Effecting Alternative Development?
An Imagination and its Practice

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“Governance and Policy Capacity in the BRICS and Latin America: New Development Models?”
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The rules of the game have changed.

In the past, seemingly unlimited resources fueled our economies. But humanity now demands over 50 percent more than what the planet can regenerate.

Source: The Economist
A homeless boy holds biscuits that he received as alms as he takes shelter from rain in front of a fast food shop in Mumbai November 11, 2009. Credit: Reuters/Arko Datta
Source: Steffan et al. (2015) from Stockholm Resilience Institute
Billionaires who own the same wealth as half the world
And what transport they would fit on

Image Source: Oxfam Inequality Report (2016)
“Modernization leads to supermaterialization rather than dematerialization” (York and Rosa, 2003)
“The economic imperialism of a single tiny island kingdom [Britain] is today keeping the world in chains. If an entire nation of 300 millions took to similar economic exploitation, it would strip the world bare like locusts.”

- Who? When?
KNOWLEDGE DEMOCRACY
Where pluralism of ways of living, ideas and ideologies is respected and use of knowledge is accessible to all (traditional medicines displayed at the Udaipur Vikalp Sangam 2017)
Towards Energy Democracy: A Vision Statement

Adopted at Bijli Vikalp Sangam at Bodh Gaya, Bihar, March 2016

“A large group of civil society organizations including experts, energy practitioners, think tanks, peoples’ movements, academics, and entrepreneurs - came together... There are several serious social, environmental, technical, and economic issues with implications for future generations, if the business-as-usual approach continues.

Roughly two thirds of India’s population do not enjoy energy security...

Our continuing reliance on large centralized power generation, through conventional sources, will continue to exacerbate climate change impacts, displacement, biodiversity loss, water stress, destruction of forests, and pollution of air, land, water and sea. This commodification of our commons will further compromise our energy security and undermine the universal right to energy, including electricity. There is increasing evidence that nuclear power is neither clean, affordable, nor safe; coal power is not only dirty, but also adds greatly to our carbon footprint; and large hydro is massively destructive. Therefore none of these can be long term solutions for our country.

..."
### Technical Specifications - Clusters

#### Micro-grid Cluster I (Bishnupur)
- **Solar generation capacity**: 20kW
- **Solar Panels**: 80 panels of 250Wp
- **Daily generation**: 90 – 110 units (KWh)
- **Storage capacity**: 120 units (KWh)
- **Solar tubular batteries**: 64 batteries of 150Ah and 12V
- **Power Conditioning Unit (PCU)**: 4 units of 5kW/KVA
- **Beneficiaries**: 100 households and 50 commercial establishments (max)

#### Micro-grid Cluster II (Dharnai)
- **Solar generation capacity**: 10kW
- **Solar Panels**: 40 panels of 250Wp
- **Daily generation**: 45 – 55 units (KWh)
- **Storage capacity**: 60 units (KWh)
- **Solar tubular batteries**: 32 batteries of 150Ah and 12V
- **Power Conditioning Unit (PCU)**: 2 units of 5kW/KVA
- **Beneficiaries**: 50 households (max)

#### Micro-grid Cluster III (Dharnai)
- **Solar generation capacity**: 20kW
- **Solar Panels**: 80 panels of 250Wp
- **Daily generation**: 90 – 110 units (KWh)
- **Storage capacity**: 120 units (KWh)
- **Solar tubular batteries**: 64 batteries of 150Ah and 12V
- **Power Conditioning Unit (PCU)**: 4 units of 5kW/KVA
- **Beneficiaries**: 150 households (max)

#### Micro-grid Cluster IV (Jhirkoria)
- **Solar generation capacity**: 20kW
- **Solar Panels**: 80 panels of 250Wp
- **Daily generation**: 90 – 110 units (KWh)
- **Storage capacity**: 120 units (KWh)
- **Solar tubular batteries**: 64 batteries of 150Ah and 12V
- **Power Conditioning Unit (PCU)**: 4 units of 5kW/KVA
- **Beneficiaries**: 150 households (max)

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**Location of nearest city**: Patna (80km)

**Number of beneficiaries**
- 450 households and 50 commercial establishments

**Number of people benefitted**: 2500

**Micro-grid source of power**
- Solar photovoltaic: 70kW

**Average daily generation**: 350 kWh

**Average daily storage**: 420 kWh

**Solar Street lighting**
- LED based (20 nos)

**Transmission and Distribution**
- SMA151 network: 100% coverage

**Source of electricity for irrigation**
- Solar water pumps
- Solar pump capacity: 3HP 3 KW (10 nos)
What is Energy Democracy?

- Popular sovereignty
- Participatory governance
- Civic ownership
- Recognizes the co-produced nature of technology-society relations
- The “prosumer” embodying a new form of governmentality

- Builds on a long tradition of ideas about energy, technology, society, sustainability, post-development.

Mohandas Gandhi, Joseph Cornelius Kumarappa, Lewis Mumford, Jacques Ellul, Manfred Max-Neef, Amory Lovins, John Byrne, Langdon Winner, Amulya Reddy, Jose Goldemberg, Gustavo Esteva, Wolfgang Sachs, Arturo Escobar, Amartya Sen, Herman Daly, Joan Martinez-Alier, ... ...
Experience of the Dharnai Solar Micro Grid

- Picketed the chief minister: “nakli bijlee nahi, asli bijlee chahiye” (we don't want fake electricity, give us real electricity).

- While the sarkari meters are too complicated to read, the Greenpeace meters even a kid can read.

- Nearly all homes have TV - but when the sarkari grid is off the village has to depend on the solar electricity stored in the batteries.

- “If you have a fixed amount of water and your consumption is high, the water is going to run out fast.”

- Prevalence of cheap 100W “yellow bulb”

- "we get it [solar electricity] whenever we want -- it's like our switch with a finger on it - till the sun shines."
Governing the Dharnai Solar Micro Grid

- Dharnai comprised of four separate *tolas* organised along caste lines, with their separate microgrids

- "we need an higher authority to resolve the problems...the Superintendent of Police (SP) or the Deputy SP needs to be involved to resolve problems."

- "fear for people from the outside and hence willing to listen to them. Even the mukhiya cannot run the system."

- "food has been served, we will eat,"

- "This [microgrid] can be our own project. We can use it according to need. This is our energy and we must be thoughtful when we use it."
A New Governmentality?

- "we gave electricity within boundaries - people became selfish. Once you get the *adat* (habit) of electricity you cannot give it up. A very small percentage do not listen to the others. Majority are willing to live within the VEC prescribed limits."

- Project proponents seeking to *prove* the Renewable Energy Cluster idea
  - "commons," "devolution of power," "local self-government" and *swaraj*.

- Different set of symbolic values associated with the microgrid
  - Fame and ability to better attract government funding lines
  - Narrow communitarian identities, precludes formation of effective community and governance processes needed for “energy democracy”
Thank you!

It would be great to hear from you.

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