section presents the findings. CIF exclusively targeted the poor women beneficiary households (PSC between 0-23) who are generally underserved by conventional microfinance schemes. In contrast, IGG has targeted the women beneficiary households who were identified as the poorest of the poor with a 0-12 poverty scorecard, including disadvantaged groups, minority communities, and persons with disabilities. The household survey indicates that all sampled beneficiary households

(4,023) that received CIF loans or IGG grants were women from poor households, with poverty scores below 24. In addition, Income Generating Grants (IGG) were provided to the poorest households, whose PSC scores ranged from 0 to 12, supporting hypothesis H1 that CIF and IGG ensure the inclusion of women from poor and poorest households in the development process. In the eight programme districts, 97% (426,328) of poor households with PSC scores of 0–23 became members of Community Organisations (Hussain, 2023).

This was possible because the programme design ensured membership in community organisations (COs) and a micro-investment plan geared towards income-generating activities as a prerequisite for loans and grants. Therefore, CIF and IGG may serve as incentives for poor women to participate in COs.

This finding aligns with existing literature highlighting the importance of targeted financial inclusion programmes in improving the socio-economic status of marginalised women (World Bank Group, 2014; Holloway et al., 2017). Such programmes may contribute to women's empowerment and reduce poverty among the poorest segments of society.

5.1 Changes in Poverty Scorecard

The Poverty Scorecard (PSC) is a tool to track changes and monitor poverty trends over time. The Poverty Scorecard represents data on household socioeconomic characteristics, basic amenities of life, and basic assets used to earn a livelihood. The instrument identifies poor households by assigning a composite score from 0 to 100 based on observable indicators, where scores closer to zero indicate a higher likelihood of being extremely poor, and scores closer to 100 suggest the household is non-poor**.** However, changes were not uniformly favourable across all households. The transition tables also identify households whose poverty-score bands remained unchanged or deteriorated. Therefore, consider both upward and downward movements when assessing the distribution of observed changes. A higher Poverty Scorecard value indicates an improvement in the measured index; it does not, by itself, demonstrate a corresponding change in household income or consumption. To examine changes in poverty scores over time and assess the impact of interventions on the poverty scores of the beneficiaries' households, households were classified into poverty bands by grouping the poverty scorecard from 0-11, 12-18, 19-23, 24-34, 35-59 and 60-100.

Table 2 reports the distribution of households across poverty-score bands in the 2016 baseline and the 2020 survey, along with the percentage changes. The percentage change between 2016 and 2020 indicates that although 6.9% of CIF beneficiaries increased in the lowest poverty band of 0-11, a higher proportion of 13% and 17.7% of beneficiaries declined, respectively, in the 12-18 and 19-23 poverty bands, showing a movement into other poverty bands. Moreover, 19.5% and 4.2% of beneficiaries moved into a higher band of 24-34 and 35-100, indicating an improvement in the poverty scorecard after the CIF loan. These findings indicate that a substantial proportion of CIF beneficiary households moved from lower poverty bands to higher poverty bands, indicating improved poverty scores after access to CIF loans. The changes in poverty scorecards are significant at the 5% level (See Annex 2). These results thus validate the hypothesis H2 that access to and utilisation of capital improves the poverty score of CIF beneficiary households. This provides evidence that financial inclusion through the community mobilisation approach with the Community Investment Fund is associated with improved poverty scores among poor households, implying a reduction in the extent of poverty or a shift from the lowest poverty band to a higher level among CIF beneficiary households in rural Sindh, Pakistan.

Similarly, results for IGG beneficiary households show that 28.8% of IGG beneficiaries moved out of the lowest poverty band (0-11) into a higher poverty band. In contrast, 18.6%, 0.9%, 8.2%, and 1.1% of beneficiaries, respectively, moved into a higher band, indicating an improvement in the poverty scorecard after the IGGs and suggesting improvements in measured poverty status. The results indicate that substantial proportions of IGG beneficiary households moved from lower poverty bands to higher ones. The changes in poverty scorecards are significant at the 5% level (see Annex 2). Therefore, these results provide evidence consistent with the hypothesis that access to and utilisation of capital via IGG also improves the poverty score and is associated with improved measured poverty status among the IGG beneficiary households.

