



MARCH 2022

CEDIL Syntheses Working Paper 2

## Development impact evaluations in Pakistan:

A country evaluation map

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**Suggested citation:** Crincoli, T., Beveridge, E., Griffith, T., and White, H. (2022) *Development impact evaluations in Pakistan: A country evaluation map*, CEDIL Syntheses Working Paper 2, CEDIL, Oxford. Available at: <https://doi.org/10.51744/CSWP2>

This project was funded by the Centre of Excellence for Development Impact and Learning (CEDIL), supported by UK Aid from the UK Government. The views expressed in this working paper do not necessarily reflect the UK Government's official policies.

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# **CEDIL synthesis working paper: Development impact evaluations in Pakistan: A Country Evaluation Map**

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## List of abbreviations

<b>BMJ</b>	British Medical Journal
<b>BWPI</b>	Brooks World Poverty Institute
<b>C4ED</b>	Centre For Evaluation and Development
<b>CEDIL</b>	Centre of Excellence for Development Impact and Learning – an initiative supported by aid from the UK Government designed to develop and promote new impact evaluation methods in international development.
<b>COVID-19</b>	Infectious disease caused by the SARS-CoV-2 virus
<b>CVD</b>	Cardio-Vascular Disease
<b>ECD</b>	Early Childhood Development
<b>EPPI</b>	EPPI-Reviewer is an application for all types of literature review, including systematic reviews, meta-analyses, 'narrative' reviews and meta-ethnographies
<b>HIV/AIDS</b>	Human Immuno Virus/Acquired Immune Deficiency Syndrom
<b>IJTLD</b>	International Journal of Tuberculosis and Lung Disease
<b>IKEA</b>	A Swedish-founded, Dutch-headquartered multinational conglomerate
<b>ILO</b>	International Labour Organisation
<b>JAMA</b>	Journal of the American Medical Association
<b>LHW</b>	Lady Health Worker
<b>NBER</b>	National Bureau of Economic Research
<b>NSRP</b>	National Rural Support Programme
<b>ODI</b>	Overseas Development Institute
<b>PIMS</b>	Overseas Development Institute
<b>PRIMCED</b>	A series of discussion papers from the Institute of Economic Research, Hitotsubashi University
<b>RCT</b>	Randomised Controlled Trial
<b>SDG</b>	Sustainable Development goals
<b>UNICEF</b>	The United Nations Children's Fund
<b>WHO</b>	World Health Organisation

## **Abstract**

This map presents the impact evaluations contained in the 3ie Evidence Hub for Pakistan in a framework with interventions adapted from the Pakistan 2025 strategy and the Sustainable Development Goals (SDGs) as outcomes.

The most well-represented area is human capital interventions and outcomes, most notably health, but also including many studies for education (including cash transfers). Other well-represented areas are gender and, to a lesser extent, microfinance. All these are areas in which a country-level synthesis may be of interest.

Beyond this, the map mostly shows gaps—areas where there are no impact evaluations despite there being many interventions in these areas that are amenable to rigorous impact evaluation, such as rural roads and water management.

# 1. Background

## 1.1 The purpose of the impact evaluation map

The purpose of this impact evaluation map is to promote the knowledge and accessibility of impact evaluations in Pakistan. This map can be used by decision-makers and researchers alike to understand what impact evaluations have been carried out and where there is a need for more research. It can also identify clusters of studies that may be synthesised at the country level.

The secondary purpose of the map is to increase the use of impact evaluations. By increasing the awareness of impact evaluations in Pakistan, this map will also increase the discoverability and use of these studies (White *et al.*, 2020). For example, if a team is working on a study of education in Pakistan education programmes and their influence on human and social capital, the author will be able to find 16 other impact evaluations that cover the same topic using this map, thus learning what has been studied before and how.

This is not a comprehensive map of all evaluations. It contains only impact evaluations, and only those contained in the International Initiative for Impact Evaluations (3ie) database. It is thus an interim product. A full country evaluation map of all evaluations can be produced should funding become available. Such a map would be based on a more comprehensive search and also include process evaluations, as has been done in the Uganda Country Evaluation Map (White *et al.*, 2021).

## 1.2 Scope of the impact evaluation map

The impact evaluation map covers all Pakistan impact evaluations that were available on the 3ie database (the Evidence Hub). All the impact evaluations found and used are evaluations of development interventions. An example of a study is given in Box 1.

**Box 1: Can health-insurance help prevent child labour? An impact evaluation from Pakistan**

**Authors:** Andreas Landmann and Markus Frölich

**Intervention:** Microinsurance and child labour. This study explored the National Rural Support Programme (NSRP) microinsurance innovation and its ability to reduce child labour in 13 separate areas in Pakistan. This study tested whether increased NSRP coverage might reduce the need for children to work, thus reducing child labour.

**Context:** This study took place in 13 NSRP branches in Hyderabad, Pakistan. The study included 2,097 Hyderabad households, with a total of 12,935 individuals.

**Evaluation question and design:** The main question of this study was ‘Can increased NSRP microinsurance coverage reduce child labour in rural Pakistan?’ The design was a cluster randomised controlled trial that included 13 NSRP branches. Nine of the branches were treatment groups, while the other four were control groups. The households and individuals were placed in treatment and control groups based on which NSRP branch they were with.

