



**MANIPAL**  
ACADEMY of HIGHER EDUCATION

*(Deemed to be University under Section 3 of the UGC Act, 1956)*

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DEVELOPMENT POLICY AS A SOCIAL PROCESS:  
A CASE STUDY OF NIRANTHARA JYOTHY IN  
KARNATAKA

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A THESIS TO BE SUBMITTED TO  
MANIPAL ACADEMY OF HIGHER EDUCATION

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AWARD OF THE DEGREE  
OF  
DOCTOR OF PHILOSOPHY

BY

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UNDER THE GUIDANCE OF

**DR. NARENDAR PANI**



**NATIONAL INSTITUTE OF ADVANCED STUDIES**  
BENGALURU

2022



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### CERTIFICATE

The research in this thesis, entitled, **Development Policy as a Social Process: A Case Study of Niranthara Jyothy in Karnataka** was conducted by **Meera Sudhakar** in the School of Social Sciences, National Institute of Advanced Studies, Bengaluru, India, under the supervision and guidance of the undersigned. The thesis submitted is a bonafide record of research done by the candidate in partial fulfilment of the requirements for a doctoral degree. No part of the thesis has been submitted for the award of any other degree, diploma, or fellowship or any other similar title of any other university or society. References, help and material obtained from other sources have been duly acknowledged.

Place: Bengaluru

Date: 18-Jul -2022

Dr. Narendar Pani (Advisor)



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### DECLARATION

I hereby declare that the work presented in this thesis, entitled **Development Policy as a Social Process: A Case Study of Niranthara Jyothy in Karnataka**, is my original work, conducted under the supervision of my guide, Dr. Narendar Pani. It has not formed the basis for the award of any other degree, diploma or fellowship previously. The particulars given in this thesis are true to the best of my knowledge and belief. References, help and material obtained from other sources have been duly acknowledged

Place: Bengaluru

Date: 18-Jul -2022

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Meera Sudhakar

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## ABBREVIATION

AT&C	Aggregate Technical and Commercial losses
DTC	Distribution Transformer Centre
ED	Energy Department
ESCOM	Electricity Supply Company
FD	Finance Department
GoK	Government of Karnataka
IPP	Independent Power Producer
KEB	Karnataka Electricity Board
KERC	Karnataka Electricity Regulatory Commission
KPCL	Karnataka Power Company Limited
KPTCL	Karnataka Power Transmission Company Limited
NJY	Niranthara Jyothy
RLMS	Rural Load Management System
T&D	Transmission and Distribution



# **DEVELOPMENT POLICY AS A SOCIAL PROCESS: A CASE STUDY OF NIRANTHARA JYOTHY IN KARNATAKA**

## **ABSTRACT**

Enabling participation of a wider set of stakeholders in governance processes are a key normative prescription of democratic political theory. Yet, political-economic approaches to policy analysis have tended to address the question of how policy change is negotiated by focussing on elite policy actors, their interests and worldviews at the heights of the state. The implicit assumption is that policy initiatives are driven by the interests of dominant social groups who succeed in getting their preferences placed on the public agenda through political parties and electoral processes in a democracy. An alternative view attributes them to broad worldviews held by governments at particular points in time, often categorizing them as developmental states, welfare states or more recently, neoliberal states. Instead of such a typological understanding of policy motivations, or one that attributes it to interests of dominant social groups, this thesis attempts to capture how actors with multiple diverging policy interests actually negotiate policy inputs, outputs and outcomes at multiple sites of the policy process—from the time when its ideas are conceived, when these ideas are put into practice by implementing agencies, and when its outcomes are realised.

Empirically, the study uses the policy case of Niranthara Jyothy in the subnational context of Karnataka – a policy that sought to intervene in issues spanning multiple sectors using the discourse of a policy ‘model’ whose discourses originated in Gujarat. The policy intervention separated the infrastructure and procedures for the provision of rural electricity provision into farm and non-farm sectors, and thereby, providing ‘24×7’ reliable electricity to the non-farm sector. While this policy discourse in the public domain creates a consensus that accommodates

the bureaucratic interests of realising governance values of ‘efficiency’, ‘transparency’, and ‘sustainability’ for electricity and water governance in rural areas, the study contrasts these arguments offered in the policy discourse during policy formulation against how policy action unravels in sites of practice. This is done by providing two different views of local policy adaptation. The first view details the socio-economic processes in the village and identifies the diversity of practices that enable the participation of households in the ground water economy, central to the livelihood strategy in the village and shows how the new programme negotiates socio-economic processes already on-going in the village. The second view captures the continuities and changes to governance practices of the sub-division, the lowest-tier of the electricity bureaucracy that negotiate multiple goals of efficiency, transparency and reliable access to electricity in rural areas, policy goals that have increasingly come to be delegated to it. These two views together, provide an account of how a distinctive rural ethos of electricity provision and consumption are accommodated and sustained by the sub-division to cater to the interests of both the higher bureaucracy as well as the village by keeping these two domains separate. The study shows how the program allows a domain of local legitimacy to be sustained through informal and local negotiations that is separate from a domain of bureaucratic legitimacy through data aggregation practices and a discourse of transparency and illustrates how fragmented discourses allow for evaluation of some goals of the policy ‘model’ to be met while preventing feedback regarding the exclusion of a significant number of consumers in the non-farm sector from ‘24×7’ electricity; this separation also enables the continuity of unsustainable groundwater practices in the village.

Using the analysis offered in the case, the thesis makes two main contributions. First, it contributes to the scholarship on policy studies, by exemplifying a policy process that proceeds through a thin consensus forged around a technical instrument in a context of multiple diverging interests and policy issues. This is used to reveal a policy process that accommodates and absorbs change through negotiations in multiple fragmented arenas, each with a separate

audience and justification that generates acceptance. In doing so, it provides an account of ‘how-actually’ policy negotiations proceed that is different in form compared to a normative account of policy deliberation that views policy process as a rational and open negotiation in the public sphere.

Second, by placing the evolution of a policy ‘model’ within the sub-national development context in Karnataka, the study generate insights regarding the dynamics of negotiating policy change in a multi-layered governance context where multiple policy issues and interests co-exist. Specifically, by tracing the relations between sites and actors in policy formulation and implementation in the governance context of a dry-land region, it shows how approaches to improve efficiency in the sector through administrative decentralization in the electricity bureaucracy has led to the emergence of place-specific and informal negotiations with local rural elites that enable practices of unauthorized consumption of electricity and intensive groundwater use in agriculture to continue. The empirical case is used to provide a critique of rural electricity policy imaginations that overlook the interactions between the farm and non-farm economic and political processes in specific regional contexts. The local processes identified in the village provide a snapshot from a regional context where farm use of electricity and water are increasing even as rural non-farm consumption is muted. These local processes continue to have implications for how multiple sustainable development goals in water and electricity access, efficiency goals of sub-national regional utilities as well as rural livelihoods are negotiated within diverse regional economies in the state. The study suggests that local electricity sub-divisions are important political actors who mediate these negotiations between multiple levels of the state with diverging interests, resulting in incoherent policy discourses that can claim ‘success’ and ‘failure’ by separating the audiences.

Keywords: Legitimacy in Policy process, Deliberative practice, Politics of development in Karnataka, Governance of electricity-water-food nexus



## CHAPTER 1

### WHY STUDY POLICY AS A SOCIAL PROCESS

Public policies —what governments do and the consequences of their actions—have lasting and sometimes dramatic effects on individuals and social groups. They are macro-processes and citizens can often respond to it only in contingent ways, even though there are multiple venues, and diverse modes to influence policy outcomes in a democracy such as through voting, activities of organized advocacy groups, political parties and sometimes more direct forms of resisting and protesting against policy decisions. Even though the case for not treating policymaking as a sideshow to elections and its centrality in understanding how governmental power is used has been convincingly made (Hacker and Pierson 2014), policy-focussed analysis has tended to study policy deliberations as a political process. An assumption underlying the mainstream policy studies scholarship is that the primary site of policy deliberations are at the heights of the state between political representatives and bureaucrats who have access to policymaking power. Once policy goals and instruments are adopted, the assumption is that administrative institutions of the state that implement these decisions.

However, this assumption regarding the authority of the state is widely acknowledged to be weak in Indian policymaking contexts. Several scholars have noted how political processes that have led to a ‘deepening of democracy’ has considerably reduced the ability of the Indian state to govern effectively, frustrating its autonomy in multiple domains (Migdal 1988) (Kohli 1990). This has led to a set of contradictory propositions in the Indian policymaking context: On the one hand, there is the notion that successive governments have been able to sustain changes to macro-economic policies for transforming a primarily state-led economy into a market-led economy, despite it having created new winners and losers by acting in stealth (Jenkins 2000). The account is of a style of policymaking that has required a subversion of broad-based

democratic deliberations to sustain ‘difficult’ changes — a style characterised by policy consensus that is forged behind closed doors through minimal public deliberation. While this mode of policymaking has sustained a transition to practices involving a smaller role for the government in policy domains such as foreign trade, capital markets and industrial investments, several others that directly impact the livelihoods of a larger cross-section of people have been tough to reform. This has resulted in a politics of blame attributed to entrenched special interests in society and lower levels of the bureaucracy in several policy domains giving rise to a scholarly and public discourse of failed implementation—good ‘ideas’ in formulation impeded by ‘interests’ in implementation (Varshney 1989).

The questions raised by these divergent empirical experiences and its implications for democratic theory has been difficult to incorporate within the analytical frameworks offered by policy studies scholarship in general. Democratic theory posits that if policy initiatives have to be effective, it needs to reconcile a wide range of convictions and motivations that stakeholders hold. However, existing theorizations in policy studies scholarship have tended to segregate different sites and sub-processes through which policy initiatives are undertaken and are translated to social outcomes. This has resulted in detailed accounts to formal processes of change before a decision—to the role played by political and bureaucratic actors in the highest tiers of the government who initiate change, as well as to formal modes of institutional changes. Much less attention has been paid to processes of how these changes are accommodated, resisted or subverted. These processes seem to be particularly difficult to ignore in the Indian policymaking context where reforming the state has been a dominant theme for more than three decades and a discourse of failed reform dominates in everyday and academic discourse.

This study aims to address these questions at the interface of policy and social theory that seem important in the face of what is observable in Indian policymaking contexts. In broad terms, this question can be stated so: what have been the consequences of dispersion of economic and

political power on the ability of the government to initiate and implement changes? How do they initiate change, and make them acceptable to diverse social groups, at least some of whom stand to lose from these changes? The following section makes the case that this requires analytical strategies that allow tracing how policy actors relate to each other across multiple sites in which policy actions unfold.

## **1.2 Mainstream Approaches to Studying Policy Process**

It is conventional to view policymaking as an action of authoritative choice-making by the government to solve public problems (Lasswell 1970),(Anderson 1975). This approach, with roots in public administration research, with assumptions borrowed from rational and general linear models of decision-making, has dominated policy sciences. The rational model assumes that there are definitive and unambiguous policy objectives that can be planned for, pursued, measured, and evaluated objectively. On the other hand, the general linear model of social reality(Abbott 1988) assumes that policy outcomes can be empirically realised by manipulating and controlling a set of factors or independent variables that are the most significant in the context. A theory of change that relies on the assumption of control of these variables, leading to desirable social outcomes, is implicit in the view of policymaking as an act of authoritative choice. Such an accounts of the process can proceed in discrete linear stages of : a) agenda-setting during which public problems come to attention and alternatives are considered and weighed, b) policy formulation during which a course of action is decided and resources allocated, c) policy implementation where the decision is carried out, followed by d) evaluation of policy outcomes. While several of these activities are readily recognisable and have an intuitive descriptive appeal to a policy practitioner, the fact that this characterisation of policy decision-making as rational public-problem oversimplifies the real world of policy making has been argued quite early on(Lindblom 1959). These critiques have resulted in a reconsideration of the strict rationality assumptions and provided an alternative account of policymaking that

proceeded through incremental adjustments involving satisficing decisions through trial and error (Lindblom 1959).

In more recent policy analysis scholarship, it is now well-acknowledged that the ‘stages’ view provides only a “heuristic”, to describe rather than a model to understand the policy process. While this heuristic provided a language to describe the various activities in the policy process from a policy practitioners’ point of view, its usefulness in capturing the complexity of policymaking practices has since been thoroughly critiqued. The main critique has been the simplified temporal view of the policy process — ‘the heuristics assumed a single policy cycle that focused on a major piece of legislation’(Mazmanian and Sabatier 1981). This oversimplified the usual process of multiple, interacting cycles involving numerous policy proposals and statutes at multiple levels of government. The critiques have managed to challenge the overly state-centric view of policy decision-making and led to more interactive frameworks of policy decision-making, where diverse social actors exert their influence on the policy process. These frameworks have tried to identify causal variables by approaching policymaking as a political process and mediated through access to political power.

### **1.2.1 Studying Policy as a Political Process**

Acknowledging the political nature of this process has resulted in the attention of policy studies moving from the realm of administration science to bring a larger set of activities, that are deemed ‘political’ and an exercise of power under the purview of analysis; Concomitantly, from a concern with knowledge *for* policy formulation — in support for policy decisions, through cost-benefit analysis and scenario planning —to the domain of political science which attempts to generate knowledge *of* the policy process – shedding light on the kind of actors, and various strategies used by them to define public problems and seek solutions to it. The first consequence for policy studies scholarship has been the adoption of a range of methodological approaches to understand policy formulation processes. There was acknowledgement that problem

construction as much as finding solutions is a struggle over values and ideas and that a difficult situation for a group becoming a policy problem is not just an accident or fate, as it is a political process of constructing policy problems and narratives (Stone 1989a). Even amidst this methodological diversity, sites, actors and narratives during policy formulation receive most analytical attention.

The second consequence in understanding policy processes have been a diversity of frameworks that try to identify causal variables that lead to a policy decision and policy change event in a political system, with analytical units that are specified at the level of a nation or policy sectors within it. By the 1980s, the second wave of policy studies scholarship was oriented primarily towards developing causal models and variables to capture these political activities before major policy changes (Sabatier 1991). These frameworks emphasize different causal factors that are brought to bear to explain a policy change event and form the theoretical background informing empirical inquiries. The ones that are widely used include advocacy coalition (Sabatier 1988) (Weible et al. 2011), multiple streams (Kingdon 1984); (Zahariadis 2007), social learning (Hall 1993), punctuated equilibrium (Baumgartner et al. 2009) and arenas of power (Lowi 1972). All of them depart from an overly state-centric view of the policy process and provide an interactive approach to capture and account for the role of various groups in influencing the policy process. This complex and ‘messy’ view of policy decisions as a contested political process can be characterized in a more generalized way as a confluence of three independent streams of activity: problems looking for solutions; solutions looking for problems; and people looking for things to do (Goodin, Rein, and Moran 2008). The differences lie in how and what levels policy change is characterized and what causal variables and mechanisms are accounted for. For instance, policy formulation can be understood in the multiple stream framework as a process of coupling of three otherwise independent streams – politics, policy and problem streams – by policy actors or groups when an opportunity or a policy window arises (Kingdon 1984). Interests of actors in this process are often modelled

based on their structural positions in the policy subsystem and assumed to be stable. Ideas enter this process in the form of beliefs, norms and worldviews possessed by actors. Institutions are entrenched practices, and norms of behaviour that constrain actors by allowing only some ideas and interests to enter the decision-making process, relaxing the strict instrumental rationality conditions in which problems emerge in the public policy agenda and how solutions are arrived at. Interactions between causal variables in specific policy sub-systems have also allowed capturing longer-term processes of learning that accumulate in a policy domain (Hall 1993) and the nature of collective action that drives it. Despite these differences in emphasis, the main explanations for policy change and divergence in outcomes when policymaking is seen as a political process have been the relative causal force of ideas, interests, and institutions in particular policymaking contexts – often analysed at the level of national governments or sectors that are conceived as a unit of analysis or a policy sub-system. Within the sub-system, rational actors pursue their interests and get their preferred outcomes in the policy process through the exercise of power and marshalling technical and political knowledge in particular empirical contexts of change. In sum, the main frameworks analyse policy processes as contests over power or and knowledge.

Even amidst the diversity in how they conceive levels of change, temporal duration of change, and the relative role of ideas and interests, a focus on activities before the policy decision generate a de facto linear account of the policy process. Political interests, actors who raise issues or problems to the public agenda by coupling politics with problems are treated as separate from technical interests — actors who bring solutions or ‘ideas’ to solve the problem, with the former seen as a normative choice between values or interests and the latter seen as choices between matters-of-facts —expert knowledge and solutions that can inform these political choices. Conceived as a political process, there is more analytical attention on actors and actions before the policy decision —what can be understood as the politics of agenda-setting and policy formulation. This has led to attention on policy events in moments of major

or dramatic legislative changes and therefore capturing only a narrow range of ‘politics’ of the policy process. The events that come into analytical focus are changes in government or key actors in the bureaucracy who act as policy or political ‘entrepreneurs’ during key moments of change in a policy domain. The distinction between major and more incremental policy changes can sometimes be arbitrary as a policy initiative that is put on the public agenda is often the result of continuous interactions between multiple levels of the government. An understanding of policymaking as primarily an exercise of political power reduces the deliberating context to a one of gaining access to the authority of the state and using the authority of state institutions to implement preferred worldviews and corresponding governance arrangements.

In contrast to the rich frameworks and metaphors to capture the political processes during policy formulation — how and why some issues become policy problems, and the role of political actors in raising some issues for collective action while ignoring others —there is a near absence of analytical attention to capturing the processes during implementation and how they are related to sites and actors during formulation. The tendency is to see the policy decision as the key moment; once the decision is made, implementation is a residual administrative task. Thus, in one way or the other, “policy research continues to rely on the stages or cycle perspective or is linked to one of its stages for research questions”(Jann and Wegrich 2007). This separation of actions and sites for analysing the policy process has resulted in a narrow set of questions and concerns that are raised in policy implementation studies.

### **1.2.2 Studying Policy as an Administrative Process**

The early studies of implementation were undertaken to meet the need for prescriptive advice, and typically started with policy text or decision as an unambiguous starting point of analysis and sought to explain why its implementation or “carrying out” failed or succeeded (Pressman Jeffrey and Wildavsky 1973; Van Meter and Van Horn 1975). For Pressman and Wildavsky, implementation " means just what Webster says it does: to carry out, accomplish, fulfil,

produce, complete." In a similar tradition, Van Meter and Van Horn proposed a more detailed conceptualization of implementation as encompassing "those actions by public or private individuals (or groups) that are directed at the achievement of objectives outlined in policy decisions." Because of this conceptualization, the studies focussed on variables that could be centrally controlled. These studies identified four key factors at the interface of decision-maker and implementer —communication, resources, bureaucratic structure, and disposition of implementers as crucial for success. The conclusion for effective policy implementation in this tradition was to make the goals of the policy clear and consistent, limit the extent of change necessary, and place responsibility for implementation with an agency sympathetic to its goals.

Policy studies have come some way from this overly state-centric and uncritical view where governments formulated policies to solve public problems and the administration, in turn, merely 'carried out' or implemented the decision. As Brinkerhoff suggests, successfully implementing a policy in democratic environments involves not just knowing which direction to move in, but paying attention to how to get there. i.e., recognizing that policy implementation is as much process as it is about the content (Brinkerhoff 1996). Attention to processes during implementation has brought to focus the nature of bargaining and coordination between different levels of the implementation bureaucracy. However, implementation studies continue to approach the processes of policy implementation with a normative bias – concerned with questions of success or failure and identifying factors of the implementation context that led to policy outcomes. After starting from the widely accepted proposition that implementation 'success' depends on the complex interactions between a policy and its institutional setting, Berman makes the distinction between macro implementation (where policies translate to rules and plans) and micro implementation (where local organizations respond to the plan). Such an analysis led to a typological understanding of the process of implementation and its four possible ways of translating goals to outcomes depending on how policy goals are adapted to the local rules and behaviours of the implementing organization. Elmore similarly argued that



understanding organizations are central to the implementation and argued that the closer one is to the source of the problem; the greater is one's ability to influence it. These studies showed quite convincingly that 'decisions' are everywhere. Micro-level actors or 'street-level bureaucrats' (Lipsky 1978) and policy 'deliverers' (Berman 1978) wielded sufficient latitude to ultimately 'make' and decide policy and therefore these frontline actors in the state should be central to the study of implementation according to bottom-up scholars of policy implementation.

For instance, a typological approach to understanding the policy implementation process sought to explain the conditions under which either macro or micro-level factors have an upper hand in determining policy outcomes using two characteristics of the policy: a) level of ambiguity in goals and means laid out in the policy and b) conflict of interests between policymakers and implementers of the policy (Matland 1995). Despite this, these studies continue to take as starting points the content of the policy and do not consider how negotiations during formulation interact with and create or foreclose political possibilities during implementation. Implementation deficits, when they arise, are explained as resistance to change at different levels in the implementation hierarchy. As can be seen, the main empirical concern of this tradition has been to explain implementation deficits using detailed case studies using concepts of power and dependence, control and coordination, conflict and consensus depending on the content of the policy, nature of change attempted, goals and disposition of the implementing institutions and micro-factors of the local context. The main takeaway from this body of work of implementation studies is to emphasize the politics of implementation as a negotiation between interests at the level closest to the problem. This has created a lengthy laundry list of factors to pay attention to during the policy implementation process. While there is consensus that both the content and context of policy implementation are important in producing policy outcomes, what is unavailable is a framework and method for studying how the action during formulation and implementation are related to each other.

In conclusion, the conception of policy decision-making as a political or administrative process provides a partial view of the policy process in the form of causal variables of group interests, their beliefs, and ideas, and formal institutional practices of the state before the decision and to contextual variables to explain divergent outcomes. The former assumes that authority for policy action is concentrated in the higher levels of the state and that the primary site for contestation and struggle is during policy formulation. The latter on the other hand overstates the importance of the contextual factors in sites of implementation where policy content is translated into social outcomes, often undertaken with a normative bias, in order to categorize the policy as a success or failure rather than analyse the entire policy process inter-connected. The remainder of the chapter outlines the need to develop a more dynamic view of interactions between sites of policy action and to understand these sites relationally in the context of what is already known about the political economy of development in India.