Table 2: Poverty Band-wise Status of Sample Households (% of Households)

	CIF			IGG		
Poverty Score Bands	Baseline 2016	Current Survey,2020	Percentage change	Baseline 2016	Current Survey,2020	Percentage change
Number of Households (n)	2015	2015	-	2008	2008	-
0 – 11	16.4%	23.3%	6.9%	73.1%	44.3%	-28.8%
12 – 18	45.7%	32.7%	-13.0%	15.5%	34.1%	18.6%
19 – 23	38.0%	20.3%	-17.7%	11.4%	12.3%	0.9%
24 – 34	0.0%	19.5%	19.5%	0.0%	8.2%	8.2%
35 – 59	0.0%	4.2%	4.2%	0.0%	1.1%	1.1%
60 – 100	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%

Source: Calculation from CIF & IGG Survey, 2020, RSPN and CDPP

5.2. Household Movements Across Poverty-Score Bands

Table 3 presents a cross-tabulation of movements of CIF beneficiary households across poverty score bands from the baseline to the endline, in terms of number and % of households. The highlighted diagonal cells indicate no movement, meaning that the number and percentage of households remain in the same poverty score band in the baseline 2016 and endline survey 2020. Cells above the diagonal show the number and per cent of households moving from low poverty score bands to higher poverty score bands in the current survey. Cells below the diagonal show the number and per cent of households moving to lower bands of poverty in the current survey.

Table 3: Movement of Household in Different Poverty Score Bands Over the Baseline – Number and % of Households Getting CIF

Baseline (2016)		**Endline (2020)**						
		0 – 11	12—18	19 – 23	24 – 34	35 – 59	60 – 100	Grand Total
Poverty Score Distribution Baseline 2016	0 – 11	131 (39.7)	119(36.1)	40 (12.1)	30 (9.1)	10 (3)	0	330 (16.3)
	12—18	228 (24.8)	313(34)	201 (21.8)	149 (16.2)	29 (3.2)	0	920 (45.6)
	19 – 23	110(14.4)	226 (29.5)	168 (22)	214 (28)	45 (5.9)	2 (0.3)	765 (37.9)
	24 – 34	0	0	0	0	0	0	0
	35 – 59	0	0	0	0	0	0	0
	60–100	0	0	0	0	0	0	0
	Grand Total	469 (23.3)	658(32.7)	409 (20.3)	393 (19.5)	84(4.2)	2(0.1)	2015 (100)

Note: Figures in parentheses are percentages. Source: CIF & IGG Survey, 2020, RSPN and CDPP

The cross-tabulation illustrates variation in household poverty trajectories. At baseline, 330 households were in the poverty score band of (0-11), whereas in the current survey 39.7% of them remained in the same band, 36.1% moved to the poverty score band of (12-18), 12.1% moved to (19-23), 9.1% moved to (24-34), and 3% moved to the higher poverty score band of (35-59), implying reduced poverty levels after using CIF loans. In addition, out of 920 beneficiary households, 21.8%,16.2%, and 3.2% who were in the poverty band of 12-18 in the base year 2016 moved to a higher poverty band of 19-23, 24-34, and 35-59, respectively, in the endline survey, 2020. Similarly, out of 765 beneficiary households, 28%, 5.9%, and 0.3% who were in the poverty band of 19-23 in the base year moved to the higher poverty bands of 24-34, 35-59, and 60-100, respectively, in the current survey, 2020. However, out of 765 beneficiary households, 14.4% and 29.5% who were in the relatively higher poverty band of 19-23 in the base year moved to the lower poverty bands of 0-11 and 12-18, respectively, in the endline survey, 2020.