**Evaluation findings:** The effect sizes of this study were often too small to conclude a clear causal effect. The authors state that a bigger study is needed to confirm the significance of some of the smaller differences between the treatment and the control group. However, the biggest difference between the treatment and control group was hazardous occupation and child labour. The treatment group showed a statistically significant decline of children in hazardous occupations and of child labour overall. This study also found that the treatment group experienced a small increase in children’s school attendance. These findings seemed greater for boys more than girls, likely due to the greater number of boys in child labour.

### 1.3 What are impact evaluations and why are they important?

An impact evaluation is a study that seeks to explain or understand the impacts of an intervention or programme. Impact evaluations most often use a comparison group and a treatment group to understand the impact of an intervention or programme. The impacts of an intervention or programme can be intended or unintended, as well as positive or negative. Impact evaluations remain an important type of study for policymakers and non-governmental organisations alike as they clearly show how effective an intervention or programme are. Impact evaluations are thus important for decision-makers in helping them select and design programmes.

### 1.4 What this map shows

The Pakistan impact evaluation map shows the types of impact evaluation completed by sector (based on the Pakistan 2025 strategy) and by outcome, as embodied in the SDGs. Another item coded for in this map is author nationality, which specifies whether the author is Pakistani. Similarly, ‘project commissioner’ captures whether the project was locally or

externally commissioned. This map also includes information regarding the region where the interventions took place and the study design.

## **1.5 Limitations**

As noted above, this map has two limitations. First, it is restricted to studies included in the 3ie Evidence Hub. While this is the most comprehensive collection of development impact evaluations, previous experience has shown that it does miss some studies. Second, it does not include process evaluations. The Campbell South Asia Office is available to update the map to address these limitations if funding is available.

## **2. Objectives**

The primary objective of the Pakistan impact evaluation map is to make impact evaluations about development interventions in Pakistan readily discoverable and available to others commissioning, using, and undertaking impact evaluations in Pakistan, particularly policymakers and others who would use these studies for the betterment of Pakistan.

To achieve this end, the Pakistan impact evaluation map has the following research questions:

1. to create a framework for the presentation of impact evaluations;
2. to identify and code impact evaluations in that framework; and
3. to identify evidence and gaps in the impact evaluation research conducted in Pakistan.

## **3. Methodology**

### **3.1 Evaluation map framework**

The framework was developed through the following process.

Stage 1: The initial framework was created based on Pakistan 2025: One Nation—One Vision, which is intended to be ‘a critical guide-post for the development of an effective strategy and road-map to reach our national goals and aspirations’ (Planning Commission, no date: 3). This framework is described below.

Stage 2: The impact evaluations that were found in the 3ie database were screened.

Stage 3: The impact evaluations were coded.

### **3.2 Eligibility criteria for the map**

The population for the Pakistan impact evaluation map is all Pakistani citizens and others resident in Pakistan, including refugees and migrants. It does not include Pakistani nationals resident overseas.

#### **3.2.1 Interventions**

Eligible interventions are development interventions across all sectors. Development interventions are those intended to contribute to socioeconomic development and the wellbeing of the population. The intervention categories and subcategories were adapted from the Pakistan 2025 strategy (Table 1). A single study may be coded under multiple intervention codes.

Table 1 lists the intervention categories and subcategories. These categories are based on the pillars in Pakistan 2025. Specifically, Pillar 1, ‘Putting people first—developing human and social capital’, becomes the category ‘Human and social capital’; Pillar 2, ‘Achieving sustained, indigenous, and inclusive growth’, becomes ‘Sustained inclusive growth’; Pillar 3, ‘Democratic government, institutional reform, and modernisation of the public sector’, retains the same label in the map; Pillar 4, ‘Water, energy, and food security’, becomes ‘Energy, water, and food security’; Pillar 5, ‘Private sector and entrepreneurship-led growth’, becomes ‘Private sector and entrepreneurship’; Pillar 6, ‘Developing a competitive knowledge economy through value addition’, becomes ‘Competitive knowledge economy’; and Pillar 7, ‘Modernising transportation infrastructure and greater regional connectivity’, becomes ‘Modernising transportation’. The subcategories are mainly based on the content of each pillar.

**Table 1: Intervention categories and subcategories**

Category	Subcategory
Human and social capital	Education Health Social development Social inclusion Interfaith harmony and religious diversity Arts, culture, and sport Water supply and sanitation
Sustained inclusive growth	Macroeconomic policy Investment promotion Fiscal policy, including tax Employment programmes Industrial policy and programmes Export development Urban development Social protection
Governance, institutional reform, and public sector modernisation	Political development Security Anti-corruption Police and the justice system Public sector modernisation and reform Capacity development
Energy, water, and food security	Energy Water Agricultural development Environment and climate change
Private sector and entrepreneurship	Privatisation Public sector enterprises Public-private partnerships Financial development
Competitive knowledge economy	Research and development Corporate governance Competition policy IT development Vocational training and skills development
Modernising transportation	National transport infrastructure and management International transport infrastructure and management

### 3.2.2 Outcomes

The outcomes used are based on the SDGs (Table 2), which are central to Vision 2025: ‘ensuring that Pakistan succeeds in achieving the proposed SDGs of zero poverty and hunger, universal access to health services, education, modern energy services, clean water and sanitation, and join the league of Upper Middle-Income countries by 2025’ (Planning Commission, no date: 3). Pakistan adopted the SDGs for their own national development agenda through a unanimous National Assembly Resolution in 2016<sup>1</sup>. A single study may be coded under multiple outcome codes.

