

Research Brief

The Socio-Economic Impacts of Community Physical Infrastructure Schemes on Rural Communities

According to [World Bank](#) development indicators, at almost 63%, a vast majority of the Pakistani population resides in rural areas. Yet, rural communities face many difficulties due to a lack of basic human necessities and services such as access to safe drinking water, sanitation, education, health, roads and bridges. Rural women are especially disadvantaged as low infrastructure development hinders their mobility, making access to public services difficult, and culturally gendered roles, such as of fetching water, take much longer to carry out.

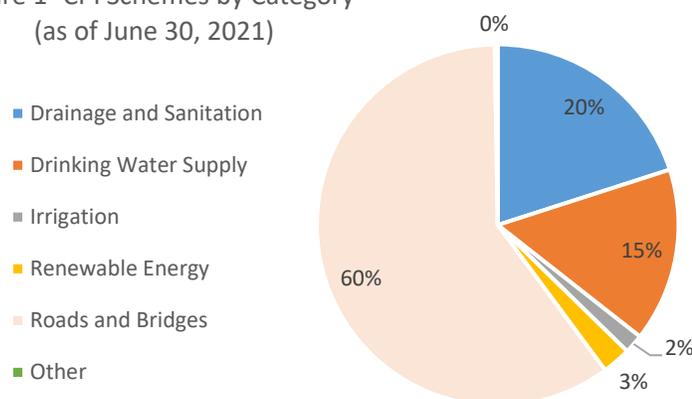
To overcome these challenges, the European Union funded 'Sindh Union Council and Community Economic Strengthening Support' - SUCCESS¹ - programme introduced the component of Community Physical Infrastructures (CPI) in its programme districts. The CPI schemes are aimed at improving the basic community-level infrastructure and productive assets. Village Organisations² (VOs) identify, execute, and maintain these CPI schemes as per their relevance,

needs and requirements in the rural setup. The SUCCESS implementing partners provided each VO a financial grant and engineering support to implement one CPI, as identified and prioritised by women community members of the VO. The CPI schemes can be clubbed into the following categories; drinking water supply schemes, irrigation, renewable energy, drainage and sanitation, roads and bridges (See Figure-1).

As of June 2021, work on 1,871 CPI schemes had started, of which 1,198 schemes were completed, and the remaining schemes were at different levels of completion. About 94,583 households have benefited from these schemes, enabling them to meet their primary needs and avail improved access to public services.

According to a recently conducted assessment, the CPI schemes initiated under SUCCESS programme are pertinent to the priorities and needs of women as primary stakeholders. The beneficiary women actively

Figure 1- CPI Schemes by Category
(as of June 30, 2021)



Source: CPI Assessment study 2021

¹ The SUCCESS Programme is being implemented in rural areas of eight districts of Sindh, namely Larkana, Kambar-Shahdadkot, Jamshoro, Dadu, Sujawal, Matiari, Tando Mohammad Khan and Tando Allahyar. Organisations working under SUCCESS include the Rural Support Programme Network (RSPN), Sindh Rural Support Organisation (SRSO), Thardeep Rural Development Programme (TRDP) and National Rural Support Programme (NRSP).

² Community Institutions (CIs) such as Community Organisations (COs), Village Organisations (VOs) and Local Support Organisations (LSOs) are formed through social mobilisation and these organisations are run by rural women.



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took part in the consultation process of scheme identification as well as in every step thereafter along with other members of their communities. Implementation of these schemes has thus left positive social and economic impacts on the rural communities, especially the women.

About the Study

This policy brief focuses on a study that assesses the Community Physical Infrastructure projects (CPI schemes) launched under the EU-funded SUCCESS programme in eight districts of rural Sindh. The policy brief throws light on key findings of one of the objectives, i.e. the social and economic impacts of CPI schemes on the rural communities, especially rural women. The complete report is available here: <https://success.org.pk/wp-content/uploads/2021/12/Assessment%20of%20CPI%20Projects.pdf>

Key Findings

Water Schemes: A Sigh of Relief for Women

As of June 2021, a total 278 'Drinking Water Supply Schemes' (DWSS) were initiated under SUCCESS, out of which two-third have been completed. More than 24,000 households are benefitting from these schemes, and the average cost comes out to PKR 4,336 per household. The social impacts of DWSS on the targeted communities, especially the women, include saved time previously spent fetching water, decrease in cases of water-borne diseases, and changed bathing habits. Women have taken a sigh of relief after getting easy access to drinking water as they previously used to walk as much as two to three kilometers each side to fetch water, sometimes making multiple trips a day. The time saved is now spent taking care of children, household chores, and engaging in income-generating activities, such as preparing and selling artisans products.

With regards to the economic impact, the monetary value of time saved and directed towards productive activities, using nominal wage rates, varied from PKR 241,7'55 in Dadu to PKR 2,587,793 in Kambar-Shahdaskot per CPI per annum for men. For women, who culturally are tasked with fetching water and hence spent more time in the activity, the total value of saved time ranged from PKR 624,150 in Sujawal to PKR 5,956,876 in Jamshoro per CPI per annum. Households also benefited through decreased health expenses as the number water-borne disease cases have gone down owing to DWSS CPI schemes.