### **1.3 Changing Role of the State and its Legitimacy**

That states and their actions matter, for the pursuit of a variety of valued outcomes in the developing world, has largely been established. However, questions regarding its appropriate function and the nature of its activities — whether states should be an active agent in the economic process, play a more minimal role as an enabler and regulator of markets or a substantive provider of welfare — have had scholars and actors within the state responding with different worldviews in different national contexts. There are diverse analytical traditions in how the relationship between state and their relations to other social groups are conceived. In the Weberian tradition, interests of the state are assumed to be relatively autonomous from various groups in society, and there has been a dominant strand of scholarship since the 1980s that continue to evaluate the abilities of the states in terms of its ability to formulate its goals with relative autonomy and its capacity to pursue these goals effectively (Skocpol 1985). The capacity of states in this view is evaluated using its ability to organise economic growth through rapid industrialisation, the East Asian developmental states being the paradigm of such a

developmental state. In this view, states function as strategic economic actors who guide investments in the process of a transition from a traditional to industrial society. The capacity of the state, therefore, depends on the authority and autonomy of the bureaucracy to actively steer and often directly participate in the economic growth functions of the state. In this view, states attempting to emulate the economic prosperity of industrialized nations “must, first of all, be developmental states – and only then a regulatory state or welfare state or equality state, or whatever other kinds of functional state a society may wish to adopt”(Johnson 1999).

Development has since then come to be understood in a broader sense, of not just structural transformation of the economy, but also capacities of the state for broad-based social inclusion and for ensuring the sustainability of long-run processes of development. Accordingly, what exactly is meant by “strong” states and the nature of their authority have been reconsidered (Öniş 1991). There is now a growing recognition that, unlike the autonomy of a bureaucracy to create policy instruments for industrial policy, delivering high-quality services such as education, health, access to life-enabling services such as food, housing, water, electricity calls for interventions that are deeper and more socially and politically intrusive than what industrial policymaking demands. Such a capacity to affect day-to-day life and get members of the society to obey the rules set by it can be thought of as a distinct dimension of state authority, requiring very different sources of legitimacy (Mann 1984). Based on this thinking it is possible to identify two distinct sources of state’s power: a) “despotic” power, its ability to exercise centralized authority to formulate and change rules, and b) “infrastructural” power, its capacity to enforce and implement these rules in the territory, state’s ability to effectively deliver essential services. There is increasing recognition that in order to be effective states have to achieve not full independence and autonomy from its relations to powerful social groups, instead balance and co-ordinate between multiple sources of power in society, in what has come to be characterised as “embedded autonomy”. Such a state relies not only on the formal and legal dimensions of authority but mediates between the various social groups and institutions.

The ability to do this area function of not just how much the formal institutions of the state have penetrated the society, but also how much the state and its institutions have been transformed through interactions with particular social formations, often a product of historical conjecture in particular governance contexts(Evans 1989).

Those who study the Indian state have described it as weak even if the legitimacy of the state itself is not in question. It plays a prominent role in everyday social life; however, within this framework of overall acceptance of the state, it has not been able to bring about major transformations and reforms in the social sphere, a task it set out to do post-independence. Evaluated in terms of its ability to translate a state's legal-rational authority into changes in social behaviour and practices, its authority has often been challenged. Since at least the 1980s, it has faced problems of governance deficits in its peripheries. Kohli attributes these difficulties to past successes of the developmental state 'It has taken on new roles and burdens, is omnipresent and crucial to everyday socio-economic life...but struggles to initiate fundamental changes to social relations'(Kohli 1990). State capacity can be understood as a function of both the professional organizational capacity of the state administration as well as how political actors use this capacity to realise policy outcomes. One account of why policy initiatives fail to achieve outcomes is the argument about 'lack of political will', understood as the effect of a dominant interest group in society that blocks major changes to the status quo and hinders the state's autonomy. In this view 'politics' is the problem for failures of policy initiatives, even if its organizational capacity and professional nature are beyond doubt. Some of these challenges and contestations are more visible and take place before a policy decision is adopted when social groups organise along with socio-economic identities — professional groups, farmers, businesses, caste groups— protest against specific policy decisions in an organized manner. These more visible manifestations of 'mass politics' are however not the most significant aspects of most policy decisions. In the Indian policymaking context, this has been contrasted with policy initiatives that are in the domain of 'elite politics' where policy decisions are the

result of contestations between a few decision-makers in the higher bureaucracy in consultations with the Minister or the cabinet, so-called policymaking elites.

The process of liberalization and the already on-going process of decentralisation have further complicated the process of initiating and implementing change. The advent of liberalization has necessitated policies with a focus on the fiscal reform of the state to recast the state's role as a 'regulator' and provider of institutions that enable marketization of services as part of changes to the global development paradigm (Carroll 2012). However, it would be safe to say that rather than a systematic development of a reform agenda by the Centre, subnational governments, their ideas and governance experiments have driven the reform agenda (Manor 2007). Liberalisation has altered how state governments finance investments for the creation of social and economic infrastructure, requiring it to be more responsive to pressures from below; Instead of lobbying the centre for funds, sub-national states are under pressure to initiate and take steps to attract private capital. Even as they are subject to similar pressures on fiscal discipline within the federal structure and from international development institutions, subnational states now have more autonomy in raising revenues and controlling expenditures. This has resulted in a heterogeneous set of centre-state relations as well as sub-national state capacities within the Indian context for steering reforms as well as in its outcomes (Sinha 2005).

While the economic reform process has liberalized investment rules, capital markets and trade policy, they have not been able to reform sectors that affect a large number of people directly. This failure has often been attributed to the fact that reform planning was often limited to bureaucratic consensus alone without either an explicit political articulation of benefits and losses or a debate about winners and losers (Sachs, Varshney, and Bajpai 2000). These economic reforms have happened alongside on-going legislative efforts to deepen democracy through decentralisation of administrative authority to Panchayati Raj institutions, even if what kind of decentralisation has been possible has varied across sub-national states and has

generated new pressures on lower levels of the states that have been incorporated into the process of development. Institutional accounts of the state point to how change can occur through processes of deliberate use of policy instruments for goals that are more contextual as well as gradual changes to outcomes due to changes in settings of the instruments (Capano 2019). Frontline workers in the state face a different set of pressures and are often in positions to not just influence policy processes through discretionary actions, instead the policies are also a product of bargaining and coordination between multiple levels of the state over several iterations. How do actors get their preferences implemented in the policy process even if they do not have access to policy decision processes and deliberations during formulation? Are there other political spaces and means for policy contestation and negotiation? How do the repeated interactions between different levels of the government feedback into new agendas and in turn influence what proposals for change are undertaken? These questions regarding the relations between various sites of policy action have received little systematic attention in Indian policymaking contexts. This is because policy-focused studies methodologically reduce the analysis to some part of this process.

As Migdal points out, empirical work that attempts to analyse third-world states have fallen under two broad categories: they have either focussed on “peasant communities, patron-client ties, urban neighbourhoods and remain enmeshed in social life at the local level” or on “actions of the most influential members – powerful elites, large capital, foreign investment and so on” (Migdal 1988). The relations between how the heights of the state and trenches of the state relate to each other are often left out. He suggests a third approach for understanding attempts at how states initiate social and political change and how social forces limit or enhance these attempts by studying disaggregated sites at which these interactions take place. This approach suggests viewing the state as one more organization in society rather than standing apart from it.

Questions regarding what procedures and arrangements are required to exercise public authority and what those who have authority may properly do is central to history of thought in political philosophy. Thinking about what constitutes a legitimate exercise of authority can proceed along two distinct directions, as Sen suggests in the context of justice (Sen 2009). a) those that try to work out principles and institutional rules, which then forms the basis for evaluating actions of the state and b) those that deny that any such a priori consensus is possible and therefore analyse the on-going negotiation of outcomes that are acceptable in particular social and historical contexts. This study has taken the latter approach suggested by Sen. Rather than assume that policy decisions once adopted through formal institutions of the state, will automatically lead to acceptance of policy actions, the study seeks to answer how actions of the state are justified and made acceptable.

Such an analytic would study a policy event as part of a series of on-going negotiations that involve resolution of public problems that seek acceptance, even if temporary. Such a view of the policy process is closer to approaches that recognise the inherent complexity of resolving complex public issues, emphasise the uncertainty of outcomes, and the limited information and knowledge contexts in which policymaking evolves (Mueller 2020). Policy events often don't 'solve' a complex problem as much as it helps stakeholders negotiate a shared understanding about the problem and its possible solutions (Head 2019). An approach that understands the policy process itself as proceeding through moments of negotiation recognises the diversity of perspectives which are expressed, mobilized and sometimes reconciled during a policy event (Gottweis 2006);(Fischer and Forester 1993);(Rein and Schön 1991). Understanding the nature of these negotiations, provide a window into the social and political context in which change is negotiated as well as the mechanisms of coordination, and contestation.

## 1.4 Thesis Objectives

Informed by the analytical concerns detailed in the above sections, the thesis sought to understand how various forms of social and political power negotiate with each other in contemporary Indian policymaking contexts. The study follows policy actions to sites and sub-processes identified in policy studies scholarship and ask how these actions are legitimised. The study identified the following specific objectives: A) To understand the socio-economic and political processes that influence the formulation of the policy B) To understand the socio-economic and political processes that influence the detailing and implementation of the policy and C) To understand the response of the beneficiaries of the policy in the context of how change is negotiated. To serve this objective, the following guiding research questions were posed in the context of the policy case:

1. How does the policy come to be during formulation? What is the nature of discourse – popular and intellectual – during formulation? Who are the key actors and what interests, ideas and values are reflected in this discourse?
2. How is the policy interpreted and detailed by the implementing institutions? Who are the key actors and their interests? How do they relate to beneficiaries of the policy?
3. What is the response from the beneficiaries affected by the policy? Who are the key actors and the interests? How do their responses undermine or advance the goals of the policy?

The focus of the study is not to generate general propositions or theories about the nature of the policy process; instead, it is to capture the most significant aspects and features of the process by studying the phenomena in its context. This required adopting a methodology that allowed analysis of actions, their motivations, and meaning in multiple sites as well as data collection and analytical strategies that are oriented towards capturing the relations between them. The study employed a case method using a detailed analysis of a single policy case. The



contribution of the case to the knowledge base is not through its possibility for inductive generalization but exemplification (Morgan 2019). Such an exemplification allows capturing the most significant aspects of the policy process and allows the study to develop insights and propositions that can be used to understand and explore other contexts in terms of equivalent processes.

## **1.5 Methodology**

While case studies are considered a useful method for exploring social phenomena in their social context, it is more aptly described as a research strategy that can systematize data collection and analysis which allows for the use of multiple methods within the case. The focus of the study was to understand both the ‘ground’ and context from which the policy event emerges as well as the chain of actions and their meanings that can be identified within the contours of the policy event (Wagner-Pacifici 2010). Detailed attention to a single case allows tracing the evolution of the policy as it unfolds in a particular historical and institutional context where a precedent of state-society interactions have already generated a set of formal institutionalised practices. The policy event is understood as emerging in this context and therefore can generate insights about the key features of the context during policy action as policy issues are raised, contested, accommodated and reconciled.

Public policies are attempts by state leaders to use the sprawling organization of the state to make new rules and change the behaviour of social actors. When it is directed towards large portions of the populations, they encounter both a diversity of local contexts towards which policies are directed as well an uncertainty about outcomes as there are a series of actions that are required to translate policy decisions to outcomes. Rather than a focus on determining the causal role played by particular interests or ideas in causing policy change, this study gave analytical primacy to the sequence of actions, its motivations and consequences during the policy events. Giving primacy to actions leads to a broader conceptualisation of interests that

go beyond instrumental motivations for action; an assumption that is used to model and explain the behaviour of an individual actors in mainstream economics. While an individual's action can be in pursuit of a functioning —anything that a person wants to be or do (A. Sen 2000), its motives, choice of means as well as the background knowledge that informs action are situated and legitimised within a pre-existing web of social relations(N. Rao 2017). When conflict is to be avoided, policy changes that are initiated using the authority of the state to influence particular social practices seek acceptance and legitimacy against this background of social relations and practices that are already on-going.

An extended amount of immersion in particular sites of governance – departments where policy is negotiated or fields sites where policy outcomes and implementation processes can be observed is the standard practice in governance studies that adopt a field-based view. Rather than focus on particular actors or sites in the policy field, this study was guided by methodological strategies that allow for considering the spatiality and temporality of policy flows, its mobility and transformation (Peck and Theodore 2012). Sub-processes in the policy event such as formulation and policy implementation that seek to influence, direct and transform social actions are analysed by following inter-connected actions to various sites within the contours of a policy event—when issues take shape, are framed in particular ways, justification for taking action is put forward, a particular course of action is chosen, and outcomes are realised. As such, the main questions of concern was not whether the policy is a success or not; rather what happens when an abstract policy 'content' is transferred across sites, and how these successes are produced (Mosse 2004). In analysing this process relationally, the study was designed to understand policy actions —their motivations, justifications and outcomes —in various sites and was oriented towards capturing in how the intervention is interpreted, experienced and responded to. In order to serve this objective, the study follows the policy to multiple sites and used both quantitative and qualitative methods to systematise observations within the case. The remainder of this chapter provides a brief overview of the

policy case of NJY, its purpose and scope in light of the analytical issues raised in the above section regarding the politics of policy process in the Indian policymaking contexts. This is followed by a description of the methods that were employed within the case.

### **1.5.1 An Overview of the Policy Case of Niranthara Jyothy (NJY) in Karnataka**

#### A successful policy ‘model’ from Gujarat

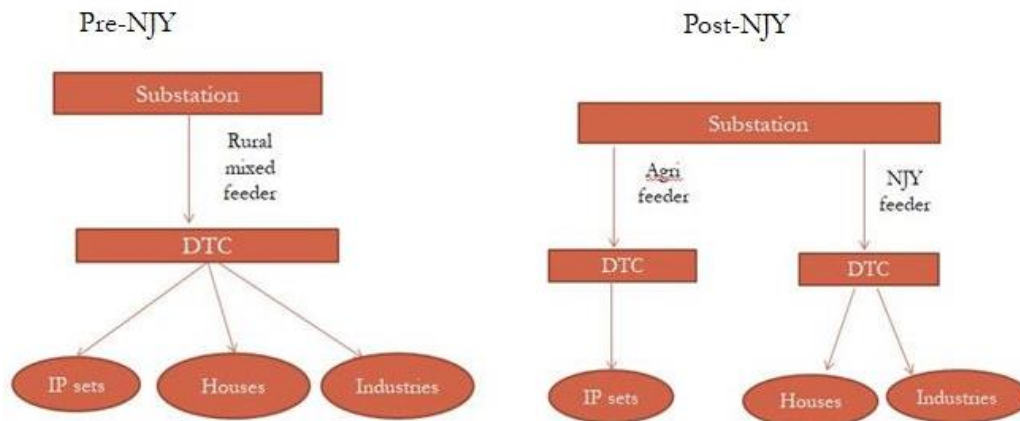
Niranthara Jyothi (NJY), meaning ‘continuous light’ in Kannada, was modelled after the rural feeder separation program implemented in Gujarat as Jyoti gram Yojana, which became a model for the continuous supply of electricity to rural areas, improving the quality of life in rural areas (CEPT 2004). By 2007, the program was already widely-publicised in the media as an initiative that delivered 24/7 electricity supply to villages in the State by the then Chief Minister, Narendra Modi. Apart from this popular public discourse, it was also celebrated as a policy innovation by energy economists and irrigation experts for solving the long-standing problem of poor quality of electricity supply to rural areas, for managing the electricity-irrigation nexus in rural areas that left both the electricity utilities crippled and caused depletion of groundwater (T. Shah and Verma 2008). One could observe the policy idea itself in circulation at least since the mid-1990s as a technical solution to what had increasingly been recognised as a political problem of low-level equilibrium in the electricity governance domain in the rural areas— increasing agriculture subsidies, poor financial conditions of the electricity supply companies (ESCOMs) and poor quality of electricity in rural— which could not be resolved through a reform strategy that relied on privatization, institutional reform and creation of an apolitical regulator who could bring more economically rational process of determining tariffs in the sector (Dubash 2007). When the idea of feeder separation was implemented in Gujarat, it became a celebrated model of power sector reform that achieved a significant reduction of losses for ESCOMs in the state (Jai 2014) along with an institutional arrangement that allowed co-management of electricity and water, considered a central element of a

development model that sustained a decade of high agricultural growth in Gujarat (Debroj 2012); (T. Shah et al. 2009). A political economy reading attributes credit to the policy model for reducing undeserved electricity subsidies in Gujarat. This was seen as an exercise of autonomy by the subnational state in disciplining the rural elites (Chatterjee 2020). More widely, it was seen as a political masterstroke in an arena charged with mass politics of irrigation and electricity provision and became a policy 'model' that gained acceptance with several stakeholders. Those in the Energy department and project staff in the corporate office in BESCOM indicated that the diffusion of the policy 'idea' happened through the Ministry of Power co-ordinated meetings in Delhi around 2007. The forum attended by senior energy sector bureaucrats and the Managing Directors of ESCOMs discussed the program as a best-practice that contributed to the turnaround of the electricity sector in Gujarat.

Since then the model has been widely adopted across states through a set of assumptions that understand the problems of the electricity sector as uniform across states – poor quality of supply to rural areas, lack of metering of electricity consumption to agriculture consumers, high subsidies to agriculture putting fiscal pressures on sub-national governments. However, as the policy case shows, the stakeholders involved, and the development outcomes that it hoped to generate depended on an economic imaginary for the rural that go beyond the sector, as it came with assumptions regarding the nature and direction of rural development as well as the role of agriculture within rural areas. The most discussed and visible objective of NJY was to provide 24 hours of uninterrupted and reliable power supply to non-agricultural consumers in rural areas while rationing electricity for agricultural users. The policy document also indicated that this will improve metered sales, reduce the Transmission and Distribution (T&D) losses of utilities and reduce peak load.

The instrument for achieving these goals was a technological intervention — a physical bifurcation of the electricity distribution infrastructure at the substation by drawing a new

feeder<sup>1</sup>, to be called ‘NJY feeder’ and shifting all the non-agricultural load onto this feeder, leaving behind only agricultural loads on the old feeder which was used in the first round of rural electrification that has progressed through several decades of infrastructure extension in rural spaces. The policy imaginary of what was to be achieved before and after the program is shown in Figure 1 below:



**Figure 1: Schematic of procedural change proposed through NJY**

#### Adoption of the model in Karnataka

Karnataka was an early adopter of the policy model of feeder separation amongst subnational states, spending from its budget, several years before it became a Central government-sponsored program. Activities were set in motion by the Energy bureaucracy as soon as a BJP government came to power in Karnataka in May 2008. Within two months of the new BJP-government coming to power in Karnataka, the Government of Karnataka (GoK) had declared a pilot for NJY and work started on it in several ESCOMs. BJP, headed by Chief Minister Yediyurappa had declared free electricity for all irrigation pump sets that are less than 10 HP, in

<sup>1</sup> Feeders are infrastructures that carry electricity at a relatively high voltage (typically 11kV in rural areas) from the nearest distribution substation to a distribution transformer centre (DTC) that steps down the voltage to 25kV at a place close to the point of consumption. In rural areas, these DTCs supply to 20-25 households with each metered household is about 1kw.

its manifesto, as soon as it came to power which was announced as soon as the new dispensation took charge. The share of electricity consumed by the agricultural consumers in the state at the time was nearly 40% of the total energy consumed in the state. However, these figures are widely acknowledged within the sector to be only indicative as electricity subsidies to the sector are calculated as ‘residuals’ as agriculture connections are unmetered. The discourse of electricity subsidies in elite policymaking circles and academic discourse has been in class terms— favouring large farmers while imposing a considerable financial burden on the industries or other economic classes ((Kato and Fukumi 2020); (Birner, Gupta, and Sharma 2011)). As the regulator had mandated that the subsidy component be paid by the GoK to the electricity supply companies (ESCOMs) upfront, the government also needed to keep the subsidy burden under control. The program was announced in Karnataka’s state budget of 2009 as a programme for agriculture. However, the government was still looking for funds to implement the program and sought funds from the Centre, the Chief Minister raising this at the National Development Council meeting in 2009. At the time, a UPA government was in power at the Centre and Karnataka did not get the resources for implementing the program. It was only in early 2011 that GoK allocated resources and decided to finance the program through budget support amounting to 40% estimated project cost estimated at Rs. 2,200 crores. The balance had to be funded by the ESCOMs through loans. Chapter 3 shows that this consensus was the result of a coordinative discourse between the Energy and Finance bureaucracy that linked the program to the transparency of agriculture subsidies. After 2014, GoK stopped extending equity support to it, with the Finance department stating that it did not achieve subsidy control to agriculture and therefore did not meet the objectives of the state government. Audit reports since then suggest that the decision to undertake large-scale feeder separation was undertaken before the efficacy was assessed in Karnataka. The evaluation of the program also found that 40% of feeders showed an adverse trend in losses even though it provided reliable electricity to rural areas. However, the third phase of implementation is on-going and funded by the Central

Ministry of Power with the policy evaluated as a successful policy innovation for delivering 24/7 supply to rural areas.

The evaluation of the policy model as a ‘success’ by the Ministry of Power is based on the evaluation of a limited set of parameters specific to the electricity sector—reduction of aggregate technical losses and peak load reduction of ESCOMs. Evaluations of the program across subnational states conclude that there is no one-size-fits-all solution to improving rural electricity supply as each state is different in terms of the geographical spread of its rural electricity distribution network, and its rural electricity supply strategies (Khanna et al. 2014). Despite this, the model has since then seen a gradual diffusion to several states including Rajasthan, Punjab, Haryana and Maharashtra. If one uses its wide diffusion as an indicator, this is indeed a case of a successful policy model and its diffusion. The thesis shows however that the technical instrument that promised an exclusive agriculture feeder and sustains the myth of separating farm and the non-farm electricity infrastructure in the rural creates room for multiple negotiations to unravel during the policy process. The thesis attempts to capture these negotiations involved in the politics of development.