**Table 2: Outcomes**

Outcomes
Economic development (including poverty and employment) SDGS 1 and 8
Sustainable agriculture and nutrition SDG 2
Health and wellbeing SDG 3
Education SDG 4
Gender SDG 5
Water and sanitation SDG 6
Energy, industry, and infrastructure provision SDGs 7 and 9
Urban development SDG 11
Environmental sustainability SDGs 12, 13, 14, and 15
Peace and justice SDG 16
Global partnerships SDG 17
Inequality SDG 10

### 3.2.3 Other codes

In addition to coding intervention and outcomes, there were four other codes: author nationality, study design, region of intervention, and study commissioner.

**Table 3: Other codes (filters)**

Author nationality	All Pakistani authorship No Pakistani authorship Pakistani and non-Pakistani authorship Authors not named
Study design	Experimental study design Non-experimental study design

1

[https://sustainabledevelopment.un.org/content/documents/233812019\\_06\\_15\\_VNR\\_2019\\_Pakistan\\_latest\\_version.pdf](https://sustainabledevelopment.un.org/content/documents/233812019_06_15_VNR_2019_Pakistan_latest_version.pdf).

Region of intervention	Balochistan Khyber Pakhtunkhwa Punjab Sindh Gilgit-Baltistan Azad Jammu and Kashmir Islamabad Capital Territory Region not named All of Pakistan
Study commissioner	Internally commissioned Externally commissioned Commissioner not named

### 3.2.4 Study designs

The only type of study design included in the Pakistan impact evaluation map was impact evaluation. This includes both experimental and non-experimental designs, with the requirement that the latter should have a comparison group, or regression-based approach, to address selection bias. Impact evaluations are studies that seek to explain the effects of interventions and programmes. Impact evaluations analyse the effects of interventions and programmes that are intended or unintended, as well as assessing whether they are positive or negative.

The 3ie impact evaluations are in the 3ie impact evaluation repository (<https://www.3ieimpact.org/evidence-hub/impact-evaluation-repository>), searching by country 'Pakistan'.

### 3.2.5 Types of setting

The map includes all 3ie impact evaluation studies undertaken in Pakistan, regardless of setting.

## 3.3 Screening and coding of studies

The screening of the studies was completed after the 81 Pakistan impact evaluations were located in the 3ie database. The search was conducted in January 2021. Screening assessed whether the studies were impact evaluations of interventions undertaken in Pakistan. Through the screening process, five studies were removed because they were duplicate studies.

### 3.3.1 Data extraction, coding, and management

The data extraction and coding (double coding) was done by two researchers (TK and EB) in EPPI Reviewer and coded into interventions, outcomes, author nationality, study design,

region of intervention, and study commissioner. A third party carried out reconciliation in case of disagreement as necessary (HW).

### **3.3.2 Quality appraisal**

Critical appraisal was not undertaken at this stage, but is considered for future editions of the map should funding become available.

## 4. Findings

### 4.1 Results from the search

The search was conducted in January 2021.

The 3ie database was the only database searched. A total of 81 studies were identified, but five of these were excluded because they were duplicates (Table 4). The majority of the studies—47 (62%)—use an experimental design. The share of experimental designs (mainly randomised controlled trials, but may include natural experiments) is slightly above that in the 3ie database as a whole, which is 60%<sup>2</sup>.

**Table 4: Number and type of studies in the evaluation map**

Source	Located	Experimental	Non-experimental	Included
Pakistan	81	47	29	76
3ie database		3,741	2,469	6,210

