

“Natural disasters can produce lasting changes in economic systems” – Tirthankar Roy

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2012-10-15

LSE's Tirthankar Roy discounts the extent to which natural disasters are man-made and argues for greater scientific collaboration to help predict events in South Asia.

India has long been vulnerable to famine, floods, earthquakes, and other natural disasters. In a new book, “[Natural Disasters and Indian History](#)”, LSE Professor Tirthankar Roy charts the social and economic history of natural disasters that took place in India between 1770 and 1935 and analyses the processes that have evolved to cope with such events. The book demonstrates how the qualities widely believed to comprise an adequate response to natural disasters – state capacity and preparedness – depend on how events are explained, how social cooperation occurs or falls apart, and how states are constituted. In doing so, “Natural Disasters and Indian History” also offers a critique of some aspects of colonial administration. Here, Dr Roy discusses why the perception that most natural disasters are man-made is over-stated and argues for greater scientific collaboration to help predict events in South Asia.



“The famine in India: Scenes in the Bellary district, Madras Presidency”, from the Illustrated London News, 1877 (Source: [Columbia](#))

Q. According to your book, the probability of death from natural disasters in South Asia has been twice that of the rest of the world (excluding China). Why is this the case?

A. This is primarily due to geography—disasters result from the tropical monsoon climate and the earthquake risk that stems from the unstable geology of the region. But the quality of response also plays a role since the number of fatalities also depends on how societies cope and cooperate and what resources they get from the state. Demography matters. For example, given the way cities develop in South Asia, an earthquake in an urban settlement can be particularly devastating because of the extremely high population density, and poorly defined property rights can make reconstruction a very complicated task.

Q. The current trend is to blame the state for lack of preparedness and losses arising from natural disasters. How did this idea evolve in India?

A. A century ago, disasters were seen as divine justice for sins committed by a society. With that perspective you don't expect the state to do anything. But now we see disasters as caused by nature and as predictable events. In this new context, the state's role is to form a bridge between the scientific community and society, calculate risks, predict events, and evacuate people when a disaster is predicted. Governments also have to play a big role in coordinating the agencies that can deliver preparedness. That said, the level of severity a state tries to prepare for is always a shifting parameter.

Q. Why do you think economists and economic historians emphasise the man-made aspects of natural disasters, as your book describes them doing?

A. Ordinary, thinking people – as well as historians and economists – in South Asia are obsessed with politics. When they explain how things change or what problems exist the first target is always the politicians or political systems. But we need to move away from this obsession and understand that geographical parameters shape our lives and livelihoods very deeply. Environmental risks such as crop failure, flood, starvation, monsoon storms, and earthquakes are rooted in the land and there's nothing a politician can do to prevent them. The best politicians can do is create a system that responds quickly and effectively to natural disasters. When discussion focuses on the politics and man-made aspects of natural disasters, the fact that gets sidelined is that these events are scientific phenomenon that can be predicted. It's more useful to think of these events as geographical occurrences and to strengthen research and predictive capacity.

Q. There is a growing emphasis in India on climate mitigation strategies and products such as [crop insurance](#)? Can these protect people and societies from the fallout of natural disasters?

A. The idea of insurance has been tried in different societies in different forms, but it has never been easy to market and remains unlikely to succeed. This is because the probability of natural disasters occurring is very small and people who are exposed to the risk do not want to pay for a product that is unlikely to yield value in their lifetime. Moreover, if a disaster does occur, the scale is so enormously large that no company can offer the whole range of protection that an affected person needs. These are collective risks that affect whole communities—it does no good if only one person buys the insurance, you need the whole community to be insured. Rather than insurance, relief provided by the state in the form of a subsidised product might work. A system of permanent relief – stocks of medicine or grain – that is available when necessary could help societies recover from a disaster. But such a system can be expensive and wasteful. The best preparedness comes through predictability and coordination. Right now, India's [National Institute for Disaster Management](#) is working on lively information exchange and that's a step in the right direction.

Q. To what extent can the impact of natural disasters such as famines in the late eighteenth and early nineteenth centuries in colonial India be described as failures of the British administration?

A. There is a longstanding idea that these events – especially famines – became worse because of over-taxation. The argument works in the eighteenth century when the British were first starting out in India, but it doesn't work as well in the late nineteenth century when the tax burden was significantly reduced. The real problem with colonial administration was not taxation but the fact that a state run by foreigners can be badly informed about what is happening on the ground since it doesn't have a trustworthy relationship with local outfits. The resulting information asymmetry and misinformation made the eighteenth-century famines quite bad. This problem was evident during the 1770 famine in Bengal, which had a divided government: the fiscal system was run by the British East India Company while the region's nawab managed governance. Since these two arms of the government didn't trust one another, the disaster became more severe. Although this problem was specific to the eighteenth century, the lingering problem of distrust between top levels and subordinate levels remained throughout the colonial era and compromised decision-making.

Q. Your book describes how natural disasters can boost labour market productivity and revive markets. How does that work?

A. There is a vast literature on the Black Death in Europe, which left a legacy of a depopulated agrarian zone that led to institutional readjustments and new bargaining between landlords and peasants. This can also happen during and after famines: while many people leave the land and join a migrant pool, those who return to the land can negotiate terms differently. Gains and losses in the market are also evident after earthquakes and floods, but these are primarily around property rights, which become a critical issue during rebuilding. Natural disasters can produce lasting changes in economic systems. During the nineteenth-century famines in India, a large number of people joined the migrant labour pool and travelled to Mauritius or the Caribbean. The burgeoning trend of indentured labour impacted not only Indian society but also tropical societies around the world.

Q. Is the perception that natural disasters affect all groups in a society equally accurate?

A. In the case of storms and earthquakes, you hear the phrase ‘great leveller’ being used throughout history because their effect is believed to be neutral in terms of socio-economic status. For the same reason, people do help each other more during a time of collective stress. But over a longer period of time, especially when it comes to urban reconstruction, the battle for territory can be quite fierce and it becomes apparent how difficult it is for the rich and the poor to collaborate. Even when the process is state-directed, inequality plays an important role as there are fierce political battles about who gets what, who has entitlement, who can prove entitlement, and who is willing to make sacrifices for the really needy when public goods are redistributed. Famines are also very unequal—the people who die of hunger are those who already had limited access to food. As such, the perception that natural disasters are equalising is not very accurate.

About the Author

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