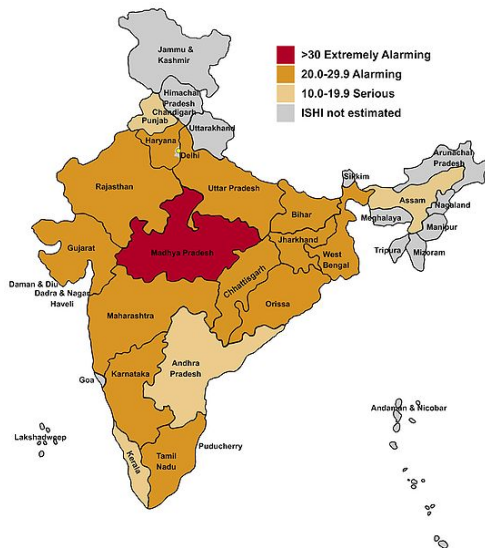


## State of Gujarat Moves to the Forefront of India's Agricultural Production

*An innovative plan to resolve a long-standing problem of tariff charges for electricity for farmers' irrigation pumps helped propel the state of Gujarat to the leading ranks of India's agricultural producers.*



The use of electric pumps in the State of Gujarat expanded rapidly during the late 1980s after the Gujarat Electricity Board (GEB) changed to flat tariffs linked to the horse power of pumps. Until 1988, farmers had been charged according to their metered use of electricity. However, as the use of electric pumps increased to hundreds of thousands, problems arose with meter reading and billing. To solve this problem, the GEB introduced a flat tariff system. Initially, the new tariff system was beneficial for poor farmers, but eventually led to over-exploitation of groundwater.

Power professionals and international lenders argued for an increase in the flat tariff charge, but farmers successfully opposed such moves through energetic

political mobilization. Faced with mounting financial losses, The GEB began reducing the power supply to agriculture. This only created further problems.

The GEB found it difficult to ration the power supply to wells without affecting power supply to domestic and other rural uses. Normally, single-phase power that can run domestic appliances was provided 24 hours per day, but 3-phase power required to operate wells, grain mills and other heavy equipment was restricted to 10-12 hours. To beat this system, farmers began using capacitors to convert two- or even single-phase power into 3-phase power to run their wells. This reduced the voltage available to village communities, while wells continued to operate unhindered for 18-20 hours/day. The rural society and its non-farm economy were held hostage by the burgeoning groundwater economy of Gujarat.

In 2002, IWMI researchers proposed separating electricity feeder lines supplying power to wells from other rural feeder lines and undertaking 'intelligent rationing' of power supply to wells in a way that emulates a high-performing canal irrigation system. The IWMI scheme was widely discussed and shared with senior policy makers in Gujarat and other states in December 2002. In September 2003, the government of Gujarat instituted an electrical power distribution scheme called *Jyotirgram Yojana* which incorporated and built on IWMI's proposal. First launched in eight districts in Gujarat on a pilot basis, by November, 2004 it was extended to the entire state. By 2006 over 90 percent of Gujarat's 18,000 villages were covered under the scheme. This was a massive operation which involved laying a parallel rural transmission network across the state at an investment of US\$260 million.

The government's strategy of presenting the *Jyotirgram Yojana* scheme as an intervention "to provide continuous 3-phase power supply to the rural area for upliftment of rural population" was

a political master stroke that created a powerful rural support base to counter well owners' resistance to power rationing. Before *Jyotirgram Yojana*, farmers, their families and most others viewed farmers as victims of a reformist government that was insensitive to their plight. The new scheme won supporters within farm families and has propelled Gujarat to the front ranks of agricultural production in India.<sup>1</sup>

Never before known as a vibrant agricultural economy, Gujarat has recorded 9.6 percent growth in Gross Domestic State Product from Agriculture and Allied activities from 2000/01 to 2006/07—the highest in all India for that period. During the same period the Gross Domestic Product from Agriculture at an all-India level grew at only 2.9 percent per annum. The reform of the rural power system, the reform of agricultural marketing institutions and a revitalized and reinvented agricultural extension system have all contributed to Gujarat's impressive performance. Gujarat could well be a model of agricultural growth for other states and developing regions.

---

<sup>1</sup> Real-time Co-management of Electricity and Groundwater: An Assessment of Gujarat's Pioneering 'Jyotirgram' Scheme <http://www.iwmi.cgiar.org/Publications/Other/PDF/NRLP%20Proceeding-2%20Paper%2015.pdf>