### **1.5.2 Purposes and Scope of the Policy Case in Karnataka**

It is useful to discuss aspects of the methodology that uses the policy intervention in a sub-national context to discuss its purpose and delimit its scope. Comparative studies in Indian politics suggest that sub-national units, as well as intra-state regions, offer an important source of heterogeneity to understand state-society relations. Single case studies, as well as comparative studies, have offered an account of changing state-society relations under a macro context of liberalization in India. Scholars have attempted to isolate causal forces for actions of the state in specific policy sectors and responses to them from social groups identified in terms of their economic classes or social identities (Sud 2014; Murali 2017). This study provides an account of the dynamics of state-society relations through changes attempted in governance

arrangements in electricity distribution. However, going beyond a sector-specific analysis, the study adopts a policy-focused analytical lens to bring into view a more diverse set of deliberations undertaken by the state in a context of constrained fiscal resources and a renegotiation of the government's role.

While sub-national units offer contextual variability for observing outcomes of similar policy interventions, it also offers some general insights regarding responses available to sub-national states that operate within a federal context and are subject to similar macro-political and economic forces of liberalization and globalisation (Sinha 2015). The study used the subnational context in Karnataka as a unit of analysis to trace the evolution of a policy case that emerged in the development context of Gujarat and has also since been accepted in multiple sub-national contexts as a policy model to be emulated. The arguments in the study are developed through an analysis of the policy event as it unfolded in Karnataka and placing it in its historical development context. While no further comparative analysis is attempted in this study, it would be appropriate to contrast some features of what has been observable about the policy case as it evolved in the two contexts.

When one considers electricity as a sector, it is commonplace to think of its challenges as similar across subnational states in India and to generalize policy issues and problems. This generates a familiar national picture of the sector – high agricultural subsidy burdens, commercial losses of utilities and the need to provide electricity services to various consumers at a competitive and affordable cost to meet several socio-economic goals. The impulse to evolve 'models' and best practices to reform the sector stems from this view of problems within the sector as general problems of public management, and efficiency. This sector-based approach has dominated policy thinking and tended to seek solutions to governance issues based on narrow technical and economic considerations (Dubash and Rajan 2001). While this assumption of uniformity is a prominent feature of the policy initiatives and reforms in the



sector since the 1990s, they can be traced back to the creation of State Electricity Boards post-independence. Marked by intense debates in the constituent assembly regarding whether the Centre or the states should have authority over the governance of the sector, the control to formulate key legislations in the sector have gradually shifted from sub-national governments to the centre over the years (Kale 2014). Ever since state reunification in the 1950s, the efficiency of the state-owned electricity distribution companies – the erstwhile State Electricity Boards and now ESCOMs, have been a key goal set by the Centre for the subnational states. Initially, this was implemented through stipulating institutional forms that could limit ‘political’ interventions by various social groups and their demands for free or subsidised electricity tariffs. In 1991, electricity generation was one of the first sectors to be opened up for private investment in a quest for attracting private capital by the Centre. Privatization of electricity distribution was a central aspect of the reform agenda driven by the centre. However, against the argument that full results of liberalisation can only be achieved by implementing market-based allocation in all sectors of the economy, most subnational states have resisted radical ownership changes in the electricity distribution sector. By the mid-2000s, most sub-national governments had shelved the privatisation agenda in electricity distribution and opted for approaches to pursuing efficiency under a regime of state-ownership of distribution companies. The Central government has attempted to benchmark and rank the performance of state ESCOMs through metrics of cost-recovery and commercial performance even as subsidies paid to agriculture by subnational states have steadily increased. The finance bureaucracy in subnational states has increasingly blamed the parastatals ESCOMs for misreporting agricultural subsidies, an issue that has become an arena for adversarial relations between the Centre and the states since liberalization. The most recent episode of this conflict was when electricity subsidy reduction was stipulated as a condition by the Finance Minister of India for increasing the borrowing limits of state governments during the pandemic in 2020.

Alongside, the sector is also an arena of mass politics since the 1980s and is located at the heart of the politics of distribution in the country. Since the early-1980s electricity supply to agricultural consumers was unmetered in several subnational states and has been charged at flat rates based on the capacity of pump-sets. More recently, they are supplied free of cost to all agriculture consumers. Increasing subsidy burdens in the sector have been problematised as a symbol of the dominance of rural agricultural elites, large farmers who exert their influence through politicians and thereby subvert the fiscal reform of the state by cornering large portions of the electricity subsidies(Howes and Murgai 2003). This discourse of failed reform as a result of entrenched economic interests of rural elites is dominant in the scholarship according to a political economy reading of the electricity sector in the country(Cheng et al. 2020). The prescription has been to reduce the subsidies as they are undeserved and untargeted. Various institutional measures to reform the subsidy burden on the state, corporatization, and creation of an independent regulator have been unsuccessful and is attributed to techno-economic ideas in policymaking without acknowledging the political nature of the problem(Dubash 2007). Most practitioners in the sector also recognise that the blame for the current inefficiencies in the sector is wrongly attributed to farmers as it often hides the theft of electricity that is common in low-tension electricity lines. The efficiency of utilities is generally measured as the aggregate of technical and commercial losses. Technical losses are incurred in the electricity infrastructure when electricity is transformed and transported over long distances, a function of several technical parameters of the electricity distribution infrastructure including length of the distribution feeders and voltage at which it is transmitted. Commercial losses are incurred when electricity consumption is not paid for. Since separating the two components is impossible in a scenario where some consumption is unmetered, the sector has been mired in a politics of blame and lack of accountability across different levels and institutions in the state. The institutional context that has emerged over several decades has therefore assumed that goals in the sector are well-defined and that the problem has only been one of ‘implementation’ and separation of

'politics' from the policy domain. There are two broad goals for electricity governance for which sub-national states are monitored and evaluated by the Centre: one is the older goal of efficiency of ESCOMs which has been attempted through formal institutional changes that hope to reduce political interference in the sector. It is common to see in policy plans for achieving Sustainable development goals in the energy sector, which has increasingly been equated with electricity that the sector must be governed by 'technocrats' through policies that are not dictated by politics. In this discourse, only some welfare roles of the state are acknowledged — providing universal household access to electricity services even for those who cannot pay. This has been primarily undertaken through the spatial extension of the electricity grid to rural territories has often conflicted with the efficiency goal of ESCOMs as the losses of state-owned ESCOMs have mounted with the expansion of the electricity grid. Even though several senior bureaucrats justify rural electricity subsidies as a legitimate welfare policy under a broader narrative of agrarian distress, the mode of provision of welfare has no public legitimacy in development discourse as it is thought to be poorly targeted and not means-tested as a welfare policy.

Several aspects of these political and institutional discourses are similar across subnational jurisdictions. This can however be contrasted with the diversity of institutional capacities and practices whose origins can also be traced back to pre-independence provincial states. Electricity has been a key instrument in the Indian state-making project for modernizing rural areas. Even before independence, electrification was an instrument that was deployed by provincial states for diverse goals and created heterogeneities in the capacities of post-independence sub-national states(Kale 2015). However, since liberalization, different sub-national states have evolved a diversity of practices for how they negotiate the conflict between agriculture and industry, negotiations that are often dependent on the availability of resources in different regional economies and the structural transition unfolding in their diverse regional economies. These incremental changes since reforms have opened up new political spaces as

well as new contradictions for actors and institutions across different levels of the state, viz. the Centre, sub-national states, state-owned utilities and regulators. A policy that promised to reduce agricultural subsidies, provide 24/7 electricity to rural areas and emerged as an indigenously-developed ‘model’ of electricity provision had to intervene in diverse sub-national and rural agro-ecological contexts. It is the overall policy legitimacy against the backdrop of such diversity that makes an understanding of policy processes and the relationship between sites significant.

### **1.5.3 Methods in the Extensive phase**

The case study was structured in two phases – an extensive phase followed by an intensive study of a village and sites of implementation. The extensive phase used qualitative methods and was used to understand the sequence of events during policy formulation, discursive regularities regarding the need for the policy, and outcomes expected from the policy in Karnataka. This was conducted by analysing the discourse of the program in the public domain – from media reports, the GoK Energy department website – as well as capturing policy discourse that was not in the public domain. Initially, policy narratives and the themes in the program were traced through unstructured and open interviews. During the course of the study, access was gained to the program file in the Energy Department that allowed for capturing the deliberations within the bureaucracy between the Energy Department and Finance Department. The dissonance within the bureaucracy regarding the evaluations of NJY as a success and failure informed the analysis within the case. During the course of the case study, semi-structured interviews were conducted using an interview guide (Appendix 1) with staff in various institutional positions within the energy and finance bureaucracy. In this phase, actors were chosen through snowball sampling to capture the discourses of those directly involved in the formulation event in Karnataka by tracing the actors who visited Gujarat to learn about the model and were directly involved in the initiation of the program.

**Table 1: Interviewees and their institutional positions**

<b>Interviewee institutional positions</b>	<b>Numbers</b>
IAS Cadre, Karnataka	6
Executive Staff in Energy Department and KERC	4
Former and Current Staff in Corporate office, BESCO	11
Executive staff at District Divisional Office, BESCO	1
Staff at Sub-divisional office, BESCO	4

The extensive phase was also used to analyse changes and continuities in the institutional context of the electricity sector in Karnataka, and pressures on it in the development process. This was traced using annual reports of KEB, state archives and from memoirs of senior bureaucrats. The intensive phase was undertaken after this initial phase of analysing the institutional context and policy discourse. Particular attention was paid to what is measured and what is known within certain institutionalised boundaries at various levels of the state – a theme that came up during interviews during questions about the perception of outcomes and how these outcomes were evaluated. Remarkably, neither the Energy department nor the regulator, KERC evaluated how many or which villages were served by NJY and information regarding beneficiaries stopped at the taluka level. It was assumed that all villages within the taluka would be covered once it was selected. If it was not, it was interpreted as a delay in implementation by the sub-division, the lowermost administrative unit of the ESCOM that interfaces with the citizens.

The interactions with staff at the corporate office of BESCO and understanding of the implementation logic were used to identify a taluka where NJY was implemented in Phase1.

The study used the criteria that evolved during the policy event which marked out some talukas as high priority by BESCO. This was based on two criteria that emerged and evolved during program implementation. First, the taluka had to be a backward taluka identified by the GoK. The second was based on the density of agriculture pump set use in the taluka, based on reported agricultural consumption at the sub-division office of the electricity bureaucracy. A sub-division and a village served by the sub-division were selected for an intensive phase of the study after completion of this extensive phase and analysis of data that emerged in the case.

#### **1.5.4 Methods in the intensive phase**

The village studies tradition in Indian sociology has developed a methodological repertoire that consists of studying and conceptualizing the social processes in the society through everyday practices and experiences of caste, kinship, religion and rural life through a field-based view. While borrowing from that tradition and engaging with its preoccupations of everyday practice, this study was designed to examine how a programme that was conceptualised, deliberated upon and justified by state institutions from far away, views and interacts with the social processes in the village.

The village component of the study was driven by a need to achieve comprehensiveness regarding the most significant economic and social process in the village as well as its relations to ways of thinking and action in other sites of the policy process. A census village in the taluka was chosen using two criteria: a) At least 50% share of agriculture work in main workers in the village to serve as a proxy for the importance of irrigation activity in the village and b) At least 20% share of SC/ST in the population to allow for capturing differences in response to the policy from diverse households. Table 2 below shows a summary of the economic and social indicators of the village that was chosen in the taluka.

**Table 2: Summary of socio-economic features of the study village (Census 2011)**

<b>Share of cultivators (as a % of the main worker)</b>	<b>Share of agriculture labour (as a % of the main worker)</b>	<b>Share of SC/ST households in the village</b>
55%	20%	22%

The intensive part of the fieldwork was done in two phases - the first phase was a period of continuous stay in the village high school for four months between October 2018 and February 2019. This phase was used to capture the social context in the village by staying at the village high school, which provided a neutral place to be visible and to get familiar with the main socio-economic activities and their arrangements in the village. This phase was used to capture structured data using survey questionnaires administered to every other household in the village, a sample of 297 households were surveyed in the village through habitation-based stratified sampling. The survey was administered using paper and pen in Kannada and collected data pertained to household members, main and marginal work of members, assets in the household and electricity and irrigation equipment by the households and their usage pattern. The questionnaire used for collecting quantitative data is included in Appendix 2. In this initial phase of data collection, I sought assistance from a community health worker in the village for introductions and for locating homesteads that were more dispersed and were located amidst plantations. The survey allowed an opportunity to build friendly relations with several households in different social positions in the village. After an initial round of analysis of survey data, I visited the village several times between August and December 2019 for qualitative interviews with households and Panchayat members, each visit lasting 2-3 days. I also asked several individuals if I could spend time observing irrigation practices on the farm,

especially if they were using drip and micro-irrigation. Access to participant observation regarding domestic practices of electricity use was more limited in comparison to irrigation practices. For domestic practices, I relied more on conversations with women in order to understand how unscheduled electricity in farms and households affected their activities.

## **1.6 Outline of Chapters**

The rest of the thesis is organized as follows. Chapter 2 will provide a historical background of state-society relations that have emerged in the development context of Karnataka and traces the role of electricity as an instrument for development of rural areas. This account is provided by tracing changes to institutions that were required due to pressures from above in the federal context as well as from political demands from below. This political and institutional context in rural electricity and water governance serves as a background against which contradicting discourses between state institutions and its multiple goals of efficiency and welfare are analysed during the policy event.

Chapter 3 captures the sequence of events during the policy event and the nature of consensus that emerged during policy adoption in Karnataka. By focussing on how policy solution is offered as a response to multiple policy problems, it gives an account of how a variety of interests are assembled around a single policy instrument. In particular, it identifies the two different discourses that generate an initial policy consensus: a public articulation of the policy problem that relied on a prospective discourse of rural development and a retrospective discourse that relied on moral narratives around the unfairness of the distribution of electricity subsidy to agriculture and its associated environmental impacts. It shows that while the consensus points to an inevitability of separating farm from non-farm infrastructure in rural areas, it also hides mutually contradicting discourses between multiple institutions within the government.



Chapter 4 and 5 together provide an account of how this fragile and temporary consensus that is built around a policy instrument unravels as the program evolves in sites of practice where the policy narratives need to accommodate on-going socio-economic processes. Chapter 4 provides an account of the social, economic and political processes in the village where livelihoods for the majority of the households are organised around accessing the groundwater economy. By providing an account of the social context into which the program intervenes, this chapter captures one aspect of the diversity where the arguments and assumptions contained in the policy model is tested. Chapter 5 provides an account of the governance practices of the ESCOM sub-division, the lowest rung of the electricity bureaucracy and the nature of its interactions with the village. It traces the informal practices of electricity provision and consumption in the village and shows how this is allowed to continue in the agriculture feeder even after NJY. NJY therefore, becomes a means for sustaining two separate domains of legitimacy for the sub-division. The local negotiations that are organised around the dominant irrigation practices in the village create a domain of informal and local legitimacy. On the other hand, NJY allows carving out a domain of formal legitimacy to the higher bureaucracy where electricity provision is based on tariffs, metering and revenue collection.

Chapter 6 evaluates the nature of legitimacy that is reflected in how policy gained acceptance in multiple sites in which it evolves. It synthesises the findings within the empirical case to show how a policy making style that proceeds by forging a consensus around a policy instrument allow multiple negotiations with a different audience, raising issues and knowledge that is most relevant for the particular domain of legitimacy. Chapter 7 concludes by discussing the implications of a policy process that has multiple sources of legitimacy.

## **CHAPTER 2**

### **THE GROUND: STATE-SOCIETY RELATIONS IN KARNATAKA**

This chapter traces the 'ground' from which the policy event emerged in Karnataka and outlines the key social and political processes as well as its associated ways of thinking that formed the background to it. In tracing the historical antecedents and the ground from which the policy event emerged in Karnataka, this chapter has two specific objectives. The first is to show why policy interventions in the electricity sector need to be understood as central to the politics of development itself, going beyond its own narrowly-defined goals within the sector. The second objective is to provide an account of the institutional adaptations in sub-national states in response to pressures from above in the federal context as well as the regional political demands on it from below. The overall objective is to provide a historical institutional context that informs the analysis related to the evolution of the policy model in the subnational context of Karnataka.

In this necessarily broad-brush account of the institutional context in Karnataka, this Chapter traces the continuities and changes to development process. In doing this, the work will foreground the attempts by the highest levels of the sub-national state institutions to distribute and control water and electricity in enabling the goals of modernization and capital accumulation in its territory and the responses to it from various social groups. Such a long-term analysis of the case of Karnataka is used to show how the integration of its water, electricity and agricultural modernization strategy continues to be a central instrument in the state's development ethos. This historical background is used to outline some features of the present context and contradictions that have emerged since the 1990s when agendas of

privatization and recasting the state's role as a 'regulator' and enabler of marketization of services have progressed in line with the global development paradigm (Carroll 2012).

## **2.1 Emergence of a state-led regional growth strategy**

Unlike localized use of primary resources such as coal or hydropower for energy, infrastructures to generate, transmit and supply electricity has required mega-projects that required the state to play a central role in marshalling the financial resources needed for its construction and maintenance. In this, it is similar to other infrastructure technologies such as storage reservoirs and canals which have often been associated with the emergence of centralized and managerial state bureaucracies. However, unlike the massive hydraulic states that is expected in basins with surplus water, the efforts of the early nineteenth century state in Karnataka and its modernization efforts illustrate a case of much more constrained exercise of bureaucratic autonomy under natural resource and capital constraints, where electricity was used as instrument for generating surplus that was invested by the state to create public goods for agriculture. Even in this early state, investments in electricity generation and distribution were considered a state-provisioned public good in order to overcome the productivity limitations in agriculture. This section details the thinking in the bureaucracy for overcoming the problem of fragmented economic activity in agriculture and generating economies of scale by using multi-purpose dams as an instrument that could cater to industrialisation as well improve agricultural productivity in its territory.

### **2.1.1 Controlling Flows of Water for Surplus Generation**

The princely state of Old Mysore<sup>2</sup>, was one of the earliest, modern bureaucracies to govern over a territory that was directly administered by native rulers in pre-independence India. The thrust

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<sup>2</sup> The present state of Karnataka comprises of districts that were under diverse administrations before independence - areas ruled by native rulers: the Nizam of Hyderabad and King of Mysore as well as those

to establish a modern Mysore state, along the lines of the industrialised West and enable the rapid transformation of the economy and efficient allocation of resources was the most important goal for the bureaucracy that was inherited by the new native state after rendition in 1881. Soon after, a representative assembly was created by the new ruler to seek legitimacy for the new native state by enabling the landed and educated classes from the rural areas to be heard through representations to the government and participation in debates for major policy decisions. There was a cultural logic that drove adoption of modernisation of the state in the early days with the state keen to establish its credibility as a fiscally prudent modern state to the colonial administration(Nair 2011).

Irrigation extension through canals was limited to a few tracts in the state of Old Mysore. The vast majority of cultivable land was in the dry land *maidan* areas that were historically irrigated through a system of tanks. After a series of famines in the 1870s in southern India, a famine commission had been constituted, whose findings stressed the importance of tank-based irrigation systems as important ‘protective works’ to maintain food and livelihood security and prevent social conflicts (Ramesh 2018). However, the annual repair and maintenance of these scattered and numerous tanks were a significant management problem for the state. Since the famine commission report, it became common practice to classify and prioritise irrigation projects in the period as being productive or protective schemes. Productive schemes were those which could finance themselves in a fixed period through direct revenues from the land, and those which could not yield direct revenues were protective schemes that were to be undertaken as protection against famines(Ramesh 2018). As these projects were often financed through loans taken by state governments from London, it was considered important to prioritise those projects that provided the highest total benefit by extending irrigation over as large an area as possible for the least cost.

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under colonial administrations under the Bombay Presidency and the Madras Presidency. However, the state of Karnataka inherited an administration that comprised overwhelmingly Old Mysore Civil Service

While, the construction of small scale irrigation projects was common in colonial India, the extension of irrigation to the upper reaches of the Cauvery and to most of the dry land areas in Old Mysore necessitated the construction of large storage reservoirs which were not considered to be financially viable if they were to generate returns from land revenues alone. Therefore, the waters of Cauvery and its tributaries like Kabini and Hemavathy, which used to pass through the State of Mysore was never harnessed for irrigating agricultural lands in Mysore; most of the water was utilised for irrigation in the river's ultimate destination, the delta regions of the then State of Madras. Historically, these downstream delta areas of Cauvery were already being used as topography made diversionary irrigation canals remunerative; for the new native state; therefore, hydroelectricity became the means for earning an adequate return on the investments required for large storage reservoirs. It became thus the first to undertake public investments in electricity with a goal of productivity increases in both the primary and secondary sectors in the region. As the Diwan of Mysore indicated in 1899:

“...the Durbar aims to develop the power for industrial enterprise throughout the State. There are many private applications for permission to utilize this power. However, no private enterprise can be expected to transit and deliver at such low rates that would satisfy the state, it will be funded from government's own revenues” — Address of the Diwan to Mysore Representative Assembly.

The viability of the scheme was justified to the Government of India (GoI) using a comparison with comparable irrigation investments undertaken by the state in other parts of India by the Chief Engineer of Mysore: “As soon as it is known that cheap power is available at centres like Bangalore and Mysore, fresh factories will spring up and those existing will expand. No time should be lost in putting the work to hand. The policy proposed is similar to that adopted in India in connection with irrigation works, where the government stores water and issues it on payment for the benefit of all at so much per unit. In this case, the government generates power

from a natural fall at a low cost and issues it to the general public at so much per HP” — Address of the Diwan to Mysore Representative Assembly.

As Hughes has demonstrated using the case of electrification in Western societies, the development of electrification technologies required local adaptation to the socio-political context in each region for it to gain acceptance (Hughes 1993); this was no different in the case of Old Mysore. The presence of an established British gold mining company that provided an assured demand for the electricity generated proved to be a local advantage that was tapped by the state to generate revenues. Driven mainly by British and Indian civil engineers and bureaucratic elites, the primary motive was to use this captive demand to undertake fixed cost investment which would be repaid in the early years and use the extended life of the project to further industrialisation in the state. A contract that was signed with the mining companies provided assured revenues from the electricity generated from the public investments in the hydro project. The surplus generation beyond the capacity contracted by the mining companies was used to extend electricity to the urban centres of Bangalore and Mysore. This also allowed electricity to be used for drinking water supply and lighting to these cities as well as further industrial development through supply to textile industries in Bangalore at less remunerative rates. The project recouped the initial investment of the first phase in five years and proved to be a significant revenue generator both in terms of direct revenues from the sale of power and indirect revenues from the royalty derived from expanded supply to the mines. It allowed the state to develop and expand electricity profitably in stages using its resources and use the direct revenues from the sale of electricity for further investment in infrastructure. The native state undertook these investments to upgrade the generation capacity from its revenues, an expense that would be interpreted by other provincial governments such as the Madras Presidency as an “unnecessary luxury” that considered and stalled hydropower projects in the same river basin even over the next two decades due to lack of assured and profitable demand for electricity (S. Rao and Lourdasamy 2010). As a result, in these early days electricity was generated

exclusively for industries as well as for enabling commercial activities in urban areas and had revenue generation for the state and improving the productivity of non-agricultural economic activity as the primary objective. This was in turn used to further its investment in the construction of new tanks as well as undertake repair and maintenance of tanks.

