Why a clearer ‘green industrial policy’ matters for India

Gopinath, Deepak

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Why a clearer 'green industrial policy' matters for India: reconciling growth, climate change and inequality

Dr Deepak Gopinath
Lecturer in Town and Regional Planning
Ground floor, G36, Tower Building
School of Social Sciences, University of Dundee
Perth Road, Dundee DD1 4HN
Scotland
UK

Tel: +44(0)1382 385048
Email: d.gopinath@dundee.ac.uk

Abstract
To ensure a healthy growth of the economy particularly in the manufacturing sector, the Indian Government is more than ever focussed on promoting use of sustainable and affordable energy resources. Recent initiatives such as the Solar Cities Development Programme are a good example. However, in order for these initiatives to gain legitimacy as part of a new 'green industrial policy', the Indian Government needs to do more, especially by bringing on board strategies for combating poverty within the gamut of this emerging 'green industrial policy' as well as to re-think India's position on global conventions on climate change.

Viewpoint
Debates on the impact and responses to climate change in the Indian context have been an emerging area of interest in the past decade (Jasanoff 1993; Rajan 1997; Jakobsen 1998; Kandlikar and Sagar 1999; Rajamani 2009). Testament to this are also a series of policy commitments put forward by the Indian government recently, e.g. in 2012, an ambitious target of increasing the share of renewable energy in the electricity mix to 15% by 2020 was announced (PIB 2012; Ganesan et al 2014); towards the end of 2015, a commitment to secure 40% of its electricity from renewable and other low-carbon sources by 2030 (The Guardian 2015).

Consequently, a range of research has been carried out in the Indian context including for instance work on quantification of emissions across different states (see for example, Ramachandra and Shwetmala 2012), modelling of future urban growth scenarios in select Indian cities (Pathirana et al 2014), and even an exploration of the role of traditional knowledge in engaging with changes to the climate system and how/whether capacities for adaptation are enhanced (Pareek and Trivedi 2011; Rana et al 2013). Research on climate change in Indian has also been undertaken using the lens of adaptation[i], where for instance, work carried includes an understanding of how actors and institutional frameworks in the local area shape the capacities of individuals/communities to adapt (Banerjee et al 2013).

What many of these studies point to is that climate change is not merely to be viewed as a distinct phenomenon but something that is intrinsically linked to and shaping the growth trajectories in the Indian economy. At the same time, the links between climate change and economic growth also needs to accommodate the Indian Government's efforts[ii] to alleviate both urban and rural poverty. However, at the moment these are isolated attempts and there is no clear direction as to how the impacts of climate change need to be effectively tied in with pro-poor strategies. This has led some to explore what shapes climate policy in India, and what the key drivers and barriers might be (Atteridge et al 2012). Such lines of inquiry prompt us to ask whether answers to promoting growth and reducing inequalities lie in pursuing a 'green industrial policy' that can reconcile tensions between people-environment interactions.

Clearly, the health of the manufacturing sector and access to affordable and sustainable energy sources has been cited as key to ensuring that India's economy can grow at pre-2010 rates of 8 percent in terms of overall GDP (World Development Indicators 2011; Ganesan et al 2014). This has resulted in what Ganesan et al (2014) refer to as 'India's Green Industrial Policy', which translates into "a mix of steps taken to address market failures in promoting green/clean energy technologies and solutions, and other, more classical policies to promote industrial development in India" (p.7). Some of the the strategies that loosely make up India's Green Industrial Policy include the Jawaharlal Nehru National Solar Mission[iii], the National Mission for Enhanced Energy Efficiency[iv], the National Clean Energy Fund[v] and the Solar Cities Development Programme[vi] (Rodrik 2013).