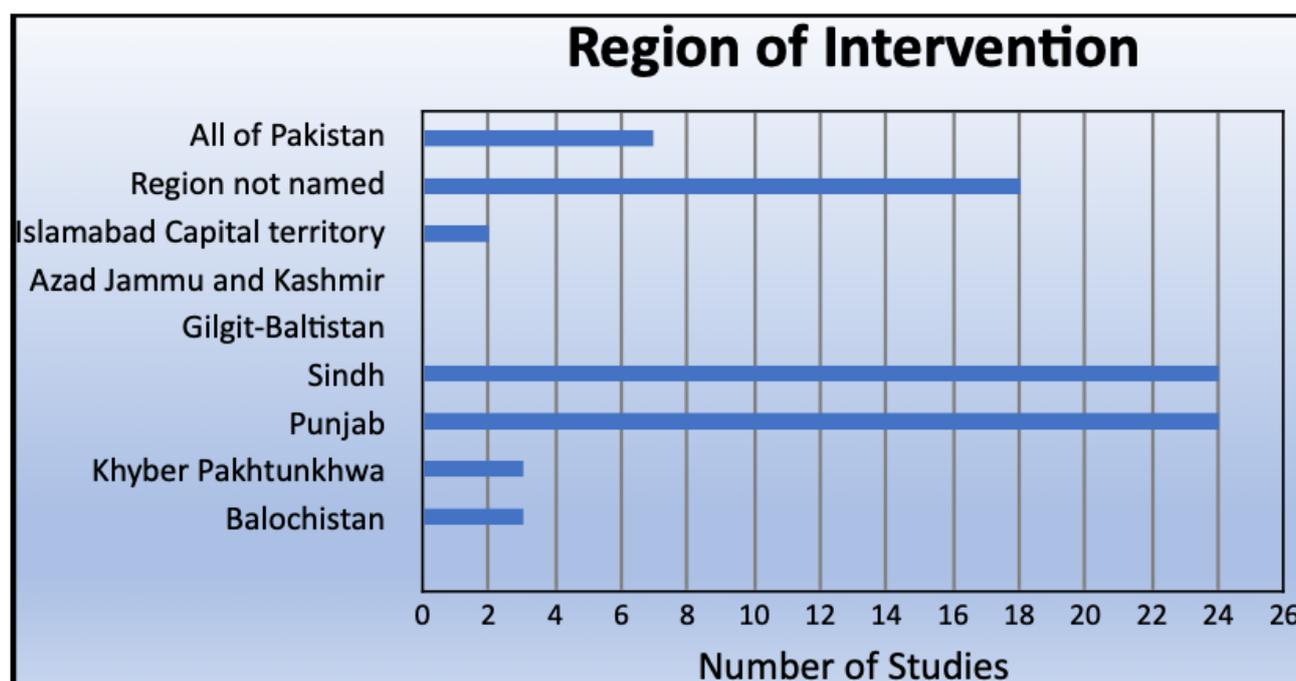
### 4.2 Region of intervention

The region of the studies with Pakistan is shown in Figure 1. The most common regions for interventions are Punjab and Sindh, the two most populated regions. A sizeable number of studies are ‘all Pakistan’, or the region could not be identified from the study. We do not have data readily available to compare with the distribution of aid across the country (we could undertake such an analysis in a funded update), but one referee mentioned that much UK aid is focused on Khyber Pakhtunkhwa.

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<sup>2</sup> Data for the 3ie database are calculated from a search conducted on 31 January 2022.

**Figure 1: Region of intervention**



### 4.3 Interventions and outcomes

Table 5 shows the intervention and outcomes table. This table provides an overview of the areas in which impact evaluations have been conducted in Pakistan (for an explanation of the SDGs or outcomes, see Table 2). Recall that a single study may be coded for more than one intervention or outcome, so rows and columns may sum to more than 76.

The colour coding is based on the arbitrary thresholds of: (1) well evidenced area: 10 or more studies; (2) moderately evidenced area: four or more studies; and (3) poorly evidenced area: zero to three studies.

**Table 5: Interventions and outcomes**

Code	SDG1&8	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG7&9
Human and social capital	5	8	40	16	13	4	0
Sustained inclusive growth	7	3	3	0	1	0	0
Governance, institutional reform	3	0	5	0	1	0	0
Energy water and food security	5	6	0	0	0	1	0
Private sector	5	0	1	4	2	1	0
Competitive knowledge economy	0	0	0	0	0	0	0
Modern transportation	0	0	0	0	0	0	1

As seen in Table 5, more than half of the Pakistan impact evaluations focus on human and social capital interventions and health and wellbeing outcomes (SDG 3). These impact evaluations are so common since impact evaluations are best-established in the health field, and Pakistan has many researchers working in this area. In addition, health may be an outcome of interventions in other sectors, although these are mostly studies also coded under health. For example, there are two m-health studies (Mohammed *et al.*, 2016; and Shahid *et al.*, 2015) and one study on a redesigned immunisation card (Usman *et al.*, 2011), which are coded under public sector modernisation as well as under health.

The prominence of human and social capital fits with the priorities of Vision 2025, which states that 'The first priority is to provide every citizen the ability to improve his/her choices and quality of life. This requires capitalizing upon and strengthening existing social capital, improving the human skill base of the population, and providing access to opportunities for advancement. It involves a rapid scaling-up of investments in education, health and social development, generating jobs and prospects for the youth bulge, harnessing the rising power of a socially aware population, gender equality and women's development, inclusion of vulnerable segments, interfaith harmony and religious diversity, promotion of art, culture and heritage, raising sporting standards, and moving towards a knowledge-based, ethical and values driven society' (Planning Commission, no date: 8).

Human and social capital is by far the most populated row in the map, with a focus on health and wellbeing (SDG 3), followed by education (SDG 4) and gender (SDG 5).

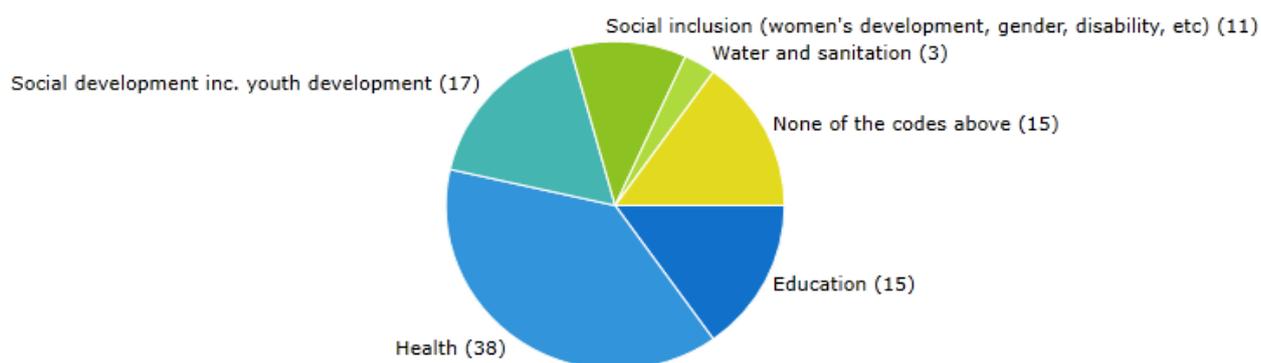
Sustained inclusive growth, governance, food water energy, and the private sector all have some moderately well-populated cells. However, they are still fairly under-researched compared to human and social capital. There is also a clear research gap in competitive knowledge economy, modern transportation, urban development (SDG 11), energy industry infrastructure (SDGs 7 and 9), and global partnership (SDG 17), in all of which there are few studies.