Similar to the policy followed in the neighbouring Madras Presidency, the native state in Mysore undertook only the upkeep of large tanks through public works departments while the minor ones were left to the revenue department or the villagers for maintenance. It is expected that labour necessary for upkeep and maintenance would be done by local cooperatives of cultivators. Although the state bureaucracy had to take control of the construction work of tanks as a source of protective irrigation, its maintenance and frequent failure was often a source of frustration for the bureaucracy. Efficiency through scale economies was an important consideration for what public infrastructure was prioritised by the second decade of the twentieth century. As these projects were often financed through loans taken in London, it was considered important to prioritise those projects that provided the highest total benefit by extending the irrigation over as large an area as possible for the least cost. When Visveswaraya took over as the Chief Engineer of Mysore in 1910, the logic of generating efficiency through scale was a primary consideration he laid down in the vision for Mysore for raising the productivity of agriculture through these large-scale investments. His comments indicate the thinking in the bureaucracy to overcome the limited control over scale in agriculture through storage works: “Our tanks are numerous but the majority of them are of comparatively small size. They came into existence in days when the construction of larger ones was not understood. There is a need therefore for a class of works not hitherto attempted in the State, viz., storage works for collecting the surplus rainfall of the Malnad regions for the fertilization of the dry Maidan lands—(Visvesvaraya, M 1917)

For the new native state, therefore, combining reservoirs and hydroelectricity became an important instrument for generating a revenue surplus. These revenues were re-invested for agriculture productivity improvements, gradually evolving a regional growth strategy, which was albeit limited by the location and flow constraints in the river. The providential opportunity for combining the goals is persuasively summarized in the project report made by the then Chief Engineer and soon to be Diwan of the state, M. Visveswaraya: "Once commenced, the scheme opens up a vista of possibilities of ever-increasing value to the State. But the speed with which developments take place will not be spontaneous but must depend entirely on the energy and foresight displayed by the responsible Government in improving the market for power and extending irrigation. Having regard to the indirect revenue to the State by the increase in the productive power of the country, a work like this would be justified even if it paid no more than 3 per cent. But the promise of extraordinary direct returns from power at commencement, and the opportunity it affords of building up a great irrigation project from the sale proceeds of power, form a combination of advantages rarely vouchsafed to such undertakings in any part of the world." — Address of the Diwan to Mysore Representative Assembly.

Old Mysore became the first and the most successful example of an early development state which operationalized a relatively new technology in the early 1900s —hydro-electricity-based electricity generation —and used control of water as a means to develop a regional growth strategy. The proven reliability of the hydroelectricity supply soon led to successive demands for expansion of electricity generation capacity of the state which could be readily sold to the existing industries to generate a surplus for the state. Soon, the main constraint for the expansion of the model came from the seasonality of the water availability in the river —the flow in the river during the hot season from March to onset of monsoon in June proved to be highly variable between years and significantly less than the predicted design value in some years. To overcome this, the next major economic intervention by the state was conceived in 1911 —the construction of a high-head reservoir to impound the natural flow and store water to



ensure a reliable supply in the summer. This afforded the opportunity to not only solve the seasonal shortage of water for electricity but also provided an opportunity to extend irrigation to un-irrigated areas in a planned and cohesive regional development strategy.

### **2.1.2 Overcoming Constraints of Location: Reservoirs and canal networks**

By the second decade of the twentieth century, the bureaucratic state had started facing pressures from below as the balance of power started shifting to the locally mobilized political interests and the Maharaja was at the centre of containing and managing the political pressures from below. There were also pressures from above as the rapid consolidation of the industrialisation strategy conceived of by the state bureaucracy, faced considerable setbacks due to its position as a native state and reduced political power with the Government of India under British rule. Under the 1892 agreement between the States, Karnataka had to seek the permission of the Madras Presidency before construction of any reservoir which the latter refused when consent was sought in 1911. There was already tension between the use of water for irrigation and hydroelectricity generation by the 1920s and Mysore State had to overcome political and administrative opposition from the Madras Presidency in the matter of reservoir construction. The latter had always claimed historical easement rights to water for irrigation in the downstream delta and only about 18% of the river's yield was available to Karnataka in the early twentieth century because of this claim to traditional prescriptive rights. It took more than a decade of dispute and arbitration, with the more powerful Madras Presidency before the bureaucracy was effective in negotiating an agreement that relied on a principle of minimum gauge flow at the new reservoir. In 1924, when Madras built the Mettur dam, the states signed an agreement allowing Mysore to extend irrigation by 7-10 lakh acres over the agreement's 50-year life. While this removed the temporary barriers to reservoir construction, the state was always held back in expanding its irrigated area due to the unfavourable terms of the agreement that was reached with a more powerful colonial state.

The second set of challenges to the concerns of the developmental state led by an autonomous bureaucracy was the demands by politically mobilized groups in the society. By 1916, demand for reservations to civil services and government departments led by backward classes gained strength at the same time that the state was consolidating its reservoir-led development strategy. These demands from below were from the agriculturally-dominant caste communities of Lingayats and Vokkaligas that articulated these demands in terms of reservations in government recruitments and education for specific non-Brahmin caste groups. To respond to these, the Maharaja had to take a series of decisions in response to these demands, often challenging the authority of his bureaucracy. The then Diwan, Dr Visveswaraya who was instrumental in leading the water-based developmental strategy for the state resigned on the grounds of disagreements on the matter of reservation as most of the bureaucratic elites felt that merit should be the only criterion for appointments. However, the Maharaja implemented the Miller committee suggestion for reservation and representation of backward classes. By 1918, orders were given to implement reservations during recruitment to all government departments as well as in institutions of higher education that was funded by the State. The demand from below then becomes predominantly one of extending social protection by including a broader section of the population and a wider variety of caste group interests for gaining representation in the state apparatus.

By the end of the first three decades of the twentieth century, Mysore had already laid the groundwork for a developmental state that provided a model for other provinces at the time and conceived ideas that would later be emulated by the post-independence Indian state – a highly interventionist state that sought modernization and progress similar to those achieved in Western nations through state-led industrialisation. The bureaucratic elites saw this as a path to combine several promises of modernity - industrial advancement, technical education and agricultural productivity. Government investments in multi-purpose reservoir projects that integrated productivity improvements in industries and agriculture as well as the creation of a

base of advanced technical skills was a central strategy to realize this thinking. KRS reservoir thus became the first multi-purpose state-funded project that explicitly aimed to transform the economic prospects of an entire region. It has since been compared to the Tennessee Valley Authority (TVA) scheme in America although TVA itself was set in motion only during the inter-war period. In Mysore, the impact of the scheme was similarly far-reaching for the region — it led to the conversion of large tracts of formerly dry-land agricultural areas to irrigation tracts which changed the fortune of agriculture in the districts of Mandya and Mysore enabling it to switch to higher-value sugarcane cultivation. Albeit limited to a few districts, direct revenues from these lands along with those from electricity generation, made possible a vibrant regional economy to emerge alongside the siting of the first public University funded by industrial capital to be located in Mysore. The state also invested in technical education to create a cadre of highly skilled workers and started several industries and started industries to provide backward integration with the growing electricity industry that employed this manpower. In this period of the relatively high bureaucratic authority of state's action, the thinking was based on an integrated strategy of creating public infrastructure for both agriculture and industry that involved the direct provision of water to protect against famines and well as for improving productivity in agriculture. The thinking behind these state-led interventions is captured by the Diwan, who led the conception and implementation of KRS recounted in his memoir:

“My one aim was to plan, promote and encourage developments chiefly in education, industries, commerce, and public works to enable the people to work well, earn well and live well. No time was lost in drawing the attention of the officers of the State and the people to the main deficiencies in their living conditions and to the necessity for improvement and progress similar to what I had noticed in Japan, Western Europe and America....It is not difficult nowadays to construct public works, railways, tramways or other public utility works because skilled agencies can be imported for the purpose. Foreign capital can be obtained if we are able

to guarantee a fair return on the outlay. But large enterprises carried out entirely with outside help will not increase the capacity of our people or raise the status of the country. Unless in the fiscal and geographical area known as Mysore, the intelligence of the people, the natural resources and the available capital act and react on one another and that with cumulative effect, the country cannot be said to be making any permanent progress”.

This development strategy combined public infrastructure, finance and expert knowledge. The government directly intervened in the agricultural production process by controlling the flows of water and changing the cropping pattern to more remunerative crops such as sugarcane in the districts where irrigation was extended. The state also directly invested in sugar industries to provide secure revenue generation to these new sugarcane cultivators by integrating the water led agricultural strategy with industrial strategy. This centrally-controlled and water-led strategy driven by the state had several implications for state-society relations and relative power of various sections in the society – In agriculture, this created ‘pockets of prosperity’ both regionally and within villages. Several districts such as Mandya and Mysore benefitted disproportionately from several other dry-land districts. Even within irrigated districts, water distribution was highly inequitable between landowners at the head end and tail end of the canals (Mollinga 2003). The revenue bureaucracy at the local level was populated by officials drawn from traditionally dominant landowning castes and often exercised their local power for favourable terms for water. State action often worked with and accommodated rather than oppose the traditional power of dominant families and castes in the agricultural economy. The first drive towards electricity for modernizing agriculture started with the extension of grants to install electricity-driven wells in the late 1930s but had revenue-generation for the state as a primary goal with an expected return on capital of 15-10% from cultivators. Discharging these administrative functions required delegation of authority to the lower bureaucracy in the public works department, to administer grants to individual cultivators, measures that were followed alongside detailed efficiency and audit measures by the centralized state. Traditional elites led

successful mobilizations to gain reservations in the government apparatus, but their control was exerted primarily through control over agricultural regions. In the modern sector, the strategies of the early developmental state created a class of highly-skilled technical manpower who were increasingly populated by the socially advantaged and urban castes. By the last decades of native rule, electrification was already extended to most taluka towns and rural areas in Old Mysore, and plans for village industrialisation were drawn up.

The integration of new districts from former Hyderabad, Bombay and Madras administrations into unified Karnataka in 1956, required the bureaucracy to operationalize the general principles developed in Old Mysore to intervene in regions with highly varying historical and social circumstances. Its new position in the federal context and the reduced bureaucratic autonomy that came with it, had implications for its ability to transfer the model developed in Old Mysore to these diverse contexts. Even so in terms of development thinking from above, independence was largely a process of continuity for the new subnational state.

### **2.1.3 From Canal to Electricity Networks: Consolidating industrialisation**

Soon after state reorganisation in 1956, the institutional momentum that was already built was used by the state to extend a water-led strategy to newly integrated districts to replicate the gains from the Cauvery, several social, political and administrative pressures constrained this state-led development strategy which required changes in how its agricultural modernization as well as industrialisation strategy was financed and extended to rural territories. The first set of pressures was from above: the subnational state's administrative autonomy was severely restricted due to its new position in the federal structure and dependence on funds on political relations with the Centre. It was less easy to resolve administrative conflicts through bureaucratic negotiations and inter-state disputes over water sharing delayed the pace of development of multipurpose projects that could support joint-development of irrigation and electrical potential on the Krishna river system. The state was dependent on the Centre for

planned allocations for financing major irrigation projects, and these were refused for extending channels or reservoirs in Cauvery and Krishna river systems when they were riddled with inter-state disputes.

In contrast, the government was able to more easily expand hydroelectric capacity through west-flowing river systems such as Sharavati that were wholly in its territory, which were stand-alone electricity-based projects rather than multipurpose projects that were the norm earlier. The Centre's concern for industrialisation and its position of being far removed from political pressures from the rural constituency meant that reservoir-led strategy was used primarily in the service of industries. The electricity department was converted into a Board and expected to operate along commercial lines, mandated by legislation from the dominant institutional thinking in the period that separation of the electricity sector from state politics was necessary for efficiency in the sector.

When the Karnataka Electricity Board (KEB) was formed in 1957, as mandated by the Indian Electricity Supply Act of 1948, the Mysore government transferred the already built-up 60MW of hydro assets (about 2% of the present state-owned hydro capacity of 3650 MW) to the Board for operation and maintenance; however, the construction projects continued to be undertaken directly through the Hydro-Electric Construction Projects Department (HECP). The initial expansion of the distribution network was focused primarily on the construction of receiving stations to supply the new industrial clusters in the suburbs of Bangalore. The autonomy of KEB was consolidated in 1957 when the responsibility for electricity governance was handed over to it. The thinking behind this came from the Centre, to hand over the administration to experts. Karnataka, when faced with the mandate from the Centre, kept the existing assets under construction under the executive control of the department while handing over what were the operations and maintenance of the assets to the Board. Although the grow more–food-campaign of the 1950s had already established programmes to expand the utilization of privately-owned

water extraction technologies, in these early years, it was mainly diesel-driven and to a limited extent by smaller electricity-driven pumps from shallow open wells in areas where electricity network was already extended, primarily in districts of Old Mysore. As such, the demand from agriculture was a negligible portion of the total demand hydro-based electricity supplied by the state; instead it was primarily used to serve an expanding base of industries.

Through the HECP, the state expanded its hydroelectric capacity several-fold to about 1100 MW, initially by developing the hydro potential in the Sharavati river system over which it enjoyed the most autonomy and gradually on the Krishna River. The thinking in the electricity sector by the 1970s was that the state will have a huge surplus for several decades. There was a sense of “cornucopia”, a limitless amount of energy that could be tapped from hydro projects; As a retired senior employee of the Electricity Board remarked, “until the 1970s, Karnataka was welcoming industries with a silver plate by providing cheap electricity”. Highly-energy intensive industries such as the Indian Aluminium Company were the ones to take advantage of such cheap power when they contracted power for as low as 2p per unit at a time when domestic users were paying 25paise for lighting (KEB Personnel 2018).

Even as the industrialisation strategy was consolidated, the years since re-unification were marked by two moments of change which had implications for the state’s relations with the dominant powers in the rural territories requiring changes to institutions within the state. The first of this was marked by a series of attempts by the state to implement institutional reforms from above in agriculture, in keeping with the land reform discourse in the country. The strategy for improving productivity in agriculture through institutional approaches failed to fundamentally change the class nature of dominance in the rural sector in a series of reform attempts to land tenure during the 1960s. While these attempts by the state to change the traditional power relations in rural Karnataka used both a discourse of welfare and productivity gains. In its theoretical formulation, the reform attempt was meant to serve both equity and

efficiency goals. The main thrust and framing of “land to the tenant” were about removing intermediaries in agricultural production leading to productivity increases rather than redistribution of land to those who were landless. The productivity dimension was driven by the assumption that if tenants were made owners of the same landholdings, it would eliminate intermediaries and also create a class of owner-cultivators who could invest in and improve land-productivity (Bell 1974). Abolition of tenancy and redistribution of land was also seen as a way to achieve a more egalitarian agrarian society by fundamentally transforming the traditional power relations in the rural. While it achieved very little in terms of redistribution goals, the narrow focus on ending tenancy to improve agricultural productivity had varying outcomes in different regions of Karnataka depending on which political factions gained or lost land during implementation (Kohli 1982; Pani 1983).

Once the institutional approach to improve agricultural productivity failed, the state resorted to a technology-led approach to improve agriculture where the cheap base of hydroelectricity generation could be used by the state instead of investment in surface water networks. As long as the state had large sources of cheap power, this was the more efficient way of extending intensive irrigation to rural areas and sustaining agricultural surplus accumulation in the rural. Intensive irrigation could be directed towards maximising productivity per unit of land in contrast to the extensive irrigation strategy of canal-based irrigation technologies that distribute water to all tracts in the region to the maximum extent of land irrigated per unit of water, a feature of the block irrigation schemes prevalent in the region. Thus, the extension of electricity networks to vast tracts of the rural to enable privately-owned irrigation technologies could support intensive irrigation could tap into a vast resource whose potential was untapped so far. It was also easier to find finance through loans underwritten by the Centre for extending rural electrification networks, making the agriculture modernization gains were highly location-specific.



The second moment was marked by increasing pressure on the state from rural interests, who saw their agricultural productivity gains led by technology taper away, raising political demands for input subsidies from the state. These required institutional adaptations to continue its technology-led development strategy in a context of a further deepening of political power in rural territories.

## **2.2 Institutional Separation of productivity and welfare goals**

By 1970, Karnataka Electricity Board (KEB) was mandated to focus exclusively on electrification of villages utilizing loans from Rural Electrification Corporation (REC), a government-owned electricity financing company established by the Government of India (GoI) for the specific purpose. On the other hand, the responsibility for raising finance for increasing generation capacity was separated and corporatized by creating Mysore Power Corporation Ltd (later renamed Karnataka Power Corporation Limited). As a result, Karnataka became the first sub-national state that separated its generation assets and activities into a separate State-owned generating company as early as 1970, an institutional form that other states were mandated to follow as part of the power sector reform package in the late 1990s. This separation of functions affected the relationship between the political class and the electricity bureaucracy at two levels. On the one hand, the higher-level technocratic, bureaucratic and political interests were aligned as the State was able to build more generation capacity by using its institutional strengths in construction of hydro-based generation assets and development finance from international agencies to the Sharavati project – these projects enabled the state to rapidly expand remunerative projects. Secondly and relatedly, the state-owned single-buyer distribution company allowed the state-owned generating company to maintain its profitability through an assured buyer. The distribution segment owned by the Board was meanwhile entrusted with the function of extending rural electricity networks that were subject to the politics of patronage from below.

### **2.2.1 De-commodification of electricity in rural areas: farms and households**

The 1970s saw the rise of regional leaders in Karnataka, who effectively used the discourse of redistribution. A diversity of bases of rural political power happened under its Chief Minister, Devraj Urs, under whom another attempt for implementation of land reforms was much publicised. However, since then, several scholars have shown how the state's land reform, that set out to be radical by abolishing tenancy in its rhetoric, resulted in the diversity of local political processes depending on the local agrarian contexts in to which it was implemented and that the land-to-tenant reform did not result in the major redistribution of land (Kohli 1982). There was huge inter-regional variation in whether the former tenants who gained land belonged to the landless or smaller landholding classes because, in several rural agrarian contexts, dominant landowners often leased in more land than they leased out, contrary to the assumption of nature of tenancy inherent in the formulation of land reforms (Kohli 1982; Pani 1983). As the issue of equity was hardly prioritised, the Urs regime used the land reform policy to consolidate its position in rural areas by converting class-based politics into rural patronage-based politics. Supporters of the Congress party were thus able to resist any major change to their power base in the rural.

In this regime of politics of patronage, electrification of a village and creation of a sub-station at an MLA's constituency was seen as a direct gift from the politician. The latter half of the 1970s saw the rapid expansion of the rural distribution network and gains in village electrification was also used by politicians to claim credit for extending electrification benefits to specific regions. A senior technocrat in the Board recollected the fanfare with which electrification of a village attracted senior ministers from the ruling party in the 1970s (Rudrappa 2005). The discourse of state-provided rural welfare was also active in extending the electricity network to provide single-point light bulbs to households. In one of the circulating legends in Karnataka's Electricity department, how the first of its kind welfare scheme in the country for extending

electricity service to BPL households in the country, Kutir Jyothy, was conceived as a result of direct intervention by the then Chief Minister, Devraj Urs who while travelling through a village, found several households unconnected to the grid even though there was an electricity line passing through the village. A free household electrification program sponsored by the state was later to become a Central government scheme rolled out in the entire country in the mid-1980s when the Rajiv Gandhi government came to power in the Centre.

The relative status-quo of traditional power base in the rural areas was used by the rural dominant classes to consolidate its power through farmers' movements by the mid-1980s, portraying the development process as a conflict between the rural and the urban sectors. Public sector-led industrialization had led to rapid urbanization and growth of urban Bangalore, and there was growing discontent amongst the farmers, due to the perceived neglect of agriculture. Initially mobilized as an agitation to oppose betterment levies charged by the state for surface water irrigation in newly-irrigated districts of Northern Karnataka, the farmers' movement, found its most potent expression in the protests of Karnataka Rajya Raitara Sangha (KRRS), an advocacy group for farmers who demanded that the Indian National Congress government declare agriculture as an industry, subsidise agricultural inputs, intervene in pricing outputs, and extend all benefits enjoyed by industrial labour to agriculturists. An important demand made by the farmers' movement on the government was to reduce the electricity charges levied on the agricultural class to 6.5p. Farmers' movement was successful in presenting itself as an apolitical movement that was mobilising for the benefits of the entire rural polity by generating pressures on the state against its unfair bias in distributing resources to the urban (Varshney 1998). In the 1983 assembly elections, the KRRS explicitly called for the defeat of the Indian National Congress (INC) and supported the Janata Party. This had implications for the electricity governance as the intense political competition between rural and urban capitalist classes translated into struggles over relative shares in electricity provision as a primary input in the production process.

In 1983, the newly-elected Janata government under Ramakrishna Hegde capped the supply to industries as a matter of policy and ordered the Karnataka Electricity Board (KEB) to give preference for pump-set energisation. This policy change led to most large-scale industries leaving the grid in favour of captive generation, drastically altering the consumer mix of the KEB over the period 1985–95—the share of agriculture which was around 8 per cent of the total sales in 1985 rose to 46 per cent by 1995. As the number of installations in agriculture increased, the Board also decided that agricultural consumers in the rural will not be metered and instead charged a flat tariff as the returns from the consumers were much lower compared to the effort of billing and collection. While flat-rate tariffs for agricultural consumers were enabled by the ready availability of inexpensive hydroelectric power in the state, this was already facing a constraint by the mid-1980s. Further expansion of hydro-capacity owned by the state was increasingly constrained by environmental and social opposition to the construction of large dams. Other comparatively expensive supply sources, such as thermal generation, had to be rapidly added in a state that had relied exclusively on hydroelectricity until 1985. However, this was no longer cheap and also involved significant dependence on the central government for fuel linkages.