However, the extent to which India can pursue some notion of a 'green industrial policy' depends on two factors. Firstly, it is shaped by how India adheres to global conventions[vii] on climate change and how/whether it sees this as contradictory to its own notion of 'growth'. As an important global institution, the Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organisation and the United Nations Environment Programme (UNEP). The IPCC not only brings together experts from around the world but is also influential in shaping global frameworks such as the 1997 Kyoto Protocol (Agarwala 1998a, 1998b; Biermann 2001). Developing countries such as India have been reluctant to adopt 'national emissions'[viii] as the overall framework in global conventions and instead want to adopt a 'per capita emissions'[ix] as the basis for responding to climate change while at the same time requiring developed countries need to reduce emissions first (Thaker and Leiserowitz 2014). Consequently, although the United Nations Framework Convention on Climate Change (UNFCCC[x]) and the Kyoto Protocol were ratified by India in 1993 and 2002 respectively, Walsh et al (2011) argue that it was only after 2008 with the publication of the National Action Plan on Climate Change (NAPCC) and later in the 2009 Copenhagen Accord that India[xi] made commitments to reduce greenhouse gas emissions[xii].

Secondly, it depends on how and whether both urban and rural areas are brought under the gamut of a common 'green industrial policy'. At the moment, it is argued that Indian cities need to be at the heart of adaptation and mitigation strategies (Ravi 2008). However, there is limited effort to link up the work on urban areas with range of impact studies carried out in rural areas[xiii]. And thirdly, public perceptions on the nature of 'green industrial policy' needs to be pursued. This strand can build on existing work carried out in this area, for instance, study by Leiserowitz and Thaker 2011 reveal key themes captured in a survey carried out to understand public perceptions of climate change: (a) observations of local environmental change (e.g. if there were changes to rainfall patterns in local area and how it might affect the local economy); (b) climate vulnerability and resilience (e.g. impact of severe drought or floods on people's livelihoods); (c) global warming awareness and beliefs (e.g. role of human action in altering the climate system); (d) trusts in different messengers (e.g. who were trusted with knowledge on climate change); (e) support for climate and energy policies (e.g. what did people think the government should do).

Having said that, pursuing a 'green industrial policy' needs to be treated with caution. This is because as Rodrik (2013) argues, any industrial policy (including a 'green' one) has two shortcomings: firstly, governments rarely have full information to make right decisions and which sectors of the economy to invest in; secondly, once an industrial policy starts to support particular sectors of the economy, then it starts to be guided by "political rather than economic motives" (p.4).

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Notes

[i] In general, there are two broad approaches to engaging with climate change; adaptation and mitigation. Adaptation "implies the adjustment of society to a changing climate", and is about taking steps to protect the lives of communities keeping in mind that the current level (and rate of increase) in the amount of greenhouse gas emissions has global impacts while mitigation "requires shifts in current behaviour to end practices driving further climate change" and involves actions taken to reduce further release of greenhouse gas emissions or in other words, to reduce our carbon footprint (Meadowcroft 2009:7)

[ii] Currently poverty alleviation strategies in India can be categorised into direct and indirect strategies (Bhagvati 1988; Ahluwalia 1990); the former referring to government strategies that seek to directly address what the poor lack in terms ownership of land and capital, access to credit and employment opportunities etc., whereas the latter is a mix of growth-centred policies that would ensure flow of benefits to the poor. Some of the direct strategies are universal programmes, i.e. not exclusively for pre-determined target groups. Wage employment and self-employment programmes for the poor are examples of direct strategies that are universal in nature and are usually geographically targeted, that is, for urban (e.g. Urban Wage Employment Programme) and rural areas (e.g. Integrated Rural Development Programme). Similarly indirect strategies include redistribution of land through land reforms, to transfer technological innovation such as better drainage, application of higher yielding crops, fertilisers etc.