## **4.4 Disaggregated analysis by sector**

### **4.4.1 Human and social capital**

Human and social capital was by far the most populated intervention category, within which the largest number of studies are on health, followed by education and social development (which is largely child development) Figure 2).

**Figure 2: Human and social capital interventions by subsector**



Box 2 gives an example of a health impact evaluation from the map.

Most social inclusion impact evaluations focused on gender equality and women's health outcomes. The areas most lacking in studies in human and social capital are interfaith harmony and arts, culture, and sport.

**Box 2: Cost effectiveness of responsive stimulation and nutrition interventions on early child development outcomes in Pakistan**

**Authors:** Saima Gowani, Aisha K. Yousafzai, Robert Armstrong, and Zulfiqar A. Bhutta

**Intervention:** Early childhood development (ECD) and cost-effectiveness. This study explores the effectiveness of ECD interventions on children's health and education. It also explores the cost-effectiveness of ECD programmes. The intervention was completed through the Lady Health Worker (LHW) organisation. The intervention ran for 33 months, during which LHWs treated children aged zero to two.

**Context:** This study was completed in Sindh, Pakistan. The study included 1,489 0–2-year-olds who were placed in control, enhanced nutrition, responsive stimulation, and integrated groups. These four groups reflected how much treatment the infants would receive.

**Evaluation question and design:** The evaluation question of this study was: 'Do ECD programmes increase children's health and education and how cost-effective are these programmes?' The evaluation design of this study was a randomised controlled trial. The 1,489 infants were put into one of four groups, where they received varying treatments over a 33-month period. These findings were compared to determine the most effective version of the ECD.

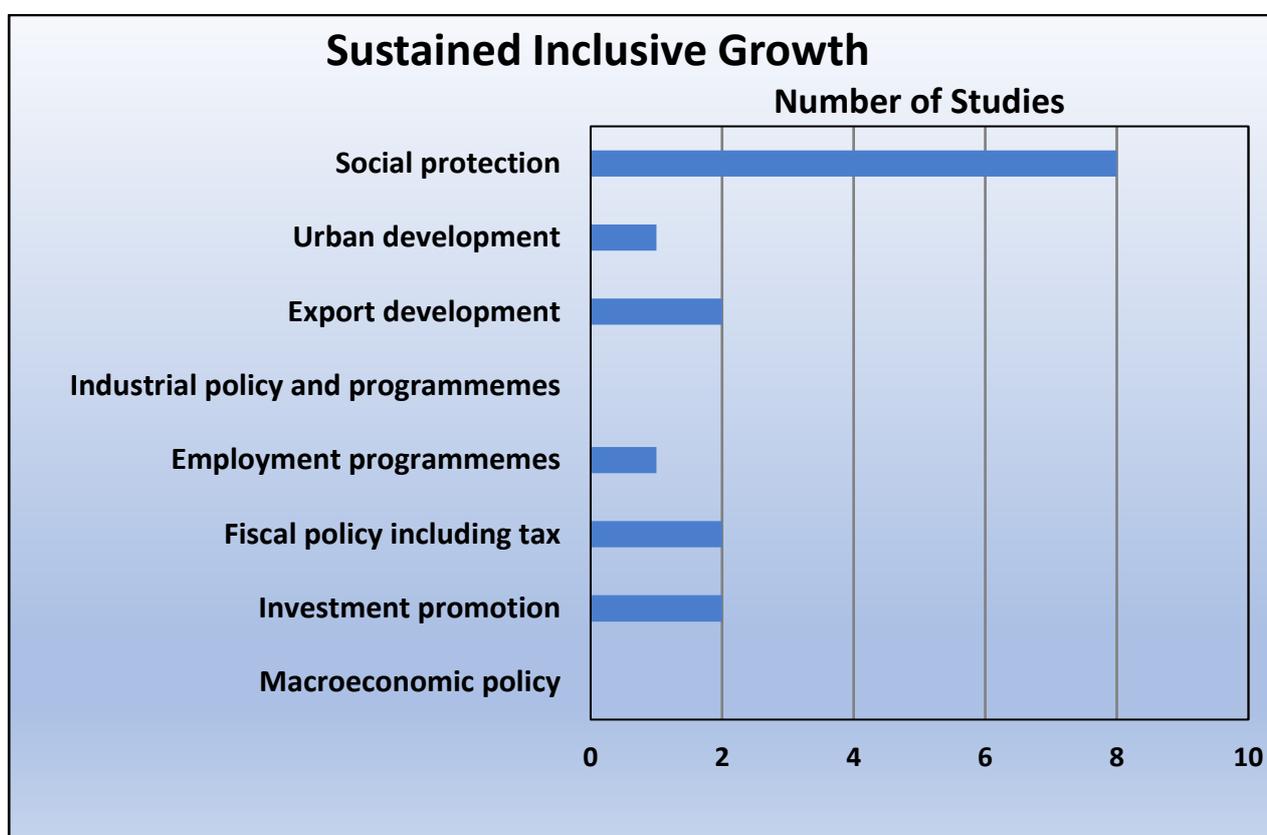
**Evaluation findings:** Of the four experimental groups, the responsive stimulation group had the most positive developmental impact on infants aged zero to two. The study also found that the most cost-effective and positive ECD was one that incorporated both responsive stimulation and providing feeding to the infants. It also found that the use of the LHWs was cost-effective because they were easily trained and already had access to the children who were the targets of ECD interventions.