Table 4 reports a cross-tabulation of movements of IGG beneficiary households across different poverty score bands from baseline to the endline, in terms of number and % of households. The results indicate that at baseline 1468 beneficiary households were in the poverty score band of (0-11), whereas in the 2020 survey 48.9% percent of them remained in the same band, 33.3% moved to the poverty score band of (12-18), 10.2% moved to (19-23), 6.8% moved to (24-34), and 0.7% moved to the higher poverty score band of (35-59) implying reduced poverty levels after using IGG grants. However, no household moved to the highest poverty band (60-100).

In addition, out of 312 beneficiary households, 14.4%, 9.9%, and 1% who were in the poverty band of 12-18 in the base year 2016 moved to a higher poverty band of 19-23, 24-34, and 35-59, respectively, in the current survey, 2020. Similarly, out of 228 beneficiary households, 14.9%and 3.9% who were in the poverty band of 19-23 in the base year moved to the higher poverty bands of 24-34 and 35-59, respectively in the current survey, 2020, whereas no household moved to the highest poverty band (60-100). However, of 228 beneficiary households, 26.3% and 32.5% that were in the relatively higher poverty band of 19-23 in the base year moved to the lower poverty bands of 0-11 and 12-18, respectively, in the current survey, 2020. The cost comparison also requires careful interpretation. The 4.4% figure is obtained by expressing the reported average service charge relative to an illustrative loan amount of PKR 20,000. Without consistent information on loan duration, repayment schedules, and additional fees, it should not be described as directly equivalent to the annual percentage rates quoted for microfinance banks. In addition, programme-level cost-effectiveness would require information on administration, subsidies, defaults, and the cost per household achieving a sustained improvement in poverty status.

Table 4: Movement of Household in Different Poverty Score Bands Over the Baseline – Number and % of Households Getting IGG

Baseline		**Poverty Score Distribution Endline 2020**						
		0 – 11	**12—18**	**19 – 23**	**24 – 34**	**35 - 59**	**60 – 100**	**Grand Total**
Poverty Score Distribution Baseline 2016	0 – 11	718 (48.9)	489 (33.3)	150 (10.2)	100 (6.8)	11 (0.7)	0	1468 (73.1)
	12—18	111 (35.6)	122 (39.1)	45 (14.4)	31(9.9)	3 (1)	0	312 (15.5)
	19 – 23	60 (26.3)	74 (32.5)	51 (22.4)	34 (14.9)	9 (3.9)	0	228 (11.3)
	24 – 34	0	0	0	0	0	0	0
	35 – 59	0	0	0	0	0	0	0
	60 – 100	0	0	0	0	0	0	0
	Grand Total	889 (44.3)	685 (34.1)	246 (12.3)	165 (8.2)	23 (1.1)	0	2008 (100)

Note: Figures in parentheses are percentages. Source: CIF & IGG Survey, 2020, RSPN and CDPP

5.3. Cost-Effectiveness of CIF

CIF is run by local community institutions and is considered low-cost compared with microfinance institutions, as the institutional overheads of Community Organisations (COs) are lower than those of government and other financial institutions, including microfinance. **Table 5** reports data on service charges per loan to obtain CIF approval. CIF service charges vary in SUCCESS programme districts, ranging from PKR 368 per loan in Matiari to PKR 2,028 per loan in Jamshoro. The average reported service charge was PKR 884 per loan across the surveyed 4,023 women beneficiaries in eight districts. Considering this average service charge for an average loan size of PKR 20,000, the cost of a CIF loan amounted to approximately 4.4% of the illustrative principal; its equivalence to an annual interest rate depends on the loan terms for borrowers, which is very low as compared with other sources of finance like Microfinance Banks (MFB) in Pakistan, whose interest rates are around 25-33% per annum.

The cited rates for informal lending can reach 80%, indicating substantial differences in the financial terms available to borrowers. The informal credit market in Pakistan is characterised by exorbitantly high interest rates and rapid credit disbursement. Historically, it has been an important source of rural credit. The cited rates for informal lending may be considerably higher than those of formal sources. Formal credit institutions' inability to reach the poor results in dependence on the informal market. Where borrowers face very high interest rates, CIF, as an alternative source of finance, might play an important role in reducing dependence on expensive informal lending, which may contribute to poverty reduction compared with conventional sources of finance.