### **2.2.2 Institutional Adaptations within the State**

The liberalization of the Indian economy altered how state governments financed their infrastructure investment; Instead of lobbying the centre for funds, states now needed to take steps to attract private capital. Soon after foreign direct investment (FDI) was enabled in the power sector in 1991, the central government attempted to work with states to facilitate private investments in the sector. Karnataka's actions during this period were driven by an urgent need for private capital to add generation capacity and liberalization provided an institutional environment that allowed for capacity additions without the need for upfront investments. However, attempts to attract private capital met with early setbacks - the government's efforts

to attract independent power producers (IPPs) ended in failed negotiations with a private developer, Cogentrix – this was one of the eight IPP-based projects fast-tracked by the centre. Although there was considerable pressure from Delhi to sign the deal, Karnataka could not endorse the project due to prolonged litigation over environmental issues and high-cost power quoted. Between 1995 and 1999, the cost of power purchase for KEB had more than doubled. By the late 1990s, there was a huge shortage of power, despite increases in the thermal capacity addition and the Board was resorting to load shedding in rural areas for 10-12 hours every day.

Even in Bangalore which had emerged as the single significant hub of economic growth for the state, led by the information technology services sector, worsening power crises, especially in summer months, led to power cuts for three hours at a stretch. By 1999 the poor financial position of state utilities was already a big drain on the public finances of the state and most bureaucrats were convinced that some form of reform was necessary to reduce the demand-supply gap in the sector. Institutional re-structuring of the distribution segment of the power sector and fiscal reform legislation in the state were key pre-conditions to the structural adjustment-based lending program of the World Bank when it selected Karnataka as a beneficiary state for direct lending. However, the non-remunerative consumer mix that the state utilities were left with, combined with the Bangalore-centred development strategy, was to pose a significant constraint when the privatization option was considered during the power sector reform process.

In October 1999, when the Indian National Congress (INC) returned to power under Chief Minister S.M. Krishna, the reform process found a champion and the reform process was driven by power sector experts and top bureaucracy in the state, with active involvement by the government. By November 1999, the Karnataka Electricity Regulatory Commission (KERC) was constituted with a mandate to ensure competition and efficiency in the sector, as well as separation of generation assets from transmission and distribution assets were carried out

following the global template of electricity sector reform. Soon, the state had constituted a steering committee under the Chief Secretary intending to restructure and privatize the electricity distribution through an open and competitive bidding process. The World bank had singled out the electricity sector as the biggest threat to the fiscal performance of the state and had grown from 1% of the GSDP during the first half of the nineties to 2.1% of GSDP(World Bank 2001). The hope was that series of institutional measures in the sector will plug the leaky bucket that it was becoming for the state finances. The global template of power sector reform—unbundling of generation, transmission and distribution segments of the electricity business and their corporatization—was carried out. As a matter of policy, the few generating assets under KEB was transferred to the state-owned generating company, KPCL. Karnataka Power Transmission Company Limited(KPTCL), a new transmission company that would be responsible for long-distance transmission assets and load forecasting and balancing was created and it endorsed the creation of regionally separated autonomous distribution companies that could eventually be privatized. Full metering of agricultural consumption and a gradual phasing out of subsidies was part of the plan by the government to demonstrate reform success.

KERC, in what was still an evolving experiment in independent regulation in India, aspired to be a neutral institution that distanced tariff setting from political interference. As the mandate of the commission was to improve efficiencies in the sector, and limit political intervention in tariffs, the relationship between the newly-created regulator in the sector and the government started in an adversarial manner. Its guiding principles were to allow full cost recovery and to improve operational efficiency by disciplining the new companies to reduce losses, thus reducing the amount of cross-subsidy required from subsidizing consumers. Tariff-fixing for various consumers became a site for contestation as the government deferred agricultural tariff increases that were recommended by KERC due to the prevailing agricultural distress in FY02. In the tariff order in 2002, the regulator disallowed tariff increases to KPTCL, mandating that they improve their revenue through a reduction in distribution losses. The KERC thus became

an arena for stakeholder participation. It provided a venue for various institutions in the state and different consumer groups to raise grievances regarding technical matters of tariff negotiations. Cross-subsidies provided in electricity distribution to agriculture and domestic consumers were actively contested in public hearings at the regulatory commission by several industrial associations that cited the progressive reduction of cross-subsidies mandated by the Central Electricity Act 2003.

### **2.2.3 Negotiating Supply-Demand in the Regional Scale**

The logic of unbundling of KEB into five regional electricity distribution companies left some regions and the ESCOMs in highly disadvantageous positions due to their relative share of subsidised agricultural consumers. The regions that belonged to northern Karnataka—Gulbarga Electricity Supply Company (GESCOM) and Hubli Electricity Supply Company (HESCOM)—served districts that were relatively less developed, faced lower average demand and had close to 50% of their sales from agricultural consumption. By contrast, the state's dependence on a services-led industrialization strategy in the 1980s, with a single-minded focus on Bangalore city, resulted in Bangalore Electricity Supply Company (BESCOM) having a disproportionately large urban load and a much larger share of higher-paying industrial and commercial consumers. The development trajectory posed a significant constraint on the ESCOM privatization plan. Once it was clear that the government would have to continue carrying the burden of tariff subsidies and demand risk in regions of the state apart from Bangalore, privatization was put on the backburner and by early 2004 focus of the reforms shifted from privatization to adopting management best practices within the framework of public-ownership of companies in the electricity sector. During the period, further measures for administrative efficiency were introduced. Recruitment in rural sub-divisions was curtailed and several activities of the distribution business like information management and revenue collection were contracted out. Personnel who were recruited in the 1990s as linemen for maintenance of

distribution infrastructure were required to double-up as meter readers<sup>3</sup>. In several rural sub-divisions where revenue collection was low, a representative from the village, a Grameen Vidyut Pratinidhi (GVP) was contracted for billing and revenue collection with strict performance targets. Krishna's government also faced an electoral setback in 2004, which was largely attributed to his image as a reformer Chief Minister. While this event temporarily closed the lid on privatization discourse of ESCOMs, attributing it to political unacceptability in rural territories, the internal reforms agenda in the ESCOMs continued.

These internal measures brought the contradictions between multiple goals of the state from electricity as an instrument into sharper relief since the 2000s. Rather than operating as autonomous companies, the Electricity department had to initiate several formal and informal practices to allocate cost of provision of electricity to various regions as well as subsidies for agricultural consumption serving regions with varying share of agriculture demand. Increasing share of thermal sources alongside a mandate to increase the share of renewable energy sources required that power purchase from private generating companies be organised at scale, especially during periods of peak demand. Co-ordinating activities on the power-purchase side was easier—a new institution, the Power Company of Karnataka Ltd (PCKL), was created in 2007 using a Special Purpose Vehicle (SPV) to enable power purchase at scale for all ESCOMs together.

On the demand side of the electricity distribution business, corporatization and expectations of cost recovery generated new set of pressures. The tariff policy principle that emerged from the reform process during tariff-setting was a uniform tariff for the entire state as a development imperative, rather than based on the cost of supply to the region. Firstly, as there were increasing pressures on the fiscal space of the state, the issue of targeting subsidies and transparency of subsidy data increasingly become a central theme for contestation between

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<sup>3</sup> Interview conducted at the sub-division on 21 Sep 2018



Finance departments and ESCOMs. Secondly, the demand on ESCOMs to reduce losses contradicted their role of being an electricity service provider of last resort, a role for which they were increasingly being held accountable by MoP. However, these functions were negotiated through monitoring and resolution of technical and administrative parameters at KERC which became a venue for contestation between institutions within the state — ESCOMs, which were expected to operate at arm's length from the government, KERC and GoK, who attribute the problems of efficiency to 'political' interference.

Within a month of the first BJP government formation in 2008, free power to all pump sets below 10 HP was announced, as promised in the party's manifesto. This resulted in free electricity to an estimated 1.5 million pump sets. KERC responded by directing GoK to compensate ESCOMs for the free-power policy at the start of the year based on estimated agricultural consumption. As this increased the subsidy on the fiscal space of the state, the issue of targeting of subsidies and transparency of subsidy data increasingly become a central theme for contestation between Finance departments and MDs of ESCOMs. Alongside, ESCOMs are under pressure from both KERC as well as the central Ministry of Power (MoP) to improve their operational efficiency which is benchmarked using the parameter of average technical and commercial (AT&C) losses. Karnataka had achieved major improvements in the provision of access to rural households during the period 1995-2005 network. While large-scale network extension for rural electrification was funded through grants from the Centre, increased access to electricity and demand from rural households, who were charged subsidized tariffs, increased pressures on ESCOM's operating performance. Rural consumption was primarily from agriculture and rural households, who were often, supplied using the long-distance extension of electricity lines at lower voltages over a vast spatial spread, resulting in high technical losses for the companies. Billing and collection functions had already been under pressure due to reduced administrative capacity. ESCOMs have also responded through informal practices that allow control of operational losses. To control the cost of power purchase, rural areas were

increasingly supplied only at the night, during off-peak times, using the low-cost power available at these times from central or state-owned generating stations. As per the stated policy of GoK, rural areas had to be supplied 6-7 hours of electricity to rural areas and single-phase supply for providing lighting services during the night which were often not met. Rural electricity feeders were often switched off for long periods during the day and were supplied in an unscheduled manner. Thus, demand control by limiting the load in rural areas became the central feature of response from ESCOMs for improving operational efficiency.

Free power supply to agriculture had directly resulted in the subsidy burden of the Government of Karnataka (GoK) to increase to more than Rs. 5,000 crores by FY14. As with regulators in other states with high agricultural consumption, and lack of accuracy in agriculture subsidy estimation created early friction between KERC and ESCOMs. Since the agriculture consumers were never metered, the actual amount of agricultural consumption is calculated as a residual - this means that the difference between input and the metered consumption in each feeder or aggregate unmetered consumption could be accounted under either average technical and commercial losses (AT&C) or agricultural consumption; both are based on estimates. As these contestations are over data and information provided by ESCOMs during the tariff-setting process each year, consumer groups have also mobilized around transparency of data provided by ESCOMs. Farmer groups themselves have often pointed out potential malpractices in agricultural estimation by utilities in the tariff hearings (Dubash and Rao 2007).

While these issues were inter-related, ESCOMs responded to these contradictions through dissonant narratives that are often made at different venues to different audiences. For instance, in 2014, BESCO had been awarded the best performing ESCOM in the country; however, the former MD of BESCO acknowledged that ESCOMs have a social role to play rather than

make profits<sup>4</sup>. The ‘social’ role is, however, always articulated in terms of the need to provide electricity access to households in the rural, and never as the provision of free electricity to agriculture contributing to economic stability. The belief that free electricity to farmers is a legitimate welfare policy for reducing rural-urban inequality, similar to subsidies on other agricultural inputs such as seeds and fertilizers—is widely held even within the bureaucracy, a member of the regulatory commission noting that the subsidy looks high only when seen in the context of the power sector<sup>5</sup>; however, subsidies are also discussed in public discourse as a nexus between politicians and large farmers, leading to unsustainable fiscal position of the state<sup>6</sup>. It is common to hear senior bureaucrats say that technocrats should govern the sector rather than politicians. This has resulted in a set of narratives that attributes the problems of the sector to ‘political’ interference amongst the higher levels of the bureaucracy or to ‘inefficiencies’ or corruption in the lower levels of the electricity subdivisions.

### **2.3 Governing Rural Change: Water, Electricity and Livelihoods**

Several goods and services such as water and electricity fall between the notions of a public good at minimal levels of consumption and that of private good that can be used for surplus generation. Notions of scarcity and abundance of these goods are dependent on expectation of sufficiency as economic processes have used primary goods such as water as well as secondary services such as electrification as inputs into the capital accumulation process. This chapter has traced the worldviews that have driven this development process and the political and institutional negotiations that have balanced the two roles of the state – productivity enhancing function and protective function that ensure minimal levels of continuity for subsistence and livelihoods.

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<sup>4</sup> Interview conducted on 11 June 2018 with former MD, BESCOM

<sup>5</sup> Interview conducted in Aug 2017 with former member, KERC

<sup>6</sup> Interview conducted in July 2017 with member of the Finance department, GoK

Centralized electricity grids have been used as an instrument to overcome the location-specific constraints imposed by primary resource availability in various agro-ecological regions since colonial times. In the modern state that emerged in Old Mysore by the end of nineteenth century, investment in electricity generation was undertaken to devise an integrated strategy of creating surplus in both agriculture and industry. As Hirschman has argued in the context of late developers, “capital” in the sense of a potentially investible surplus is not the principal ingredient lacking in developing countries; What is lacking is entrepreneurship in the sense of willingness to risk the available surplus by investing it in productive activities. In these early actions by a highly autonomous bureaucracy in Old Mysore, it had to discover, almost invent, “the project of accumulation by sensing the perception for investment opportunities and its transformation into actual investments”(Evans 1989). The legitimacy of the modern state and its ties with diverse economic and political interests was negotiated through the reservoir-led strategy. While sale of electricity to already existing colonial industries enabled generation of a surplus, this was re-invested in canal networks to improve land revenues and change cropping patterns over larger territories through control over water. As the case of Old Mysore shows, the post-independence context was largely a process of continuity in terms of extending this development thinking to newly added territories.

As a macro-technology with potential for control and regulation, several development ideas have influenced the shape of its institutions of governance over time. There has been a long history, at least since the Second plan in 1956, of attempting separation of ‘politics’ from the technical and operational goals of providing electrification services in an economically efficient manner by charging full costs of provision to consumers. However, organized power of the state has been used to provide broad-based protective measures in subsistence and low-productivity farm sectors even within this productivity discourse of the developmental state. For instance, rural electrification in Karnataka, like in most of India, was driven by a concerted policy effort in the late-1960s as part of development thinking that replaced the extension of canals with

extension of electricity grids for improving agricultural productivity. However, Karnataka Electricity Board (KEB) was soon used as an instrument for supplying electricity services at flat-rate tariffs and later freely to agriculture consumers. By the late 1970s, this process of de-commodification of electricity had to be extended to households in pursuit of social inclusion goals. These measures have delivered broad macro-economic and political stability, which could be understood as an unconventional social protection measure that attempts to deliver “social policy by other means” (Seelkopf and Starke 2019). Productivity and welfare functions of the state in electricity service provision have influenced one another incrementally and justified one another rather than being separated.

If one thinks of states as efficient providers of services, the main outcome of concern for evaluating “strong” states is their ability to run efficient enterprises and enable the structural transformation of their economy. This role is often sharply contrasted and demarcated from notions of a welfare-state that provides universal social insurance and unemployment protection, policy measures that are expected to follow after an early period of economic development. These typological approaches of understanding states have resulted in an analysis that concerns itself with questions of when and how formal universal social protection measures emerge following a period of industrialisation, a view that is pervasive in the welfare state literature (Esping-Andersen 1999). This has led to concern for understanding state through a typology of roles based on its relation with dominant classes in society, based on experiences of advanced industrial economies. The typology is generated based on the concept of de-commodification “the extent to which individuals and families can maintain a socially acceptable standard of living regardless of market performance” in labour, education, healthcare and housing outcomes. However, social protection functions in late developing nations were often organised not just by states, but also non-state institutions such as employee organisations, social identity groups and the family. Only recently has there been attention to understanding the historical determinants of how welfare states have been organised in specific

contexts(Moeys 2018). In developing country contexts, this has led to a poor understanding of the strategies through which states have balanced their productivity-enhancing and social protection functions over time.

Sub-national states such as Karnataka continue to balance these productive and protective roles in rural territories goals through de-commodification of electricity. This has however required allocation of these goals to separate institutions within the state where conflicts are negotiated through fragmented responses and discourses within the state. For instance, agricultural subsidies in the form of free electricity have little legitimacy in the public and academic discourse as it is not means-tested and do not ‘target’ poverty or deprivation explicitly. These are therefore considered wasteful or undeserving subsidies that are populist measures according to the higher bureaucracy. The policy discourses in the sector – whether it is the global ‘model’ of electricity reform that attempted to privatize and corporatize electricity distribution or the policy event examined in this study, need to be analysed against this institutional context.

The dominant frameworks that try to understand policy processes leave out the multiple issue areas in which these negotiations take place, and instead focus attention on a single policy sector or a public issue during policy design and formulation activities. This overlooks ‘how-actually’ the state negotiates with diverse identities and interests and how historical institutional settlements open up or limit options available for policy development (Skocpol 1995). This study’s approach has been informed by this historical institutional context. Policy events are understood by not reducing state interests to either dominant interests in the society or view them as completely disconnected to political settlements of previous negotiations. The remaining chapters in the thesis are concerned with understanding the nature of these negotiations using the policy case of Niranthara Jyothy, a policy event that sought to intervene in multiple issues in rural governance that cannot be reduced to particular policy sectors.

## **CHAPTER 3**

### **ACCOMMODATING DIVERGING INTERESTS THROUGH A POLICY MODEL**

Accounts of any public policy process start with an actor, often defined as ‘government’ or sometimes as ‘policymakers’, deciding to resolve a public problem that demands attention. Policymaking is implicitly based on a theory of change of what works once problems have been framed in particular ways. It is often informed by off-the-shelf ideas and borrowed from other jurisdictions. Even when there is variation in what exists across different spatial-temporal scales, planned interventions, creation of programs and allocation of resources to these programs necessarily involve a process that seeks to reduce the complexity of what exists. This is what allows policymakers to create a linear narrative of problems, make action possible and allow evaluation of these programs as successes or failures (Roe 1991).

A rich conceptual repertoire exists to describe the sequence of events before policy decisions. Policy studies that analyse these activities tend to emphasize either the use of political power or the role of expert knowledge. Frameworks that attempt to emphasize individual policy actors characterise policy change as an event of opening of policy windows in a policy domain when three streams that developed relatively independently – the problem stream, politics, and policy streams—are linked through the political effort of powerful actors (Mintrom 1997) . In contrast, those that emphasize the role of ideas and knowledge during a policy change event have pointed to how normal politics and policymaking unfold against a web of taken-for-granted assumptions, beliefs and values that function as a ‘paradigm’ similar to the process elaborated

for scientific research as conceptualized by Thomas Kuhn which provides an underlying set of assumptions regarding the nature of reality and drives which problems are raised and how they are answered. In the seminal work proposed by Hall, a policy paradigm is ‘the framework of ideas and standards that specifies not only goals of policy and the kind of instruments that can be used to attain them, but also the very problems they are meant to be addressing’ (Hall 1993).

Rather than characterising the degree of change and mapping of policy actors and their institutional positions, the initial analysis within the policy case was interested in capturing how actors are brought together into networks as the policy case achieved a remarkable initial consensus in a policy domain where separation of ‘political’ and ‘technical’ goals were the predominant style of policymaking. The analysis sought to account for a wider set of cognitive processes during which both fact-based reasoning as well as normative reasoning are combined by policy actors (Wood 2015). With this objective of tracing interests, ideas and values that tries to intervene in a complex and heterogeneous rural socio-political context, this chapter borrows from the tools from deliberative policy analysis to trace the policy events during its formulation.

### **3.1 Role of discourses in shaping policy events**

In many contested issue areas, policy solutions are ideas that diffuse from other jurisdictions, integrating assumptions, norms, beliefs and practices that gained legitimacy in a particular context. This needs to gain acceptance in a new context, be made relevant to local politics and be subject to local resource constraints through concretizing its goals, budgets and measuring outcomes in a highly contested process. This collective sense-making process requires actors to deploy language in various forms: for selecting and categorizing problems, telling stories about the need to change and raising visions of what successful change might look like. Discourse analysis is an umbrella term that includes a variety of techniques to study this process. While the technique has been used within diverse research methodologies, an overarching motivation



for its use in applied social science fields like policy studies has been the acknowledgement that the study of language can provide insights into how problems are compared to traditional techniques of policy analysis that rely on a political economy or institutional analyses alone (Frawley 1993; Stone 1989b).

Two further considerations in the policy case guided the analysis. First, the methodological objective of this study was to bring into analytical frame, interests, ideas, and values that motivated policy action. Second, the study was interested to explore the substantive content of the policy, the ‘guiding vision’ and ‘imagination’ for rural territories, and how this was operationalized in policy discourse and practice. In this, it was inspired by discursive methods that analysed policy visions that drive socio-technical change and its implications for energy and environment justice outcomes (Späth 2012).

The study uses discourse in the sense of ‘a specific ensemble of ideas, concepts, and categorizations that are produced reproduced and transformed in a particular set of social practices and through which meaning is given to physical and social realities’ (Hajer 1995). The notion of an ensemble suggests the inherent heterogeneity in how ideas, concepts and categorizations are held together. Rather than seeing discourses as representations of a dominant social structure, the study approached them as ordering attempts that lends meaning to action (Dryzek 1995). Discourses are structured only in the sense that it produces a field of intelligibility and regularity by ordering and categorizing reality. At the same time, it is relational in that these repertoires of frames and narratives have no fixed centre or permanence.

Understood this way, discourse along with material arrangements, help to construct imaginations and make some type of actions more sensible, or probable, than others. Discourses often contain ‘narratives’ (Roe 1994) as well as ‘framings’ (Rein and Schön 1996). Framing is the term used by Rein and Schon for a process that integrates facts, values, causal relations and interests in decision settings to provide a direction for their actions using a broadly shared set of

norms, values, beliefs and definitions prevailing in the society (Rein and Schön 1996). Narratives on the other hand have a different form: they take the form of stories or short-hands with shared understandings of how problems are framed and help in the search for solutions. Discourses are often broader than both framings and narratives and can hold together internal tensions. The underlying assumption is that meanings, values, and ethical principles are not individual creations, but entities that people create together in the context of social action. The aim of the analysis therefore, was not to capture the participants' authentic intentions, meanings, or experiences.