#### 4.4.2 Sustained inclusive growth

There are far fewer impact evaluations for sustained inclusive growth, mostly on social protection (Figure 3). Social protection has such a high number of studies because it covers safety net programmes, including cash transfers (e.g. Chaudhury, 2010).

This is partly because some of the areas, notably macroeconomic policies, are not amenable to impact evaluation. However, this is not true of all the areas shown, notably employment programmes, where there is a clear gap. With some innovation, randomisation can also be applied to fiscal policy (as in Khan and Olken, 2016).

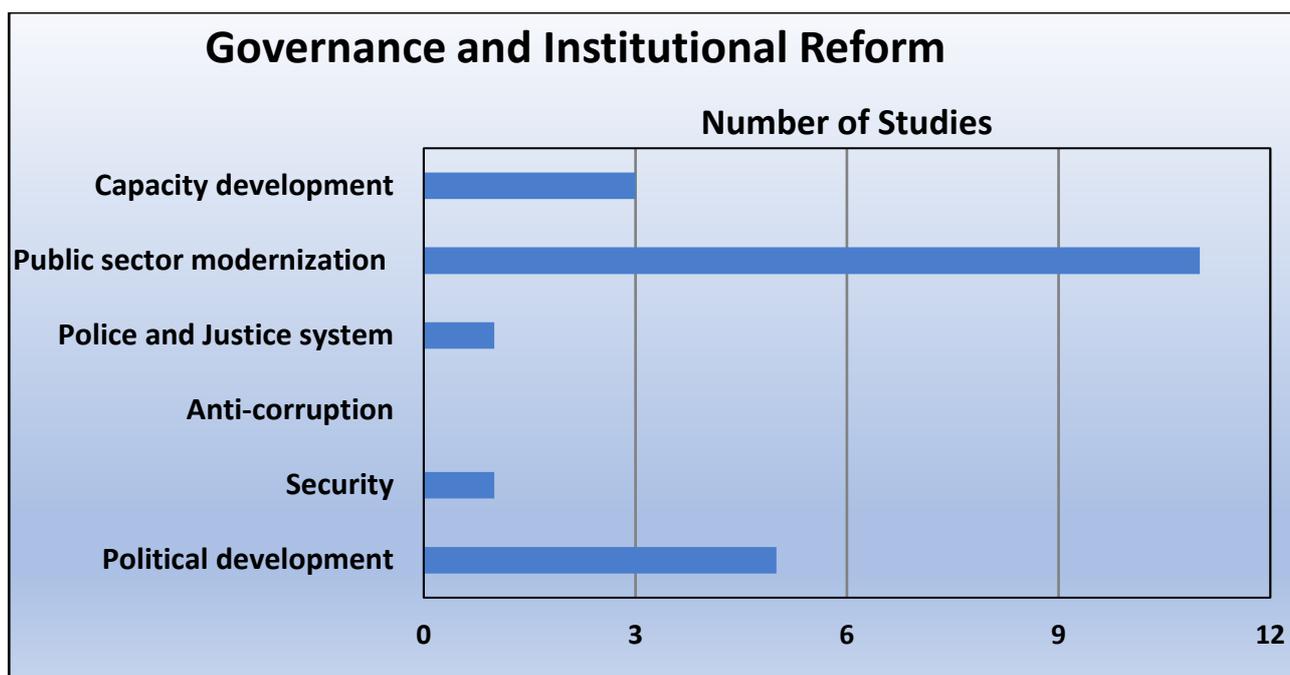
**Figure 3: Studies of sustained inclusive growth interventions**



#### 4.4.3 Governance and institutional reform

Governance and institutional reform is another sector with only a moderate number of impact evaluations. The most populated subcategory is public sector modernisation and reform, which was multiple coded with health impact evaluations. These health impact evaluations also focus on new technology and systems, which also falls under public sector modernisation and reform. Capacity development and political development also have a fair number of studies. However, security, police, and anti-corruption is clearly an understudied area.

**Figure 4: Interventions for governance and institutional reform**



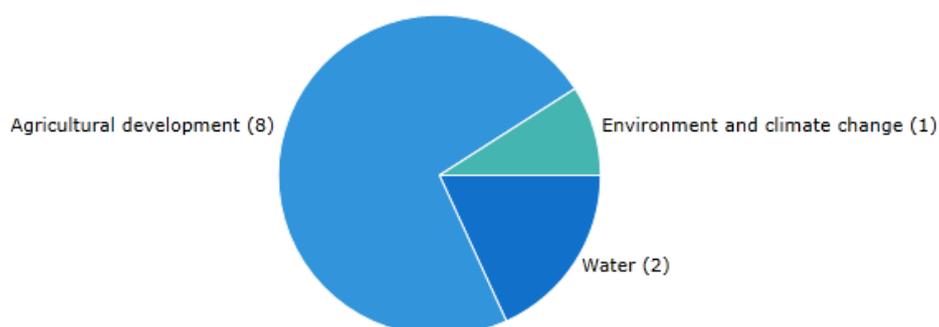
#### 4.4.4 Energy, water, and food security

Energy, water, and food security as a whole has only 11 impact evaluations, most of which are on agricultural development. Energy is a clear gap in the research base.

