Article title	The transformation of the Indian agricultural input industry: has it increased agricultural R&D?
Authors	Carl E. Pray & Latha Nagarajan
Abstract	Indian agricultural input industries have gone through a major transformation in the last 40 years. State owned firms grew during the Green Revolution and then stagnated or declined. Indian corporations that were protected from foreign competition are now exporters of agricultural tractors and pesticides. Foreign multinational corporations are rapidly increasing their role in the seed, pesticide, and tractor industries. Entry by large Indian firms and multinationals has increased competition in the input industries. Private agribusiness R&D in India grew from $23 million in 1985 to $250 million in 2009 in 2005 US dollars. This is the same time period as a transformation in the agricultural input industry, rapid growth in demand for agricultural inputs, breakthroughs in information technology and biotechnology, and changes in intellectual property rights. An econometric model was used to test whether the transformation of agricultural input industry was a major factor in the growth of R&D expenditure or not. This article analyzes a unique, firm level sales and R&D data set from the seed, pesticide, tractor, and fertilizer industries in 2000–2009. The estimated model indicates that agribusiness firms' R&D expenditures from 2000 to 2009 were positively related to variables associated with industry transformation such as firm size, ownership by multinationals, and declining industry concentration. The model also indicates that strengthening patent policy as well as growth in the size of research-intensive industries like the seed industry contributed to the growth of agribusiness R&D in India.
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