Table 5: Service charges to get approval of CIF loan (PKR)

Districts	Mean
Dadu	1509
Jamshoro	2028
KSK	523
Larkana	389
Matiari	368
Sujawal	392
TAY	603
TMK	448
Total	884

Source: CIF & IGG Survey, RSPN and CDPP, 2020

6. Conclusions and Policy Recommendations

The paper examined changes in poverty alleviation in rural Sindh, Pakistan, associated with financial inclusion through community investment funds. The study used a 'before and after' design to examine changes in the Poverty Scorecard associated with CIF and IGG interventions. The findings suggest that financial inclusion through community investment funds is associated with improved poverty scores among beneficiary households. For CIF beneficiary households, the average poverty score increased from 16.34 at baseline in 2016 to 17.97 in the 2020 survey, indicating improvements in measured poverty status among CIF beneficiary households in rural Sindh, Pakistan. In addition, a substantial proportion of CIF beneficiary households moved from lower poverty bands to higher poverty bands, indicating improved poverty scores after receiving CIF loans.

Similarly, the poverty scorecard of IGG beneficiary households increased from 9.39 at baseline in 2016 to 13.16 in the 2020 survey. The reported changes are statistically significant at the 5% level, supporting the hypothesis that access to and utilisation of capital improves the poverty score of beneficiary households. These results align with previous evidence that including previously excluded groups, especially women, alleviates poverty by providing them with financial resources at an affordable rate (Bold et al., 2012; Chibba, 2009; Kpodar & Andrianaivo, 2011; Neaime & Gaysset, 2018; Sarma & Pais, 2011). Similarly, they are consistent with earlier studies in the region (RSPN, 2012a, 2012b). In addition, the cross-tabulation of poverty-score bands suggests that out of 920 beneficiary households, 21.8%,16.2%, and 3.2% who were in the poverty band of 12-18 in 2016 moved

to a higher poverty band of 19-23, 24-34, and 35-59, respectively in 2020, indicating an improvement in their poverty status. Similarly, out of 1468 IGG beneficiary households with poverty score band (0-11) in 2016, 48.9% of them remained in the same band in 2020, 33.3% moved to the poverty score band of (12-18), 10.2% moved to (19-23), 6.8% moved to (24-34), and 0.7% moved to the higher poverty score band of (35-59) in 2020.

Compared with conventional financing sources such as Microfinance Banks (MFBs), CIF loan appears to offer lower direct borrowing charges. The reported CIF service charge is approximately 4.4% of an illustrative loan amount, whereas the cited annual borrowing rates for MFBs differ by product. These measures are not directly comparable without aligning loan duration and repayment terms. Therefore, the reported charges provide descriptive support for the hypothesis that CIF provides lower-charge financial access to poor households. It is therefore recommended to increase CIF coverage in underserved and remote areas where poverty remains chronic.

Policy implications: The observed changes in poverty scores, together with the potentially lower borrower charges of community-managed finance, have implications for poverty policy. Given the limited resources available to the government and international donors, expanding appropriately designed CIF and IGG interventions through community mobilisation could form an important component of the country's poverty reduction strategy.

Further research could examine whether changes in poverty-score bands differ by baseline deprivation, district, and type of income-generating activity. If the relevant household-level variables are available, multivariable models with uncertainty estimates would help distinguish associations across beneficiary groups. Similarly, evidence from comparable initiatives in other developing economies could clarify which elements of community-managed finance may be transferable. Such extensions would strengthen the findings' relevance to wider debates on financial inclusion and poverty policy (Omar & Inaba, 2020; Sarma & Pais, 2011).