The average annual cumulative benefits for each drinking water supply scheme ranges from PKR 0.98 million in the case of Sujawal to PKR 9.23 million for Jamshoro. Similarly, the return on investment ranged from 6.71 in the case of Dadu to 19.30 in the case of Kambar Shahdaskot.

Improved State of Hygiene: A Healthy Change

For drainage and sanitation, 359 schemes, such as pavement of streets and construction of latrines, were initiated, out of which 203 have been completed. Communities believe that the schemes would be beneficial in reducing diseases among children due to a reduction in open defecation and improved overall hygiene. For women, the latrine schemes have ensured privacy that was previously compromised. People have also felt a healthy change after the construction of street pavements as this removed stagnant water and heaps of garbage that previously collected in broken nooks and crannies of the

streets. This positive change in drainage and sanitation has improved the mobility of people, especially that of women and school-going children.

Communities believe that the overall improved hygiene has aided in bringing down the health expenditure by a varying degree, from 50% a decrease in Tando Allahyar and Sujawal to 76% in Kambar Shahdadkot. Resultant cumulative savings due to the curtailment of medical expenses varied from PKR 300,000 per CPI per annum in Sujawal to PKR 714,000 in Kambar Shahdadkot for all beneficiaries of these schemes. Return on investment of these schemes varies from 0.71 in Dadu, to as high as 1.85 in Tando Allahyar.

Ameliorated Mobility and Accessibility

Accounting for 60% of all schemes, 1147 CPIs of roads and bridges were launched, out of that 414 CPIs have been completed as of June 2021. The total number of households estimated to benefit from these schemes stands at 104,312. Since construction of roads and bridges have ameliorated the mobility of people, access to clinics and hospitals has improved. Ease of access to schools has resulted in increased enrollment of children by 29% on average, ranging from 19% in Tando Muhammad Khan to 51% in Matiari.

The construction of roads and bridges have also saved more time for the communities, especially women, who now feel safer after reaching their destinations earlier. A decrease in the number of accidents was also reported by two communities from Kambar-Shahdadkot owing to the construction of roads.

The economic impacts display that these schemes have lowered travel costs and decreased the time of travel. The value of time saved, using average wage rates ranging from PKR 550 or PKR 600 per day, varied between PKR 301,042 and PKR 952,500 per CPI per annum in Tando Allahyar and Sujawal respectively. The return on investments of these schemes vary district wise from 3.10 in Jamshoro to 9.90 in Sujawal³.

Increased Household Income

A total of 33 irrigation schemes were launched, of which 23 schemes have been completed. An estimated 781 households will benefit from these schemes with an average of 24 households per CPI scheme. The social impacts showcase that the engagement of women has increased in agriculture due to the installation of tube-wells that has enabled farmers to cultivate more area. The communities are also using tube-well water for drinking after testing its quality. The economic impacts demonstrate that the household income has increased due to the availability of more water for irrigation, resulting in increased crop yield. The annual income of each of 22 beneficiary households per CPI has increased by Rs. 27,157 on an overall basis.

Multifaceted Benefits for Community

Other CPI schemes installed include solar systems for water pumps and lighting, and so far 47 schemes have been initiated, out of which 13 have been completed. An estimated 2,897 households will benefit from these schemes, through easy access to drinking water and availability of solar electricity after

³ These values should be carefully interpreted as the degree of productive utilisation of saved time may be only fractional

sunset. Women are now able to cook food after sunset and school-going children can do homework at night.

With regards to the economic impact, availability of solar energy no longer necessitates households to spend an average of PKR 900 per month per household on kerosene oil to keep lamps burning after sunset. At most, households now report spending up to PKR 75 only. The availability of electricity has also created an opportunity for them to engage in income-generating activities which has increased the monthly household income by up to PKR 1,100 on average.

SUCCESS CPI Schemes Contributing towards Sustainable Development Goals

Sound rural infrastructure provides an opportunity for easy access, mobility, and connectivity to the dwellers of rural parts of the country to basic services, which in turn has positive social and economic impact on the rural communities. According to the assessment report, the schemes also contribute to multiple Sustainable Development Goals (SDGs), as explained in Box-1. The CPI schemes must be implemented in letter and spirit so that rural communities continue to avail these benefits. Otherwise, the absence of these basic services will hinder the transformation of positive change.

Box-1: Community Physical Infrastructure schemes initiated under the SUCCESS Programme contribute towards achievement of the targets of at least six SDGs.

- **SDG 1 - No poverty:** irrigation CPIs directly help in increasing the income of people through increasing crops yield and production
- **SDG 3 - Good health and wellbeing:** Water supply schemes, drainage and sanitation schemes and road, bridges schemes and street pavement CPIs can reduce diseases and improve access to health services.
- **SDG 5: Gender equality:** All CPIs have a potential to improve gender equality.
- **SDG 6: Clean water and sanitation:** The schemes of drinking water supply are expected to contribute toward the achievement of SDG 6.
- **SDG 7: Affordable and clean energy:** The CPIs of alternate energy especially solar energy is helping in the achievement of SDG 7, as it can increase access of people to clean and affordable energy.
- **SDG 10: Reduced inequalities:** The CPIs of irrigation and road and bridges are expected to reduce inequalities.

Source: CPI Assessment study 2021

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