Both interview data as well as written documents were analysed as social texts which have a 'language in use' and can reveal the ideational features that organise policy actions. There were two main data sources for understanding the discourses during formulation: The public discourse was traced using policy documents on the ESCOM websites and media reports, policy evaluation reports conducted by third party experts and academic articles regarding feeder separation that was available in peer-reviewed journals. Secondly, institutional discourse regarding the policy was traced using two sources: the inter-departmental communications and file notes in the project file in the Energy department at GoK to understand the nature of deliberations. This was supplemented through interviews with personnel in the Finance department, Energy department, Karnataka Electricity Regulatory Commission, and Bangalore Electricity Supply Company (BESCOM) to identify the discourses, frames and narratives that were used to talk about the need for policy and its expected outcomes.

### **3.2 Assembling Discourses**

The policy idea of feeder separation under the name of NJY gained political support in Karnataka as soon as BJP came to power in May 2008. It was therefore pragmatic to start the analysis as an exercise of power if the focus is primarily on the actors who transported the idea from Gujarat to Karnataka. However, this would provide a limited view of the process through

which the program evolved in Karnataka during which NJY was framed and re-framed as a solution to a diverse set of issues. This section identifies the frames that were deployed by various actors during policy deliberation and traces the discourses through which diverse actors were enrolled into the policy process.

### **3.2.1 Framing NJY as an instrument for Rural Development**

The 2008 legislative election was contested by the BJP on a manifesto that promised free power to agricultural consumers in the state and as soon as it assumed power in July under the leadership of B.S. Yediyurappa, the new government announced free electricity for all irrigation pump sets (IP sets) that are less than 10 HP. This was widely expected within the bureaucracy to increase the electricity subsidies owed by GoK to the ESCOMs which had already been an issue of inter-departmental contestation as detailed in Chapter 2. The Jyotigram Yojana (JGY) in Gujarat was already publicised as a best practice that contributed to the turnaround of the electricity sector in Gujarat. The then Chief Minister Narendra Modi had also claimed credit for delivering a 24/7 electricity supply to villages in the State. Within months of the BJP government coming to power, a team of senior bureaucrats and engineers headed by the Energy Minister and the MD of BESCO, visited Gujarat to study the feeder separation program that was implemented there. A pilot project in Malur taluk was commissioned by September 2008 and by Feb 2009, it was announced in the budget speech by the Chief Minister that Karnataka would adopt the ‘model’ followed by Gujarat’s Jyotigram Yojana. The Energy Minister and the Chief Minister spoke about the installation of a new ‘technology’ that could supply uninterrupted power to villages and improve supply to farmers in various public venues. The initial phase was therefore a phase of imitation and transfer of the discourse in Gujarat. The policy idea was introduced primarily based on the discourse of reliability of electricity supply to rural areas – a new technology that would supply 24 hours of supply to rural areas, thus enabling economic activity in the rural and improving the quality of life in the rural. Since the

solution had already gained political legitimacy, both the senior Energy department bureaucrats and the Electricity Supply Companies (ESCOMs) proceeded as though NJY did not require any further testing for its effectiveness in Karnataka. The project estimate for separating the rural electricity distribution infrastructure through NJY in the state was estimated at Rs. 2123 crores that would be undertaken over two phases to cover about 20 talukas in each phase. In this early stage, the budget estimate left out several talukas including all those supplied by Mangalore Electricity Supply Company (MESCOM), as agriculture consumption in those left out was not considered a significant component of the total supply. Even before the completion of the pilot, BESCOM had already called for tenders to purchase materials - poles, transformers and switch gears - for duplication of rural electricity infrastructure in 20 talukas. While the public discourse of the program was aimed at 24 hours of supply to the rural areas, the state bureaucracy understood the program as a new instrument for the goals they were already pursuing; the former MD of BESCOM recalled the expectations from NJY using a direct analogy of efficiency gains. “We were already travelling by bus; NJY would create a dedicated bus lane to improve the speed of travel”<sup>7</sup>. This was the dominant thinking in the Energy bureaucracy which expected that NJY would further the goals of ESCOM efficiency improvement by increasing paid consumption in the rural. The question was only about where the funds would come from.

In the National Development Council, the Chief Minister raised the need for making this innovative program, a centrally-sponsored scheme. However, this request did not meet with success when United Progressive Alliance (UPA) was still the ruling party at the Centre. When Central funding requests failed, The Energy Department found a way to undertake the program even before the budget for the program was eventually approved by the cabinet in 2011. Framing NJY as a rural development intervention allowed GoK to allot approximately 100

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<sup>7</sup> Interview Conducted on 11 June 2018

crores each in FY09 and FY10 for NJY from the special development plan (SDP)<sup>8</sup> that prioritised economic infrastructure creation in talukas identified as backward by the Nanjudappa Committee in 2002. In some of the districts, the program targeted at backward areas coincided perfectly with talukas with high agricultural pump set use, while in other districts these were not areas that would enable the highest technical and commercial efficiency gains from better control over agricultural loads – goals that were already part of the problem discourses in the sector for more than a decade. It was clear that the ESCOMs were undertaking the project of duplication of the rural distribution infrastructure under severe budget constraints in the early phase as only Rs 200 crores were allocated by the state from SDP, meant only for implementing NJY in backward talukas. Within this constraint there was a need to prioritise those rural feeders with the highest agricultural load; often tenders were called and materials purchased in anticipation of funds forthcoming for implementation in talukas that were not classified as backward. For extending NJY to more talukas there was a need to show expected benefits from extending electricity supply to rural areas to justify the costs of duplicating the rural electricity infrastructure. A wider bureaucratic legitimacy was required for extending the program to most talukas of the state and was achieved only when the already-existing rural load management goals of ESCOMs were linked with the ability of NJY to bring transparency to agricultural subsidy measurements through an exclusive feeder for agriculture. The remainder of this section captures the nature of this discourse within the institutions of the state in the higher bureaucracy that enabled a mandate for state-wide implementation of NJY.

### **3.2.2 Framing NJY as an instrument for Rural Load Management**

KERC has evolved practices whereby ESCOMs in Karnataka are required to estimate agricultural demand at the start of the year which can be used to estimate subsidies to be paid by

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<sup>8</sup> GoK started implementing a special development plan since 2007 with a goal of redressing regional imbalances. This special plan aimed to provide targeted development inputs to talukas designated as backward based on recommendations made by the Nanjudappa Committee in 2002. The Committee had classified all talukas in the State to four categories of Backward, More backward, Most backward, and Developed.

GoK. During the year, ESCOMs are required to limit the aggregate supply to agriculture to this amount, a practice that is delegated further down the ESCOM hierarchy through estimates of monthly and annual supply to agriculture. Although the aggregate estimate for agriculture demand has progressively increased over the years, ESCOMs are under pressure to limit the duration of supply to rural feeders such that unmetered consumption in the rural feeder is below this estimate. Any supply to agriculture over and above the annual estimate of supply to agriculture has often been disallowed for consideration as costs in the tariff-setting process and are treated as losses in the distribution business, another parameter that is monitored at the ESCOM level by KERC as well as Ministry of Power. Since 2005, ESCOMs in Karnataka have been implementing Rural Load Management System (RLMS) to have a separate logic of supply to agricultural and non-agricultural demand in rural areas. Before its implementation, all the consumers in the rural would face a uniform duration of load shedding. This would impose demand restrictions on unmetered agricultural consumption, often the significant source of electricity demand in rural feeders, but also the category of metered non-agriculture consumption. RLMS was a way of “soft” segregation of electricity feeders in the rural involving a programmable logic unit called Rural Load Management Unit (RLMU) to be installed in the distribution transformers (DTC) close to the consumption point. This would allow for scheduling supply to a pre-set and time-limited logic that could allow three-phase supply to pump sets during seven hours in the day, but provide single-phase supply to non-agricultural consumers for the rest of the time. RLMS was supposed to achieve control and target the duration of demand restrictions to metered and unmetered consumer categories in the rural areas.

RLMS was implemented in nearly one-third of all rural feeders during the period 2005-2008. However, BESCOM was unable to restrict the duration of supply planned for agriculture to six hours during the day due to large-scale tampering of the DTC in the field. As MD, BESCOM commented in a report that evaluated RLMS, it was “a theoretically workable system” but

“difficult to work in field conditions where anything implemented in the DTC cannot be tamper-proof”. The inter-departmental discourse justified how ‘NJY would be a more effective replacement for RLMS’ as it would be a ‘failsafe’ way to achieve the objectives of RLMS — complete control over the rural load and ability to manage it flexibly from the sub-station, without having to leave it open to tampering in the ‘field’. For BESCO, the main argument was that apart from this being a development program that will provide reliable electricity to the rural, it would also pay itself back in 4-6 years by improving the technical and commercial efficiency of the utility. It claimed therefore that apart from the direct and indirect benefits to the rural economy through improved voltage and higher duration supply in the NJY feeder to non-agriculture demand, the project would generate savings through increases in metered sales from village industries and commercial establishments on the one hand, as well as through control of agricultural load through a) ability to supply to agriculture during off-peak times and avoid costly power purchase b) reduce transformer failures due to lower loads in the feeder and c) ability to switch off agricultural feeders when not needed during rains thus matching it to irrigation requirements.

There were also dissenting views on the potential for achieving this ideal scenario of efficiency gains for ESCOMs through NJY. Former directors pointed to how the duplication of infrastructure would lead to increases in technical losses in the distribution network as losses would be incurred in two parallel infrastructures instead of one. If the unmetered agricultural load was not a significant component of a rural feeder, then the gains from increases in metered demand would not offset the loss reduction achieved from controlling the duration of agricultural load. As Chapter 5 shows, this consideration became a key consideration that required the ESCOMs to limit the length of the new NJY line. Several ESCOMs, therefore, categorised the rural feeders into those with significant agriculture loads that need to be prioritised for the implementation of NJY. Some others like Mangalore Electricity Supply Company (MESCOM) took the view that it was not necessary to implement NJY in their

jurisdiction as the proportion of unmetered and non-paying agriculture demand were low in their rural feeders.

These technical considerations of project failure aside that were only relevant to feeder selection under NJY, most of the senior staff in ESCOMs were convinced that NJY would help achieve efficiency gains through better rural load control. For ESCOMs to extend NJY to more talukas, they had to wait for budgetary grants from the Finance Department (FD) in Karnataka to meet 40% of the project cost. This eventually happened only in the first quarter of 2011 after a long deliberation that justified project costs through the ability to measure and control subsidies.

### **3.2.3 Framing NJY as an instrument for transparency**

Citing the example of subsidy control to agriculture achieved in Gujarat, the ESCOMs set out to show how there are wider governance benefits from NJY by bringing transparency in agricultural subsidies and an ability to control it, once measured. The argument was that this can be done through meters fixed on the exclusive agricultural feeders at the substation, yielding data on actual agricultural supply. For the economic bureaucracy in the State, this was the main expected outcome from NJY. FD indicated that equity support from GoK for a project of such high cost could be extended only if ESCOMs were able to demonstrate that active steps are taken to make the benefits “measurable”. It directed the Energy Department to enter into a MoU with the ESCOMs to track progress and identified three main risks that could lead to failure of objectives a) Incomplete separation of agricultural load from other loads, b) Continuation of unaccounted and unauthorized agricultural load and c) non-measurement of project parameters through a centrally-monitored system. ESCOMs soon created formats for capturing this data in the IT-enabled distribution monitoring systems and a process for measuring technical parameters in the feeder, namely number of hours of supply in both NJY and agriculture feeder, voltage levels at each feeder and transformer failure rates. In particular,



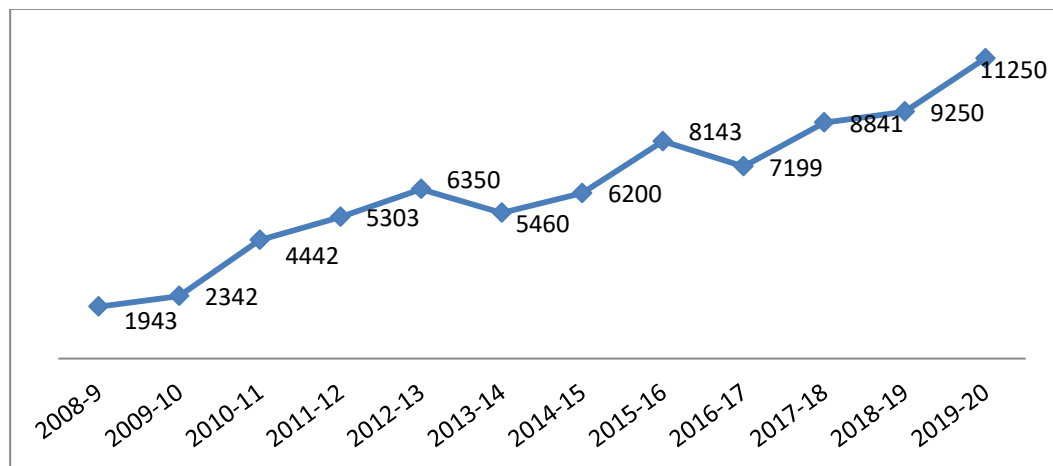
FD pointed out that the ESCOMs' proposal for farmhouses, which would continue to be supplied from the agricultural feeder, would mean that full separation of agricultural and non-agricultural loads could not be achieved. This was considered a "complex arrangement that may not be sustainable beyond the pilot". The ESCOM responded that since all farmhouses are metered, this will not prevent an accurate computation of actual agricultural consumption.

It was only in the first quarter of 2011, after a prolonged deliberation regarding measures to reduce the risk of project failure and agreement about project parameters for tracking outcomes that FD committed to providing 40% of the project cost as a grant from the budget. Over the period from 2008-to 2014, GoK released approx. Rs 850 Crores for NJY. Nearly half of this came from GoK's SDP funds that were released during FY09-14 and were allocated towards implementing NJY in backward talukas and the remaining from the general expenditure of GoK. ESCOMs' contribution was only around 450 Crores, considerably lower than the 60% share of expenditure originally planned.

### **3.2.4 Framing NJY as a failure and success**

Two distinct sets of events led to the program losing its legitimacy within the Finance department by 2014. By 2013, political power changed hands to the Congress party in Karnataka and feeder segregation, an idea associated with BJP, had lost political support. When ESCOMs requested equity support for the third phase of NJY in 2014, to cover talukas that are left out, FD advised the Energy department that since physical progress has been slow, ESCOMs be asked to defer all plans for further extension till FY15-16. Further, FD had assumed that investments by the State in NJY will be returned in the form of savings in future subsidy requirements and it was keen to progress only if NJY could demonstrate benefits in terms of transparency and control of agricultural subsidies.

By 2015, the economic bureaucracy in Karnataka evaluated that NJY was not achieving the goal of accurately measuring and controlling agriculture subsidies. The subsidy bill claimed by ESCOMs in Karnataka more than quadrupled from about Rs. 1943 crores in FY09 to Rs. 8143 crores in FY16 as shown in Figure 2. However, ESCOMs continued to report aggregate agricultural consumption based on an ‘estimate’ that is computed by multiplying a district-level estimate of the average consumption of an agricultural pump set with an estimate of numbers of pump sets in the district. ESCOMs justified the lack of measured data at the hearings in KERC by stating that the physical progress of NJY was only 56% and that several agricultural feeders did not have automatic meter readings yet which prevented them from reporting subsidy based on measured data. Thus, the inter-departmental contestations over subsidy claims between BESCOM and the FD remained unresolved even after several years of expansion of NJY to all rural talukas.



**Figure 2: Subsidy payable by GoK to ESCOMs FY09-FY20 (Rs. Crores)**

FD argued that the lack of any measurable supply for IP sets coupled with a statutory mandate by the KERC requiring GoK to disburse the estimated subsidy upfront has created an incentive for loading all their “inefficiencies” on the subsidy bill. FD also showed that between NJY (2009-10) and after the first 2 phases (2014-15), the proportion of subsidy to revenues of the ESCOMs has increased. When the Energy department approached the FD for funding a final

Phase of NJY in 2015, the FD adopted a more accusatory tone and remarked: “for a project that uses such a large quantum of state resources, it is necessary that credible and measured data is available to ensure that subsidy is directed to farmers and not used to underwrite general losses. NJY was supposed to achieve this and to bring transparency in the entire system; it has not happened”. FD responded in conclusion that the “experience of NJY Phase 1 and 2 does not support special equity support from the state”.

By 2015, the BJP government that had come to power at the Centre had announced support for feeder separation as a component under the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), a centrally-sponsored program for the continuous supply of power to rural India. Even when fiscal efficiency goals were unmet, the ESCOMs were able to apply for resources for the scheme by citing efficiency gains for their own operations. In 2015, the ESCOMs submitted the proposal for Phase 3 under this centrally-sponsored program and extended feeder separation to the entire State. The parameter that was of concern in this phase and monitored by the Centre was the aggregate technical and commercial losses (AT&C) by ESCOMs of each state. However, as Figure 2 indicates, success in demonstrating a progressive reduction in AT&C losses has coincided with the increases in subsidy burden on GoK. As this section shows, generating a consensus around NJY involved deploying multiple frames around the instrument of NJY. The main actors and the framings of the policy issues they used can be summarized in Table 3 below:

**Table 3: Problem framing and solutions in NJY**

<b>Actors who used the Framing</b>	<b>Problem framing</b>	<b>Expectations from NJY</b>
Energy Minister and Chief Minister	Lack of continuous power supply to rural areas limit the rural economy and create disparities in education health, availability of drinking water	Reliable, high quality and 24/7 electricity supply to rural areas
Energy department in GoK and Energy supply companies (ESCOMs)	The last program that sought to manage rural load failed due to tampering of transformers in the field	Reduce distribution losses through efficient load management by regaining control of rural supply at the sub-division.
The finance department in GoK	Lack of transparency in subsidy measurement	Improvement of fiscal efficiency through measurement and control of electricity subsidies in the agriculture feeder.

### **3.3 Policy design through an ideal ‘model’**

Having outlined the multiple frames which were used by political and bureaucratic actors in the higher levels of the state, this section draws out two features of the policy discourse that sustained the consensus regarding NJY despite their differing expectations for various stakeholders. First, it draws attention to an ambiguous and contested coordinative discourse of efficiency between various actors and institutions within the state which ensured that even when the actors were pursuing differing goals, a consensus around NJY was created around meta-

narratives. Secondly, it shows that the communicative discourse that took place in the public domain which framed the policy goal as that of providing 24/7 and reliable electricity supply to the rural areas relied on a particular linear economic imaginary of changes in rural areas from farm to non-farm in rural areas. These narratives provided taken-for-granted ways of thinking in the form of causal stories and led to solutions that prescribed a) rationing electricity to agriculture and b) the need for separation of farm supply from the non-farm supply of electricity in rural areas. This section details the ideas and rationale involved in these often contradictory discourses.

### **3.3.1 Internal Contradictions in the Bureaucratic Discourse**

The intra-departmental bureaucratic discourse within the state relied on existing narratives in expert and public discourse in the electricity-water governance policy space which enabled it to converge on the need separation of farm and non-farm supply in rural areas. There are commonalities as well as divergence in these inter-departmental narratives that were organised around the need for pursuing the two bureaucratic values of efficiency and transparency. Efficiency can be understood in a technical sense as the ratio of output to input in the production process and a notion of producing a commodity or a service with reduced input resources leading to a notion of conservation of the input resource. For example, in electricity distribution systems, efficiency is measured by comparing the commodity that is delivered to the final users with what is treated or lost in the distribution and transmission system. On the other hand, it has a notion of increased economies of scale when efficiency can be interpreted in the sense of increasing outputs for a given quantity of input resource and increasing productivity of the resource. In this uncapped sense, efficiency can be gained by 'scaling-up' and thus has potential for continuous growth where there is no limit to conservation or productivity ((Roa-García 2014). This section shows that there were considerable internal

contradictions between the various narratives of efficiency regarding what is to be reduced or conserved and how this is to be measured.

Across all departments in the higher bureaucracy, the need for controlling electricity subsidy to the farm sector is discussed in the sense of technical gains in efficiency for conserving water. For instance, electricity subsidies for farmers were often discussed as a lack of incentives for conserving groundwater and an issue of environmental efficiency by higher-level bureaucrats in both the energy and finance department and senior staff in the ESCOMs. The view that free power has led to indiscriminate and unsustainable cropping patterns are widespread alongside the belief that controlling electricity supply to agriculture would lead to groundwater conservation. As a senior ESCOM staff remarked, “It is a crime to grow areca nut in a dry land area like Tumkur”<sup>9</sup>; this argument for sustainable groundwater use was a common ground on agreeing about the argument for controlling electricity supply to agriculture for the sake of conserving scarce groundwater areas. Despite the common ground created by the argument for controlling electricity to agriculture, it raised different expectations regarding how this would translate into outcomes. This is reflected in the alternative interpretations of efficiency as reflected in the efficiency narratives of the Energy and Finance department.

The finance department assumed that better control of electricity supply to agriculture will also lead correspondingly to a reduction in the subsidy paid to agriculture. It also attributed the problem of increasing fiscal burden on the state from the growing subsidy pay-outs to agriculture as a problem of corruption and inefficiency in the ESCOMs sub-division as they were unable to restrict theft and illegal connections or rural feeders. As Chapter 2 has shown, estimation of agriculture subsidies has been an issue of contestation at KERC. The FD has argued for several years that sub-divisions were loading “inefficiencies” in their business onto agriculture subsidies. For the finance department, therefore transparency of subsidies gained

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<sup>9</sup> Interviewed on 8 Aug, 2018

through separation of agriculture feeder and eventual improvement in fiscal efficiency was the primary benefit of NJY as it allowed accurate measurement of subsidies through metering the exclusive feeder.

On the other hand, ESCOMs and the Energy Department sought to gain more control of the timing and duration of the aggregate electricity supplied to agriculture through NJY. For them, gains in operational efficiency of the distribution business were the result of gaining more control of the duration of agriculture supply in the sub-division instead of relying on field operations to ensure vigilance over access and use of electricity supply for agriculture that had a huge spatial spread. By restricting un-remunerative demand from agriculture to non-peak times, this was also expected to reduce their power purchase costs. Therefore “rural load management” – that is controlling when free power is supplied and for how long was key to improving operational efficiency. These multiple narratives generated a remarkable coherence regarding the need for control of electricity for agriculture and therefore the need for separation of a farm from non-farm distribution infrastructure in rural areas. Table 4 below summarizes these exemplary narratives used by multiple departments by invoking values of efficiency and transparency that formed the central coordinating values for NJY, raising visions of improvement in both. As a result, multiple actors and their goals —a) operational efficiency of the state-owned electricity companies, b) fiscal efficiency through transparency and control of electricity subsidy to agriculture, and c) water efficiency by limiting overuse of groundwater— were assembled under the argument for NJY.