Ethical Statement: The study uses household survey data collected under the SUCCESS programme and baseline poverty-scorecard information after the approval of the ethical committee of Bahauddin Zakariya University, Multan

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Appendix A. Sampling distributions

Table A1: Distribution of CIF Loans by Type

Districts	Agriculture		Enterprise		Karobari Sarmaya		Livestock		Tajarat		Total
	Count	%age	Count	%age	Count	%age	Count	%age	Count	%age	
Dadu	1,148	13%	1,966	22%	26	0%	5,656	64%	1	0%	8,797
Jamshoro	407	9%	955	22%	3	0%	3,013	69%			4,378
KSK	4,041	21%	1,083	6%	15	0%	14,443	74%			19,582
Larkana	476	5%	488	5%	45	0%	9,536	90%			10,545
Matiari		0%	239	5%		0%	4,958	95%			5,197
Sujawal	1	0%	266	4%		0%	6,749	96%			7,016
TAY		0%	86	1%		0%	7,315	99%			7,401
TMK	1	0%	417	12%		0%	2,972	88%			3,390
Total	6,074	9%	5,500	8%	89	0%	54,642	82%	1	0%	66,306

Source: CIF & IGG Survey, 2021, CDPP

Table A2: CIF Sample Allocation By District and By Loan Type

Districts	Adjusted Sample Allocation	Agriculture	Enterprise	Live Stock	Number of SSU LSO @20 HH Sample	Number of PSU VO @10 HH Sample
Dado	300	100	100	100	15	30
Jamshoro	300	100	100	100	15	30
KamberShahdadkot	400	100	100	200	20	40
Larkana	400	100	100	200	20	40
Matiari	150	0	0	150	8	15
Sujawal	150	0	0	150	8	15
Tando Allahyar	150	0	0	150	8	15
Tando Muhammad Khan	150	0	0	150	8	15
Grand Total	2,000	400	400	1200	100	200

Source: CIF & IGG Survey, 2021, CDPP

Table A3: Distribution of IGG Loans by Type

Districts	Agriculture		Enterprise		Live Stock		Total
	Count	%age	Count	%age	Count	%age	
Dadu	222	4%	908	16%	4,553	80%	5,683
Jamshoro	32	2%	418	20%	1,606	78%	2,056
KambarShahdadkot	421	15%	220	8%	2,250	78%	2,891

Larkana	52	1%	161	4%	3,646	94%	3,859
Matiari	1	0%	2	0%	2,052	100%	2,055
Sujawal	7	0%	49	1%	4,700	99%	4,756
Tando Allahyar	1	0%	2	0%	2,639	100%	2,642
Tando Muhammad Khan	1	0%	22	1%	1,447	98%	1,470
Grand Total	737	3%	1,782	7%	22,893	90%	25,412

Source: CIF & IGG Survey, 2020, CDPP

Table A4: IGG Sample Allocation by District and By Loan Type

Districts	**Adjusted Sample** Allocation	**Agriculture**	**Enterprise**	**Live Stock**	**No. of SSU LSO @20 HH**	**No. of PSU VO @10 HH**
Dadu	400	150	100	150	20	40
Jamshoro	250	0	100	150	13	25
KambarShahdadkot	450	200	100	150	23	46
Larkana	300	50	100	150	15	30
Matiari	150	0	0	150	8	15
Sujawal	150	0	0	150	8	15
Tando Allahyar	150	0	0	150	8	15
Tando Muhammad Khan	150	0	0	150	8	15
Grand Total	2,000	400	400	1,200	100	200

Source: CIF & IGG Survey, 2021, CDPP

Appendix B. Statistical tests

Poverty Scorecard test of significance for difference of PSC of CIF beneficiaries between baseline 2016 and Current Survey, 2020

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Poverty Score (Endline) - Poverty Score Baseline	1.62680	8.87616	.19774	1.23901	2.01459	8.227	2014	.000

Poverty Scorecard test of significance for difference in PSC band of IGG beneficiaries between baseline 2016 and Current Survey, 2020

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Poverty Score (Endline) - Poverty Score Baseline	3.77789	8.22349	.18352	3.41799	4.13779	20.586	2007	.000