The lack of studies on water is surprising, given its importance for both domestic and agricultural use. As stated in Vision 2024: 'With an estimated population of 227 million by 2025,

Pakistan's current water availability of less than 1100 cubic meters per person, down from 5000 cubic meters in 1951, classifies it as a "water-stressed" country that is headed towards becoming a "water-scarce" country if action is not taken urgently' (Planning Commission, no date: 19).

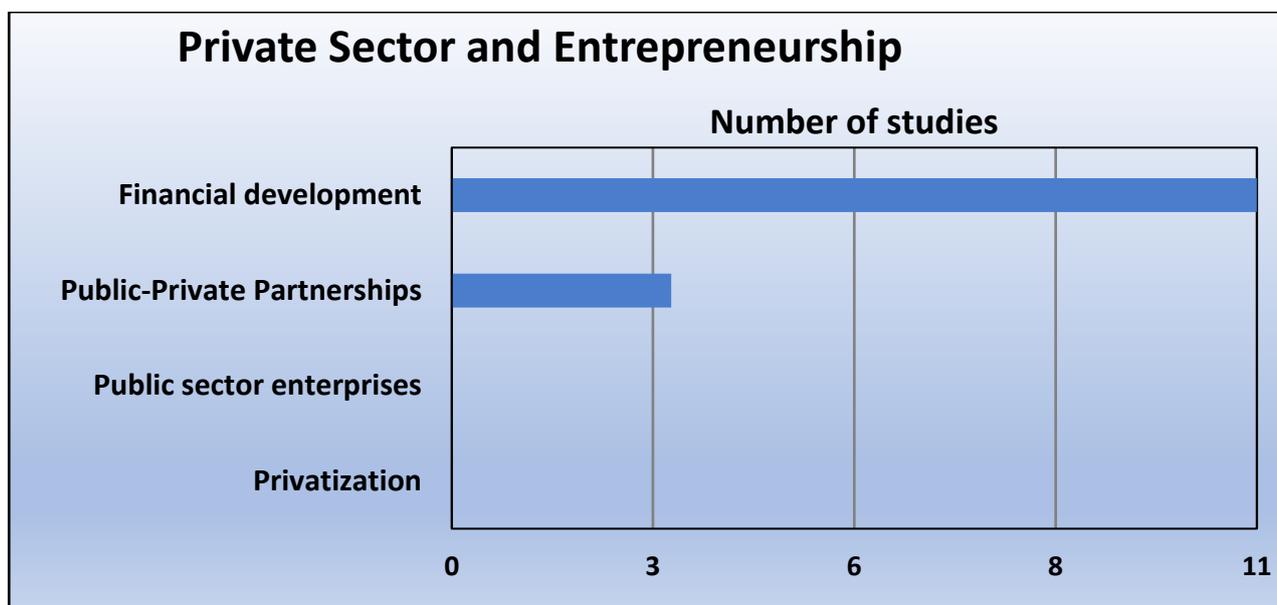
**Figure 5: Energy, water, and food security studies**



#### 4.4.5 Private sector and entrepreneurship

Private sector and entrepreneurship is a subcategory dominated by financial development, which is in turn dominated by microfinance, mostly microcredit (six out of the seven studies, with one for health insurance) (Figure 6).

**Figure 6: Private sector impact evaluations**



#### 4.4.6 Competitive knowledge economy

There are no studies for the competitive knowledge economy, which means corporate governance, competition policy, IT development, and vocational skills have not been subject to an impact evaluation. Competitive knowledge economy only boasts one study, showing a clear gap in the research and a need for more impact evaluations in this category. All of these are amenable to impact evaluation, with vocational training in particular being widely studied in other countries (see the youth employment evidence map in White *et al.*, 2022).