[iii] Launched in 2010 by Indian Government and with an ambitious target of achieving 20000 MW of solar power by 2022, more at http://seci.gov.in/content/innerinitiative/jnnsm.php

[iv] Launched in 2010 by Indian Government to reduce inefficiencies in the energy market, more at https://beeindia.gov.in/content/nmeee-1

[v] Launched in 2010 by Indian Government to support projects in clean energy technologies and enhancing the use of renewable energy sources, more at http://pib.nic.in/newsite/erelease.aspx?relid=58419

[vi] Launched in 2015 by Indian Government to develop around 50 cities as solar cities, where use of clean energy and renewable energy sources will be a core focus – cities that have got approval include Trivandrum (Kerala), Indore (Madhya Pradesh) etc. – more at http://www.thehindu.com/news/national/govt-approval-to-develop-50-solar-cities/article7571826.ece

[vii] An understanding of human impacts of climate change has come a long way. From the 1979 World Climate Conference held in Geneva organised by the World Meteorological Organisation that first pointed to the possible impact of human action on regional/global changes to the climate system (IPCC 2004; Zillman 2009), to the first COP (Conference of Parties) to the UNFCCC (United Nations Framework Convention on Climate Change) in Berlin in 1995, to the recently concluded COP 21 in Paris in 2015.

[viii] World Bank (2015a) reports a value of 2,074,345 kilo tons of carbon dioxide

[ix] World Bank (2015b) reports a value of 1.7 metric tons per capita of carbon dioxide

[x] Under the UNFCCC held in 1992, to which 186 countries are parties, including the European Union and the United States, industrialized countries are required to "stabilize their greenhouse gas emissions at 1990 levels by the year 2000" (United Nations Framework Convention for Climate Change, 2009). The Kyoto Protocol (1997) to that Convention has seemingly taken the issue further, by requiring industrialized countries "to reduce their greenhouse gas emissions by 12.5 per cent below base year (1990) levels over the 2008-12 period. For instance, the Climate Change Act 2008 (UK) requires that greenhouse gas emissions are reduced by at least 80 percent below base year levels by 2050. GHG emissions in 1990 = 767mt, GHG emissions in 2011 = 552mt, % reduction over the period 1990-2011 is 28%

In Scotland, The Climate Change (Scotland) Act 2009 sets a world leading target of at least 42% emissions reductions by 2020 (compared to the equivalent UK target of 34%) and an 80 per cent reduction target for 2050. In 2011, Scottish emissions of the basket of six greenhouse gases are estimated to be 51.3 million tonnes carbon dioxide equivalent (MtCO2e). The equivalent value for the base year 1990 is 73 million tonnes carbon dioxide equivalent (MtCO2e). By 2011, Scotland's emissions, including international shipping and aviation, had fallen 25.7% from 1990, over half way to meeting the 42% 2020 target set in the Climate Change (Scotland) Act. In 2012, a record year, almost 39% of Scotland's electricity needs were generated by renewable sources. Target of 100% of electricity demand from renewables by 2020.Energy supply in Scotland emitted 16.93 MtCO2e in 2011, or 33% of Scotland's total. Target is for 30% of overall energy demand (heat, transport and electricity) fro renewables by 2020.

[xi] India's emissions were 1.2 giga tonnes in 1994 and 1.7 giga tonnes of carbon dioxide equivalent in 2007 (Guardian 2010) and 2 giga tonnes in 2015 (World Bank 2015a); or in other words, it was 1.3 tonnes of carbon dioxide per person in 1990 and 1.9 tonnes in 2007 (Walsh et al 2011) ; 1 giga tonne = 1000 mega tonne, 1 mega tonne = 1000 kilo tonne, 1 kilo tonne = 1000 tonnes; carbon dioxide emission figures for China, US, UK and Scotland in 2015 are 8.2 giga tonnes, 5.4 giga tonnes, 493 mega tonnes and 61 mega tonnes respectively (World Bank 2015a)

[xii] A commitment to reduce 20 percent (of carbon dioxide emissions) and 40-45 percent (of carbon dioxide emissions per GDP unit) by India and China respectively by 2020 from 2005 levels (Biello 2009)

[xiii] Including studies: (a) on agricultural yield (Guiteras 2007) (b) on forest ecosystems (Ojea et al 2012; Khatun 2013); (c) on public health (Dhiman et al 2010; Moors et al 2013); (d) on the variability of the summer monsoon (Misra and DiNapoli 2014) and extreme rainfall events/flooding (Guhathakurta 2011).