**Table 4: Exemplary narratives in the bureaucratic discourse**

<b>Normative value</b>	<b>Exemplary narrative</b>	<b>Blame attribution</b>	<b>Need for NJY</b>
Fiscal efficiency	The incidence of subsidies is highest for large farmers who get most of the state’s agricultural subsidies.	Large farmers	Control and limit wasteful subsidies
Efficiency of ESCOMs	ESCOM field staff do not take action against illegal pump sets and theft in distribution feeders	ESCOM sub-division field staff	Control and limit farm electricity supply
Transparency of subsidies	“One cannot control what one cannot measure”. ESCOMs pass off their ‘inefficiencies’ as agricultural subsidies and use them for underwriting general losses	ESCOM sub-divisions	Separate farm from the non-farm electricity supply
Environmental efficiency	Electricity subsidies lead to overuse of groundwater as water is not priced; Rationing as the next best solution to pricing	Large Farmers	Rationing of electricity for sustainable groundwater use



### **3.3.2 Changing the Public Discourse of Rural Electrification**

In contrast to the multiple interpretations of efficiency in the bureaucratic discourse, the public discourse and communication about the benefits of the program was relatively uncontested. NJY, meaning ‘continuous light’ in the vernacular was a “technology” that could provide reliable electricity supply to rural areas. In this, the policy used a modernization discourse that also offered a particular economic imaginary for rural areas. It offered the potential to increase non-farm economic activity in rural territories. For instance, the inter-departmental communication from one of the ESCOMs, seeking equity support from the Finance Department (FD) highlights how “NJY will allow rural households to run flour mills, use Xerox machines and other electronic equipment and allow the development of small industries in rural areas”. The policy documents envisaged that providing reliable electricity in rural areas can prevent migration into cities; It also deemed to relieve women, who were responsible for domestic chores from the vagaries of unreliable electricity supply(Jai 2014). Separating the electricity infrastructure that supplies to farm users from all other users in the rural was seen as freeing domestic and commercial users of electricity in the rural from the political economy of farm subsidies in the state (T. Shah and Verma 2008).

As Chapter 2 has detailed, rural electrification has been on the Indian government’s agenda since the late 1960s and its goals have shifted from rural farm productivity improvement then to broader human development goals over the years. The last two decades have been marked by two major trends in rural electrification governance – on the one hand, huge gains in the village and household electrification levels have been achieved through centrally-funded rural electricity infrastructure extension schemes (Ministry of Power 2018). On the other hand, it has exerted increasing pressures on the operational efficiency of ESCOMs in the liberalisation regime where efficiency parameters were directly monitored by the Ministry of Power as well as by KERC. NJY sought to separate the electricity infrastructure for agriculture activities from

non-farm activities in rural areas (Bhaskar 2014; Shah et al. 2004). In doing this, it also discursively replaced the beneficiary of rural electrification to specific villages and reliable electricity access in the village compared to the previous discourse that was concerned with access to all households within the village. After NJY, it was widely reported by third party evaluation agencies that the non-agriculture feeder received nearly 22 hours of supply, an improvement from before. However, these positive effects on the non-farm economy and improvement in quality of life due to reliable and higher quality electricity supply are evaluated at the village level, overlooking which households and users have access the higher-duration supply (Morris et al.),(CEPT).

That village electrification does not automatically result in household electrification was a lesson learned through the long history of rural electrification schemes over the last two decades. However, In the policy imagination of NJY in its design, a village is an abstraction in space, a collection of households and farms which can be separated into farm installations that will get the limited duration of electricity supply and non-farm installations that receive 24/7 electricity. The assumption that this separation is possible is reflected in the policy argument although the FD raises the issue of incomplete separation as a key risk for ‘failure’ of its goals from the policy. As Chapter 5 shows, sustaining the myth of separation was central to how the subdivision resolved the tensions between providing access to sparse populations with low metered demand across a large spatial spread and the need to reduce technical and commercial losses in the rural distribution network.

### **3.4 Accommodating Diverse Interests**

Political processes during policy formulation and the eventual adoption of a ‘design’ are usually understood as a point in time in policy subsystems when a policy ‘window’. During this window, policy events operate by coupling technical and political interests to generate a politically and technically feasible solution to problems on the public agenda (Chindarkar,

Howlett, and Ramesh 2017). While this view provides a heuristic to understand the role and characteristics of actors, political and technical “brokers” and ‘entrepreneurs’ this account often separates political and technical interests, attributed to policy actors due to their structural position. It is assumed that political actors resolve contestations between dominant interests and values in the society while the technical actors resolve contestations between ‘matters-of-facts’ and provide knowledge to the process of choosing the appropriate policy instruments. In this view, policy ideas are technical-rational inputs to political decision-makers that generate policy solutions to meet goals that are formulated by political actors. On the other hand, ‘diffusion’ perspectives in policy studies describe the networks through which policy ideas and best practices travel across jurisdictions, often providing an apolitical account of how ideas travel. This chapter provides an account of the sequence of events through which NJY evolved. During this process, it was framed as a solution to different policy issues at different points in time. In doing this, it shows that the ‘model’ was assembled over time by bringing diverse and often contradictory interests together through taken-for-granted narratives. In contrast to a view that suggests coherence or consensus over policy design —its goals and choice of appropriate instrument for realising the goal — this assembling can be understood as a process in which NJY generated an ambiguous and fragile consensus even as it gained or lost acceptance with actors within the state. Scholarship that pays attention to policy processes has long-acknowledged the fact that political contexts influence the kind of policies that emerge from them (Kingdon 1984). It is instructive to contrast differences and similarities in policy formulation as it unfolded in Karnataka against what is known about its emergence in Gujarat. The policy as it emerged in Gujarat has been analysed to account for the kind of actors, their political and institutional basis of power and the ideas involved (Chindarkar 2017).

Firstly, a reading beyond a transfer of ‘ideas’, illustrates the remarkable uniformity of policymaking styles: a process of deliberation that was restricted to a few powerful actors amongst the political and bureaucratic elites. While the change of political power and the

coming of a BJP government in Karnataka was a causal factor, the policy event cannot be attributed to political forces and party loyalties alone. It was clear that the ideas embedded in the policy ‘model’ had a broader basis of support.

Secondly, the coordinating discourses had a remarkable similarity with how several discourses were held together under a policy model (T. Shah et al. 2009) in both jurisdictions suggesting a process of imitation at least at the level of discourse. In Gujarat, the origin of the idea of separation of electricity infrastructure in the rural and rationing of farm power supply can be traced back to water and irrigation experts (T. Shah et al. 2004). From what is known about the events preceding the evolution of the policy event in Gujarat, it was also a coupling of these long-pending goals of efficiency of groundwater use with the energy bureaucracy’s goals of power sector reform as well as the new development discourse of reliable rural electricity (Goyal, Howlett, and Chindarkar 2020). The common ground for arguments for the coordinative discourse of NJY in Karnataka was also a homogenising assumption regarding the sustainability impacts on groundwater due to free electricity in diverse agro-ecological regions. This assumption was central to characterizing the nature of competition for groundwater in different regions as similar. Consensus generated around the separation of the farm and non-farm electricity infrastructure in rural areas has been central to what can be considered ‘design’ elements in the policy — its goals and choice of instruments. This consensus around the instrument was silent on the tensions between water efficiency and equity goals in diverse agro-ecological contexts.

Thirdly, the public discourse of NJY during formulation was about the idea of continuous electricity as an important input for the development of non-farm activities in rural. The discourse of development in the policy model, similar to its narrative in Gujarat, was instrumental in re-framing the rural electrification discourse to the scale of a village scale, from the previous discourse of welfare of provision of access to the last household in the rural. In this

discourse, reliable electricity is framed as the key barrier to non-farm economic activity from flourishing, irrespective of the economic, social and ecological context.

Despite this similarity in policymaking styles and policy discourses, there were also observable differences in how the policy model was interpreted and evaluated in both jurisdictions. As opposed to a cohesive narrative of success in the case of Gujarat, the case in Karnataka provided, even during initial analysis, evaluations of only partial successes, and contradictory narratives between different institutions in the state. The FD in Karnataka evaluated the program as a failure as it did not achieve subsidy control. The policy case in Karnataka also illustrates that the choice of talukas and villages were based on an understanding of ‘rural’ as shorthand for a territory where agriculture predominates where separate electricity infrastructures would deliver efficiency gains. It was silent about the practices through which the tensions between achieving technical and commercial efficiency gains for ESCOMs and the development goals of providing inclusive access to all households in the village would be resolved.

### **3.5 Intervening in Diversity**

An in-depth village study was informed by two aspects of the policy discourse and the tensions it revealed during the extensive phase of the case study. Firstly, while a public audit and policy evaluation criticised the delay and cost overrun during policy implementation, once commissioned, the evaluation of it being a ‘success’ in terms of transforming rural electricity provision for non-farm consumers was consistent (CAG of India, 2016, ). This deserved to be examined more closely given the earlier experiences of village electrification programs and their exclusions in several households even though the village itself would be electrified.

Secondly, rationing of electricity to agriculture, a key input for pumping groundwater was assumed to be a way of controlling over-consumption of groundwater. Ideas regarding electricity rationing as a solution to groundwater depletion was central to the coordinative

discourse between multiple levels of the state as the previous section has detailed. Degradation and depletion of groundwater resources have been a major concern for the sustainability of agriculture in many areas where agricultural growth since the 1970s has depended on the resource. Groundwater depletion often disproportionately affects the poor by limiting their access to the resource as they are constrained by capital investments required to invest in deeper bore wells. By the 1990s, there was already a consensus amongst water experts regarding the need to control free electricity supply to agriculture for improving the sustainability of groundwater resources. This consensus had an important assumption and value system underpinning it — is argued that although metering and pricing electricity for irrigation has been politically difficult, electricity can be rationed to signal the scarcity value of groundwater. However, water management practices that intervene in contexts of such competition often use efficiency in the uncapped sense to allocate scarce water to those that can maximize the monetary value of agricultural output. These are known to have trade-offs with sustainability as well as equitable access to groundwater resources, in various social and agro-ecological contexts (Moench 1992). Previous studies of electricity rationing in regions with groundwater markets suggests that small and marginal landholders who used to be net buyers in groundwater markets are priced out of these water markets by inducing an artificial scarcity of water (T. Shah and Verma 2008). In contrast to such an agro-ecological context, studies of groundwater hydrogeology in hard rock areas of peninsular India indicate that the nature of the resource is highly heterogeneous. Yields from bore wells vary dramatically even over short lateral distances and over the scale of a single large farm or groups of farms (Kulkarni and Shankar 2014). These studies suggest that the nature of competition for water and conflicts around it may not be one of competitive depletion from a single common aquifer and instead highly dependent on the hydrogeology and social arrangements at the local scale which is capable of producing a diversity of responses to the policy when it is implemented.

It was clear that the consensus around the instrument left ambiguous how multiple trades-offs in electricity governance would be resolved in rural areas where the program would be implemented. The first of this was regarding how the goals of water efficiency would impact water equity goals in diverse agro-ecological contexts. Secondly, it was silent on how the efficiency gains expected from ESCOMs in the electricity distributions business in rural areas will be resolved against the goals of providing access to sparse populations spread over large rural territories whose per-capita electricity demand was low. An in-depth village study was designed to capture the processes through which these questions were resolved.

## **CHAPTER 4**

### **POLICY MODEL IN THE VILLAGE: A VIEW FROM KEMPAPURA**

Rural has functioned as an ideological category in the discourse of development and also as sites of experiments for state-directed social change in post-independence India. As a category with connotations about backwardness, a territory that is lacking in some dimensions of development in contrast to the urban, abstraction of rural and their homogenous representation in particular ways have made it amenable for centralized planning and resource allocation during the design of development interventions. Operationalization of the category of rural, homogeneity of assumptions regarding development processes are reflected in the discourse of NJY too as Chapter 3 has shown. Scholars have pointed out that rural as an analytical category can no longer be understood by focussing on the agrarian structure or relations within the peasant society alone (P. Gupta and Thakur 2017). Several inter-related processes such as urbanization and globalization of agricultural commodity chains have resulted in changes like rural areas and social relations within it. Agriculture has diminished in importance as a sector for Non-farm work is increasingly being accessed from the rural and has become a characteristic feature of the structural transition of the economy in India. These studies suggest that contrary to predictions of a stylized economic development pathway, in which there is a linear structural transformation of the economy through the movement of surplus labour from the primary sector to a more modern sector with higher wages, the late developing countries in general, and India, in particular, are witnessing a more complex and heterogeneous process of change in the rural that is influenced by several factors such as ecology, the nature of the

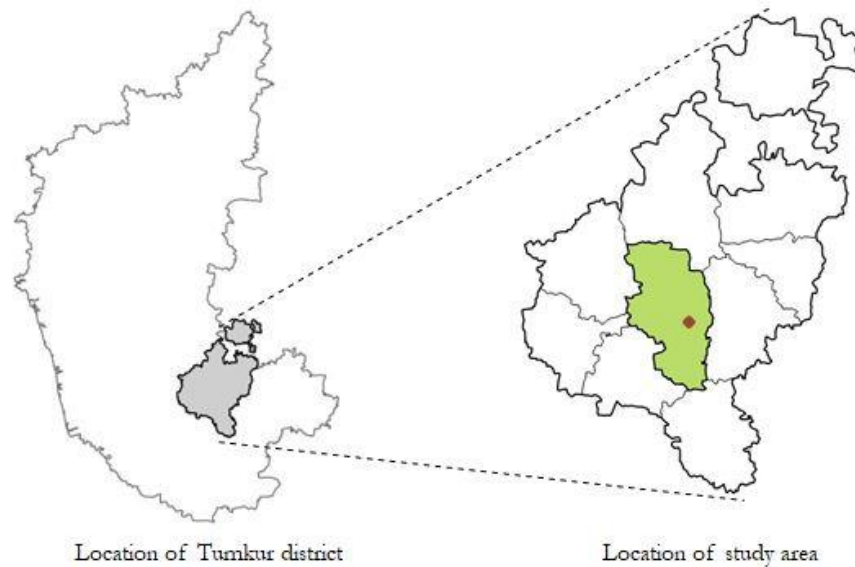


regional economy and social institutions prevailing in the rural that creates differential vulnerabilities and opportunities for various social groups.

The next two chapters will provide a view of policy in action from the village, which the study will refer to as Kempapura and the sub-division of the ESCOM that serves it. Through this view from below, it provides an account of how the program negotiates with the social, economic and political processes that are already on-going in a village that was considered a high- priority by ESCOMs in the early phase of implementation of NJY. The study also seeks to capture the practices through which assumptions and rules in the program are either accepted, modified or resisted in everyday practices of the sub-division and by the beneficiaries of the policy.

#### **4.1 The Village and its Setting**

Kempapura is located in the eastern dry agro-climatic zone in Karnataka, about 100 km from the capital city of Bengaluru and less than 50 km from the district headquarters of Tumkur (Figure 3). Tumkur had a district per capita income that is slightly lesser than the state average in 2014; six out of its ten talukas were ranked in the bottom half of the talukas in the State according to the Human Development report in 2014. Although the contribution of agriculture to the Net District Domestic Product (NDDP) in 2015-16 was only 15%, dependence on agriculture for livelihoods are high —78% of its main workers in agriculture according to Census 2011 were employed in agriculture. The district is dominated by small-holder agriculture — in 1958, 56% of landholdings were below five acres (Census District handbook, 1961). By 2011, land fragmentation over generations had progressively resulted in small and marginal holdings, less than five acres, constituting nearly 40% of the area under agriculture, with the average holding size in the category being about two acres.



**Figure 3: Location of the Study Village**

The physical geography of the terrain and the nature of water resources in the region have influenced the nature of agrarian relations that has emerged. Tumkur belongs to a group of districts located in the southern maidan (plain) in the south-east of Karnataka in a terrain that is an eastern-sloping table top land towards the east of Western Ghats, in the rain-shadow region. This eastern slope causes several rivers that originate in the region of the Ghats such as Tunga, Bhadra, and Kaveri to flow in the easterly direction towards the Bay of Bengal. However, the easterly slope is not an even tilt and the topography of the southern maidan is characterized by a rugged terrain of elevations and depressions creating a hilly country interspersed by rift valleys. The district receives an annual average rainfall of about 700 mm, most of which is between June-October. Most of the district is arid, with small rivers like Shimsha and Jayamangali that are fed by streams that originate in the hills in the region, sustain a flow during the monsoon months and dry up during the summer. As a result, agriculture in southern maidans was historically dependent on manipulating and controlling these seasonal and local flows of surface water into tank networks.

Tanks were centuries-old water impounding technologies that were important elements of the irrigation system in several regions of peninsular India and have been recorded at least since the eighth century CE (E. Shah 2003). Empires that ruled the region such as Hoysala and Vijayanagara empires were famous for tank construction. These water-storage structures are usually constructed using earthen embankments across a seasonal runoff channel to locally store water during the rainy season so that water can be used during the dry season. Since a tank is built to store a particular quantity of water, any excess water above this design limit of the earthen dam results in breaching of the bund and therefore provision is made in a portion of the bund to allow free passage of surplus water to a tank downstream.

Majority of the tanks in the region function as part of such a series of big and small tanks known as 'system tanks' such that the tank downstream is filled once the upstream ones have overflowed beyond its storage capacity. Tanks interconnected in such a manner through small canals were built in most peninsular regions of India. However, unlike the northern maidan region in Karnataka or the delta-regions of Kaveri, the southern maidans due to its unique physical geography that consisted of undulating regions of elevated land and rift valleys had created a highly localised system of political control that was often exercised through control and manipulation of water (Devadevan 2020). Since these tanks were interconnected, no cluster could remain isolated from other neighbouring clusters as the canal networks connecting tanks brought them together. At the same time, local control of water was an important dimension of rural political and social power. A series of little rift valleys hosting agricultural fields and irrigational installations were held together by local customary and informal social institutions that were responsible for keeping tanks functional by undertaking activities such as de-silting, maintenance and repair in case of breaching of the tank. Even when the land was leased out, highly-localized control exercised through land-owning families and castes were common at the scale of clusters of village settlements. This made the political activity a highly localized initiative by the local owner-proprietors of land (Devadevan 2020).

Historiographical studies suggest that tanks were already in decline by the early twentieth century. This has been attributed to a variety of factors: some scholars attribute the decline to technological change brought on by the colonial state through which small and locally-managed irrigation technologies were displaced by modern and large-scale irrigation infrastructures. Others pre-date the origin and point to how customary social institutions that undertook tank maintenance were already declining by the time of colonial rule. A modern bureaucracy under colonial rule expected that while the state could undertake the construction of tanks in dry-land areas, local institutions had to be responsible for its maintenance. Some trace this to tensions between notions of waste and value within modern bureaucracies that drew away capital expenditure on public infrastructure from tanks and argue that this contributed to its diminishing importance as they were seen primarily as protective infrastructures which needed to be maintained and repaired for preventing famines but had very little productive value for the state in colonial times (Ramesh 2018). As Chapter 2 has detailed, institutional continuities regarding these ideas of protective and productive irrigation since the rendition was central to development thinking in Old Mysore which tried to overcome the need for decentralized protective functions through more centralized strategies for controlling and directing water to its rural territories.

Until independence, Tumkur belonged to the native state Old Mysore, where a few districts in the first quarter of the 20<sup>th</sup> century had already seen early public investments by the native state and extension of irrigation through river-fed canals. However, Tumkur functioned predominantly as a region with dry-land agriculture growing subsistence crops like ragi and jowar, suitable for un-irrigated agriculture, well into the 1960s. Irrigated rice and plantation crops were cultivated only in lands under the reach of tanks. As Chapter 2 has detailed, in the post-independence development path, centralized electricity networks took over from surface water networks in the state-led quest for expanding productive irrigation into rural areas. Since the 1960s village electrification drive agriculture has increasingly become dependent on

privately-owned ground-water extraction technologies and has led to tanks diminishing in importance for direct irrigation. Kempapura is located in the heart of this intensive groundwater irrigated region in Gubbi taluka, an over-exploited block as per the Central Groundwater board. The village met the two criteria considered a priority for NJY implementation by the state. Firstly, it was located in a backward taluka according to the High-Powered Committee for Redressal of Regional Imbalances and hence qualified for NJY under its Phase 1 under the Special Development Plan; Secondly, Gubbi taluka had a high proportion of agricultural electricity consumption and therefore the Tumkur divisional office of BESCOM considered it a high priority taluka, where feeder segregation would yield the maximum return by allowing for control of the agricultural load. Table 5 below summarizes key demographic features of the district and the taluka of Gubbi where the village is located.