#### 4.4.7 Modernising transportation

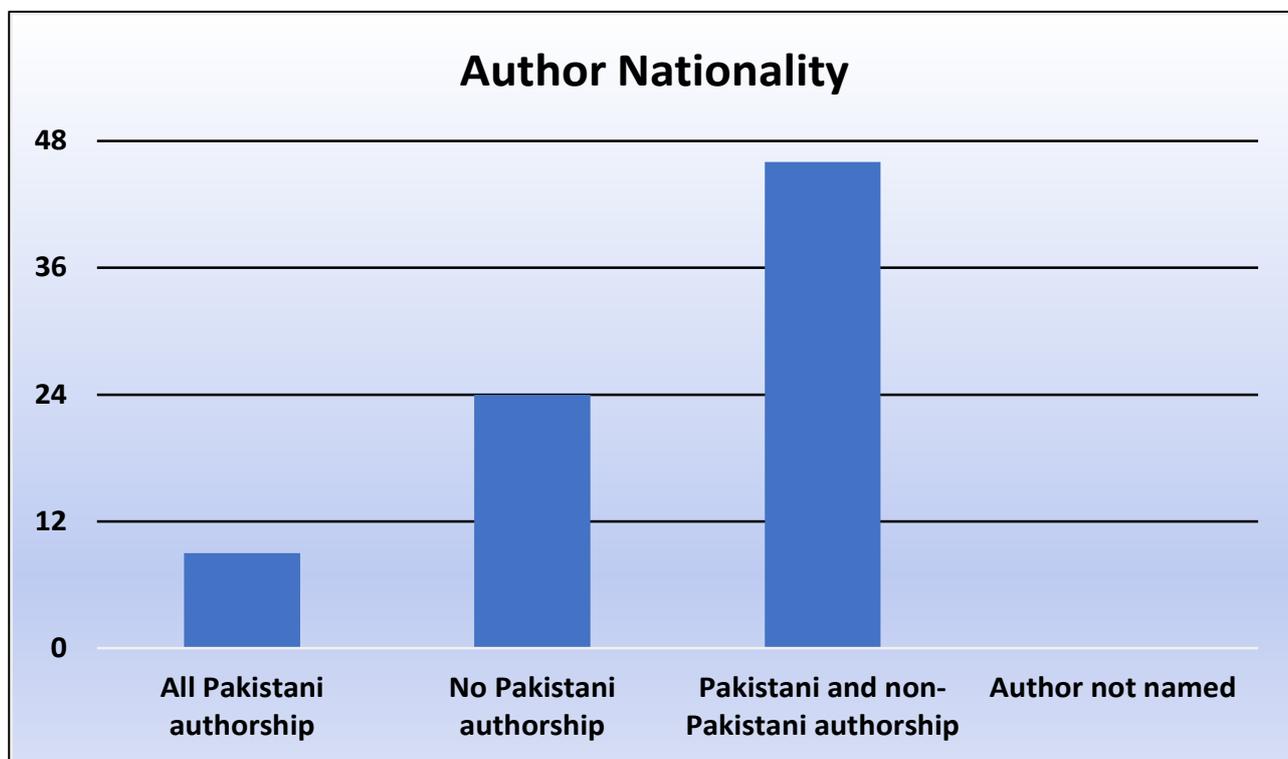
Modernising transportation only has one study to its name, located in national transport infrastructure and management (a study of mass transit systems in large cities). The other subcategory, international transport infrastructure and management, had no studies. Again, this lack is not reflected in the literature as a whole. There are many studies of rural roads in particular; see the transport evidence and gap map published by CEDIL (Malhotra *et al.*, 2021).

#### 4.4.8 Author nationality

The most common author nationality was a mixture of Pakistani and non-Pakistani authorship (43 studies). Roughly half of these studies (20) have a Pakistani lead author (Figure 7). This authorship is most common because, when international organisations conduct research or

programmes in Pakistan, they usually work with the Government of Pakistan or with Pakistani universities. For example, many international organisations work with Aga Khan University. There are also 24 impact evaluations conducted with no Pakistani authors, and just nine with only Pakistani authorship.

**Figure 7: Author nationality**



The authors with the largest number of papers are listed in Table 6. Three of these are associated with the Agha Khan University research group, formerly led by Zulfi Bhutta, who tops the list with seven studies.

**Table 6: Authors with three of more studies in the map**

Name	Affiliation	Sector	No. of studies in map
Zulfi Bhutta	Centre for Global Child Health at the Hospital for Sick Children	Public health	7
Akhter Ali	Social Sciences Institute, National Agricultural Research Centre, Islamabad, Pakistan	Agriculture	4
Sajid Soofi	Aga Khan University, Karachi, Pakistan	Public health	4
Aisha K. Yousafzai	Aga Khan University, Karachi, Pakistan	Public health	4
Markus Frölich	C4ED, University of Mannheim	Employment health; humanitarian aid	4
Felipe Barrera-Osorio	Vanderbilt, Peabody College	Education	3

## **4.5 Stakeholder engagement**

It was intended to produce the map in working with a Pakistani research team and in consultation with the Planning Commission. However, the COVID-19 pandemic prevented such an approach being adopted. It will be disseminated ex-post, using that dissemination as a basis to solicit funds for a more comprehensive update to be undertaken in a more consultative manner.

## 5. Summary

The Pakistan impact evaluation map presents 76 impact evaluations in the 3ie database. The 76 impact evaluations are fairly diverse, but show some clear gaps.

Impact evaluations are most common for health, education, and inclusion impact evaluations. These are areas in which reviews of local studies could be commissioned. There is evidently strong donor interest in gender issues in the country, which is a potentially interesting review to start with.

There are some studies, but far fewer, for sustained inclusive growth; governance and institutional reform; energy, water, and food; and the private sector. The biggest gaps in the Pakistan impact evaluation map are found in the modern transportation and competitive knowledge economy sectors.

Author nationality and region of intervention boast a diverse set of authors and regions, which is a strength of the impact evaluations. Study design is dominated by experimental studies, which was to be expected.

The Pakistan impact evaluation map showcases the impact evaluations that have been completed of interventions in Pakistan. However, it also shows that there are still some gaps in the research. The purpose of this map is to better inform policymakers and organisations of the research that has been done, as well as to promote the development of diverse Pakistan impact evaluations. We now embark on this stage.

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