

## SDC 2018 Annual Meeting Abstracts

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**Title: Drought Shocks and Student Achievement in Brazilian Rural Schools**



This paper aims at assessing the impact of drought shocks on student achievement in rural schools located in Brazilian semiarid areas. In particular, we assess how droughts may affect student achievement as measured by Prova Brasil, a national standardized exam.

In Northeastern Brazil, there is plenty of anecdotal evidence that schools in rural semiarid areas are forced to temporarily cease activities due to lack of water storage infrastructure. Such disruptions may contribute to poor student achievement and high school evasion rates. It is estimated that approximately 40.5% of all public schools do not have water storage devices such as cisterns.

We combine education- and weather-related information to construct our database. We show that drought shocks are associated to lower scores on both Mathematics and Portuguese exams. By investigating the potential transmission mechanisms underlying the relationship between weather shocks and school performance, we observe that exposure to a negative rainfall shock increase the hospitalization rate among children. In addition to that, severe droughts are also associated to higher probability of child work. Both health- and job-market related effects may be associated to lower school attendance and therefore contribute to poor student achievement. Finally, our results provide suggestive evidence that drought tends to be more harmful to children in rural schools with no cistern or other water storage devices.

Therefore, investing in basic infrastructure like cisterns is a low-cost policy strategy that may offset the negative the effects of droughts and considerably improve school performance in Brazilian semiarid rural areas. In a broader perspective, this result highlights the importance of investing in rural school infrastructure. Much of government efforts in Brazil are devoted to “urban-oriented education issues”, such as enhancing teaching quality. Little attention is devoted to rural education issues, where critical problems like the provision of adequate infrastructure have not been properly addressed. Improving basic infrastructure in rural schools is of paramount importance for educational advancements in the Brazilian semiarid, one of the least developed regions of the country.