**Table 5: Summary features of Tumkur district and Gubbi taluk (Source: District Statistical Office, Tumkur; Human Development Report GoK, Census 2011)**

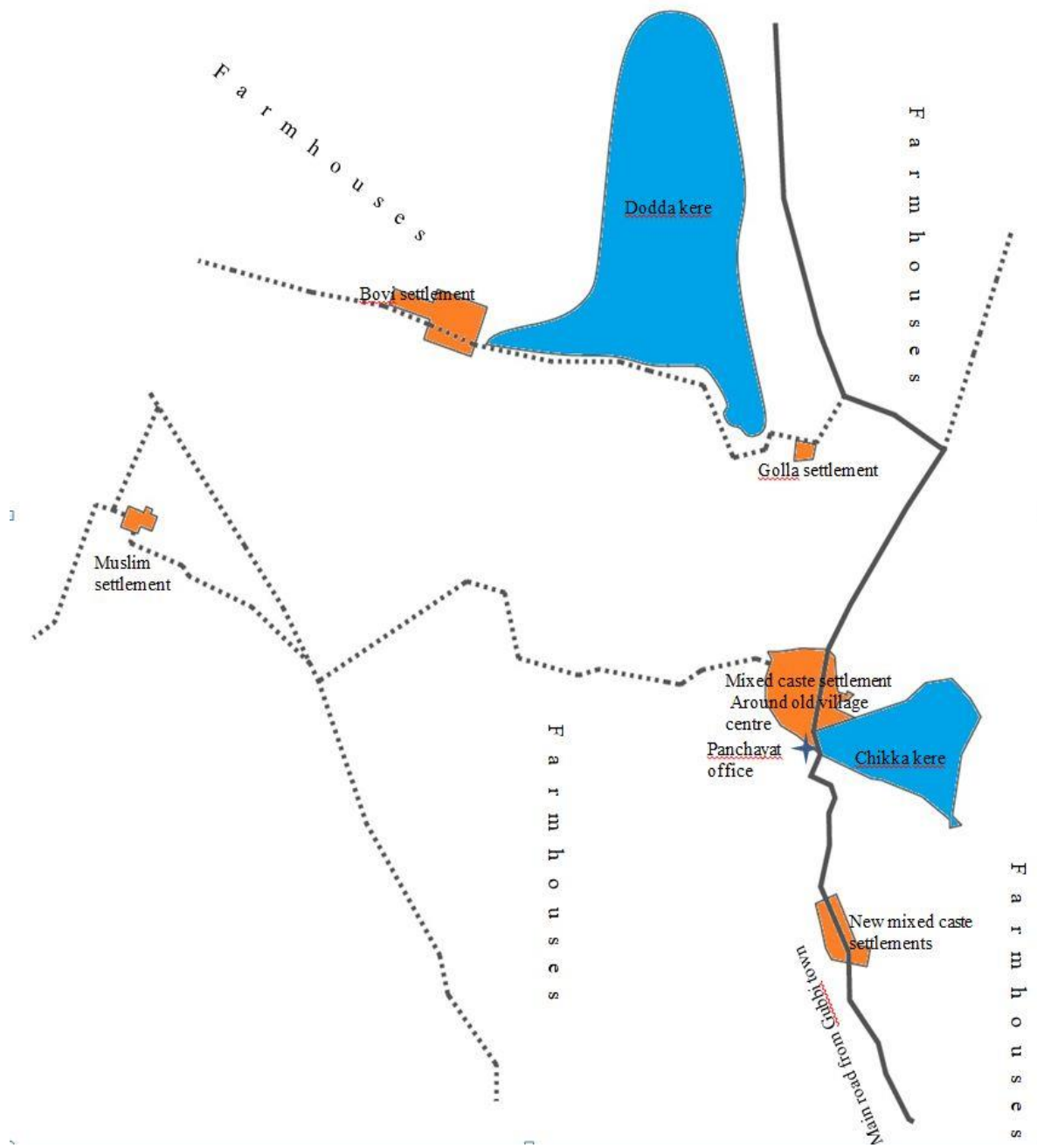
Description	Tumkur	Gubbi
Distance from the nearest city (Bengaluru)	~75 km	~100 km
Rural Population in 2011	78%	93%
Human Development Index in 2014 (rank amongst districts and talukas in Karnataka)	0.56 (17/30 districts)	0.42(109/176 talukas)
Farmworkers (cultivators and agricultural labour) (as a % of total main workers) in 2011	63%	75%
Irrigated area in 2016-17 (as a % of Net sown area)	33%	44%
Area irrigated by borewell in 2016-17 (as a % of Net sown area)	31%	40%

## 4.2 Socio-Economic Processes in Kempapura

In 2011, Kempapura had a population slightly over 2000, higher than an average-sized village in the region. Like several villages, its living spaces and farms were organised around a village tank or a *kere*, and was a key organizing feature of its agrarian and social relations. Kempapura has two tanks that are part of what is known as system tanks – the large tank (*dodda kere*), upstream and the small tank (*chikka kere*) downstream, that fills only when the bigger one upstream is full and overflows through the open canal that connects the two (See Figure 4). The tract of land west of the main road from Gubbi town between the two lakes were traditional garden lands<sup>10</sup> where arecanut and coconut were grown – these plantation crops were common in garden lands irrigated by tanks in the region; Tiptur and Gubbi served as important market towns for arecanut trade even in the eighteenth century. The tanks also sustained a single annual crop of irrigated paddy in limited areas. Most of the garden lands were owned by Lingayat households, the most prominent caste group in a village where no single caste had a major numerical advantage. The village was, even in 1961, populated by several *hattis*, caste-based settlements separated from the *ooru*, the main settlement of the village, all of them near one of the *keres*. These *hattis* have grown significantly since then into exclusive caste-based settlements of about 50-100 households, and are primarily occupied by landless or marginal land households. The largest of these settlements belonged to Golla and Bhovi castes and another one, more than a kilometre away from the Gram Panchayat office, to Muslims. There were also smaller *hattis* occupied by Adi Karnataka, Adi Dravida and Uppara castes in the land adjacent to the old village centre alongside the main road from Gubbi town that passed through the village. Alongside the clustering in the *hattis* or caste settlements, households who lived in individual homesteads also exhibited a distinct spatial pattern that were related to economic processes in agriculture. The spatial fragmentation of caste groups and living arrangements in the village is captured in the notional map of the village in Figure 4 below:

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<sup>10</sup> Traditional garden lands were identified using revenue survey maps published in 1961



**Figure 4: Notional map of the village**

This included clustering of some large landholding households mainly belonging to Lingayat, Thigala and Uppara castes along the main road from Gubbi, as well as a movement towards living in houses located amongst plantations, in what were traditional garden lands. Until well into the 1960s, most of the land was un-irrigated and grew dry land subsistence crops like ragi, jowar and horse gram that were typical of the region. In 1961, open wells along with tanks irrigated only the traditional garden land<sup>11</sup> in the village, estimated to be less than 300 acres of the 1300 acres that were cultivated. The period 1961-71, saw a net decline in population in the village, a decadal loss of 5%. Electricity-driven wells for irrigation started gaining momentum through the 1970s, aided by subsidised credit as well as village electrification programs that had irrigation pump set energizations as its primary goal. This appears to have reversed the population trend in the village over the two decades following it, as more area was brought under cultivation. The shift towards living in farmhouses started in the 1970s aided by electricity-driven borewells and picked up pace during the two decades following this.

#### **4.2.1 Rising Expectations from Water: Tanks, Borewells and Canals**

The period 1981-91 saw the largest decadal growth in population in the village (17%). However, the irrigated area accounted for less than a quarter of the net sown area and only 10% of this was irrigated through electricity-driven bore wells even by 1991 (Table 6). The 1990s saw increasing investments in ground-water irrigation and a progressive deepening of groundwater levels to nearly a hundred feet such that it could not be accessed through shallow or open wells anymore. By 2001, electricity-driven bore-wells had become the exclusive source of irrigation as the majority of the open wells dried up and the irrigated area gradually reduced. Central Ground Water Board observation wells recorded this long-term declining trend in water level for open dug wells and shallow borewells in the entire district. Between 1997 and 2006,

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<sup>11</sup> Traditional garden lands were identified using revenue survey maps published in 1961



more than 65% of the observation wells in the district had dried up and the remaining, 35% showed a long-term declining trend in water level between 1997-2006(CGWB 2013).

**Table 6: Changes to Irrigation in Kempapura 1981-2011 (Source: Census Village Directory)**

Year	Net sown area (acres)	Irrigated area (% of net sown area)	Source of irrigation (% of net sown area)	
			Others (Tanks, Wells)	Electricity-driven wells
1981	1500	22%	16%	6%
1991	1500	24%	14%	10%
2001	1275	20%	0%	20%
2011	1275	57%	0%	57%

By the mid-2000s, in what would be a change of fortunes for the region, Hemavathy canal extensions had reached the Gubbi taluk and started feeding several major tanks in the town. Plans were drawn up to gradually extend the feeder canals to fill several big village tanks in the regions. Depletion of groundwater by the early-2000s, the main source of water for irrigation, drinking and other domestic use of water in rural areas in the region had set in motion a discourse of “recharging” groundwater, especially directed towards drought-prone districts such as Tumkur. A series of interventions were designed in Karnataka as part of these efforts. The central plank of this was the extension of the Hemavathy canal branch network to the district, planned in the late 1970s, to irrigate nearly 1.27 lakh hectares of dry land in the district. Although the initial scheme envisaged connecting only major and medium tanks that were main sources of drinking water supply to Tumkur, Gubbi and Tiptur towns, there has been a gradual evolution regarding the use of post-monsoon water in the reservoir. Gubbi tank received water

from the canal by the late 1990s, which was eventually extended to several medium tanks in the region. Increasingly, water in the reservoir is used to recharge smaller village tanks and also is sometimes directed to private farm ponds.

Farm ponds or Krishi hondas are small storage and percolation infrastructure in private lands that have been created through subsidies from the government in the past decade to enable groundwater recharge. By 2014, several programs for extending capital subsidies and soft loans were devised for the construction of these water conservation and storage structures in drought-prone districts like Tumkur. Several of these micro-storage structures were built in the village with two kinds of design: the first kind was a medium-sized pond that allowed local percolation; these were constructed by large landholding families in the middle of plantation crops to gain the benefit of local scale improvements in groundwater levels. The second kind were much smaller structures that did not support local percolation and instead served as intermediate storage for groundwater that was pumped out. Both of these improved groundwater levels in the village overall even if their distribution within the village is determined by more local processes.

As a result of the expectations raised by the Hemavathy canal as well as technological improvements enabled through deep borewells that could extract water from several hundreds of feet below ground level, the village has witnessed significant capital investments into agriculture. Between 2001 and 2011, the area irrigated more than doubled even though the net sown area remained the same (Table 6). Since the early 2000s, welfare programs such as Ganga Kalyana Yojana, have provided free agricultural pump sets to SC/ST households as a poverty alleviation measure through access to groundwater economy. This has enabled several households from these caste groups to own a borewell for the first time and move to arecanut cultivation even in marginal and small land-holdings. In contrast to the 1980s, when investments in borewells and shift to arecanut plantations were led by big landowning families

who belonged primarily to two communities — the Lingayats and Thigala families — the last 20 years have witnessed a shift to arecanut plantations across all caste groups.

#### **4.2.2 Combining Farm and Non-farm Income in Households**

When one looks at the changes in livelihoods within the village since 2001, the overarching trend is continued importance of smallholder cultivator-led agriculture in the diversified livelihood strategy of households. Persistence of small-holder cultivation coexists as a diversification strategy for household income alongside a marginalisation and casualization of agricultural labour. This diversification strategy has required high capital investments in the groundwater economy often through investment of surplus generated in non-farm sectors for many small farm households. This is used to supplement casual non-farm jobs that are accessed through commute to urban areas. The share of agriculture in the main worker population has seen a gradual reduction from 83% in 1991 to 75% in 2011 (Table 7) in keeping with the waning macro picture of agriculture livelihoods in the country, most of the reduction has been through replacing male agricultural labour. Agricultural labour has become increasingly marginal and seasonal as cropping patterns has shifted to perennial plantation crops like arecanut and coconut. This has also resulted in a gendered change in agriculture as the share of women in agricultural labour has increased from 50% in 1991 to 82% in 2011.

**Table 7: Changes to agriculture in Kempapura (1991-2011) (Census, various years)**

<b>Year</b>	<b>Share of cultivators (as a % of main workers)</b>	<b>Share of agricultural labour (as a % of main workers)</b>	<b>Cultivator/Agriculture ratio</b>
1991	59%	24%	2.43
2001	58%	19%	3.03
2011	55%	20%	2.75

Consistent with the broader pattern of landholding in the region, half of the households in the village owned marginal lands less than two acres; another 25% cultivated between 2-5 acres. Together, these two land classes accounted for more than 75% of households and nearly 60% of the land area cultivated in the village (Table 8). Landless households comprised mainly of Muslim (26%), AD/AK (21%), Uppara (21%) and Bhovi communities (13%), who earned a livelihood from casual non-farm labour or petty trade. The same caste groups also comprised small and marginal farmer households. Only a handful of large-landholding families, primarily from the Lingayat caste and one joint-family from the Thigala caste cultivated landholdings larger than 10 acres.

**Table 8: Household distribution by land ownership, Primary survey, 2018 (N=283)**

<b>Land size category</b>	<b>Landholding size range (in acres)</b>	<b>Share in households</b>	<b>Share in land ownership</b>	<b>% of HH growing arecanut</b>
Landless	0	13%	0%	0%
Marginal	0.2-2	49%	22%	58%
Small	2.25-5	27%	38%	87%
Medium	5.25-10	9%	27%	100%
Large	>=10	2%	13%	100%

Despite shrinking land sizes, agriculture continues to be an important source of supplementary income for households. In 2018, 52% of households<sup>12</sup> reported cultivation as their main occupation; and 21% reported coolie work in farms as their main occupation. The remaining 27% had non-farm work as their main occupation. Of the people in non-farm work, only 8% of

<sup>12</sup> The survey considered individuals to belong to a single economic unit called household, if they shared a common kitchen under the same physical structure. Households in the same physical structure but with separate kitchens were counted as a different household

households were in an occupation that provided either a regular salary or generated an income through investments in the village or nearby urban areas; the remaining 92% of households depended on casual labour in the non-farm sector or were own-account workers with minimal investments. The majority of these households also combined labour in the non-farm sector with seasonal work in farms. Options for non-farm work within the village was limited to the household industry of beedi-rolling, working as cooks and caretakers in the primary school, the middle school, the *anganwadis* and as watermen in the panchayat office. Most of the non-farm work, nearly 80%, was accessed through daily commute to urban areas of Tumkur and Bengaluru and were in the transportation and constructions sector, viz., auto drivers, JCB operators, electrical workers and painters in the nearby urban areas of Gubbi or Tumkur. Both agricultural labour households as well as households that depend on casual non-farm work supplemented these livelihood options without exiting agriculture. Amongst households that reported casual wage labour (farm and non-farm) as the main occupation, 64% of households reported cultivation as a secondary occupation and nearly 40% of them had invested in a borewell (Primary household survey, 2018).

Limited access to remunerative non-farm jobs along with rising expectations from the groundwater economy has resulted in diverse responses from households. The soil and climate in the region were always suitable for arecanut if irrigation was accessible. It was grown in traditional garden lands in the region for centuries, and there are records from more than 150 years ago of it being a prominent garden crop in the region whose produce was sold in the nearby Gubbi and Tiptur markets. Areca is a perennial crop and the currently cultivated crop varieties, take about 6-7 years for gestation. It is common to intersperse the areca palm with banana and also undertake intensive fertilizer application to derive maximum value from the land. It is also highly prone to scorching if not irrigated at regular intervals throughout the year – ensuring application of moisture once in 2-3 days in winter and 5-6 days in summer is the main prerequisite in farm management. Each palm requires about 15 litres per day in summer if

the irrigation is through open flooding and much lesser if moisture is applied through drop irrigation. As noted earlier, large landholders had already shifted to plantation crops outside traditional garden lands, initially through wells and later on through more capital-intensive borewell technologies as early as 1980s. The process of progressive investments in groundwater economy has accelerated between 1991 and 2011. Since the early 2000s, even small and marginal landholders have invested in borewells for the first time, starting with open flooding type of irrigation in marginal lands using a single borewell. As result, there has been a shift to arecanut across all land classes. By 2018, most of the area under cultivation in the village had been converted into mixed plantations of arecanut and coconut — 73% of landowning households in the village cultivated arecanut and only 25% cultivated ragi, a traditional subsistence crop in the region (primary household survey, 2018). While marginal landholding families who could not invest in a borewell grew ragi, *huruli kaalu* (horse gram), and often *avare kaalu* (hyacinth beans) through rain-fed irrigation, this was mainly for self-consumption.

Earlier, the knowledge required for prospecting groundwater as well as for arecanut cultivation was limited to a few households, primarily those from the Lingayat and Thigala families. Farm management practices required at various stages in the growth of the palm requires diverse skills. Irrigation, especially in the first five years during the growth of the palm requires more careful moisture management. Once the palm starts bearing fruit after this period, post-harvest processing also involves higher labour requirement. This has required a gendered diversification within households between farm and non-farm work amidst casualization as the central feature in both sectors. Large farmers often hire women as occasional agricultural labour. The majority of the households, especially those consisting only of elderly members contract out the annual harvesting of areca. Several some small and medium landholders use either family labour or have invested in processing machines, as peeled and processed areca gets higher market prices.

Irrigation is another labour intensive practice to be carefully supervised depending on irrigation practice used. Open flooding methods where a borewell is used to pump out ground water and flood the farm involve labour than drip irrigation. Even with drip irrigation installed, casual labour is required to monitor the drip tubes and prevent blockages. The ability to stay invested in the groundwater economy as well as pursues a strategy that combines farm and non-farm labour therefore depends on several factors such as the household's economic resource, age of its members as well as its social ties for most small landholders. Over the last ten years, irrigation practices in farms above two acres have moved to these more capital-intensive drip-irrigation and water storage techniques for reliable access to groundwater in the case of medium size landholders. As electricity supply is often intermittent and unscheduled, this requires investment in auto-start devices to turn on the motor whenever electricity is supplied on the agriculture feeder. Borewells often dry out in summer in some farms; if the voltage in the agriculture feeder is low, the motors that run the pumps may also get scorched. This is a major risk to the crop during summers and during such times; having reliable on-farm water storage or having multiple borewells is an advantage. Cultivating households therefore need to undertake frequent unplanned expenditures to stay invested in the groundwater economy.

Dasappa, the head of a Nayaka household, an ST caste, successfully made the transition to arecanut in his half-acre marginal land in 2005. Now in his 80s, he cannot work due to old age even though he used to do coolie work on a Lingayat farm. After his son got a government job in the police department, he was able to make investments in borewell required to start growing arecanut. He earns about a lakh annually from his mixed arecanut and coconut plantation. Since then, he has also installed drip irrigation along with an auto-start option for the motor. This has meant that he needn't labour hard and the *thota* runs on its own<sup>13</sup>. About 2 hours of pumping is all it needs daily. In the areca harvest season, between October-December, he has to be in the

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<sup>13</sup> Interview conducted on 22 Oct 2019

village full-time to oversee harvesting that is contracted out to traders who often have similar contracts with several households in the village.

On the other hand, Basavanna, who belonged to the Golla caste and worked as a watchman in the school hostel at night, and performed farm work in his half-acre farm during the day never wants to undertake the risk of borewell. He grew ragi mainly for self-consumption with some surplus that was sold to local ragi mills. His livestock, the lone buffalo provided some income from the daily sale of milk to the local dairy cooperative. He also took care of two other large Lingayat plantations to supervise irrigation systems in their areca plantation for which he was paid a monthly wage of Rs 2000. His lack of interest in investing in a borewell stemmed from the perception of risk. As he reported, borewells often keep failing or the motor burns out unless one also installs additional transformers. Even though he took care of irrigation in and supervised post-harvest contracting of larger areca plantations, this was not a risk he was willing to take, even though two of his younger friends from the same caste had made the transitions to plantation crops over the last 10 years in farms adjacent to the one in which he was a caretaker; their afternoon routines of travelling from the '*gollara hatti*' to their farms on a motor cycle, often determined by when electricity would be switched on the agriculture feeder.

### **4.3 Nature of Social Relations in Kempapura**

The concept of dominant caste has been important to understand the nature of social stratification in a multi-caste village (Srinivas 1994). Srinivas characterizes this status hierarchy in terms of relative power available to caste groups along multiple dimensions. In this view, castes that are numerically strong, and exercise preponderant economic power through agricultural land holdings in a village, along with other symbols of status in terms of ritual purity and modern education exercise power that confers an advantage to the dominant caste members and keep other communities disadvantaged. Relative gains in power along any



dimension are a useful way to characterize the longitudinal change in caste status without assuming that coercion is the only way this power operates. Scholars acknowledge that the coercive power of caste status hierarchy is weakening in the village due to the reduced importance of land-based ties as well as more diverse basis of political and economic power that are more dispersed. However, even amidst these new forces, caste continues to operate as a durable source of identity and political and economic difference. These differences mediate the ability to access state welfare schemes, public goods, labour and other markets, as it sometimes works as a category that confers opportunities for hoarding benefits and sometimes through generating exclusions that are not easily visible (D. Gupta 2004);(Mosse 2018). Caste thus often has a composite effect on economic and social outcomes and includes disparate phenomena that contribute to self-reproducing and durable inequalities (Tilly 1999). Traditional status hierarchy is only one of them and need to be studied as such in particular historical and social contexts. The approach taken by the study to understand social relations between groups was to use analytical dimensions offered by the dominant caste concept and see how the differences operate in the context of Kempapura, i.e., how these diverse sources of power manifest in everyday lives and livelihoods. This was done through relying on survey, qualitative narratives regarding lived experiences as well as through participant observations.

Even before collecting any quantitative data, personal experiences of gaining entry to the village provided initial signs of the relative power of the Lingayat caste in the village. The first person I made contact within the village, Shivaiah, was an organic farmer, one of the two in the village. Shivaiah was in his early 50s, owned about 12 acres of land and belonged to the Lingayat caste. He had connections with urban Tumakuru and Bengaluru through organic farming networks and had also been recently awarded by non-governmental organisations in Bangalore for promoting organic farming. Several undergraduate students from the Agricultural University in Bengaluru often visited his farm to study sustainable farming methods and it was well known in the village that he created opportunities for such learning. Initial questions about

why I was in the village were therefore met with an understanding whenever his name was mentioned. My stay in the village middle school was relatively easily arranged, over phone calls, through an introduction made by Shivaiah to another Lingayat family a government school headmaster in the village who belonged to the Lingayat caste. He and his wife, the taluka president of Karnataka Rajya Raitha Sangha (KRRS) facilitated permissions from the Block Education Office for my stay in the village school. Even before I started staying in the village, these were the most visible aspects of the local social power of at least a few Lingayat households.

The village school, where I stayed, provided hostel facilities to about fifty girl students from all over the district. It was staffed by a warden, two cooks and a watchman, all appointed by the Block Education Office. Only the warden was a formal appointment from outside the village, the other three positions were filled through monthly wage workers from within in the village. The two cooks, in the hostel, were both widowed women who belonged to Golla and Bhovi caste and their jobs were facilitated by the same Lingayat family who had facilitated permissions for my stay in the hostel; both felt indebted to the family as it provided them work after the loss of their husbands. Basavanna was also recommended by the same family to the post of the watchman of the hostel. In his mid-50s, he belonged to the Golla caste, most of who worked primarily as wage labour and marginal cultivators and stayed in the *gollara hatti*, a habitation exclusive to the Golla caste. My stay at the village school provided a neutral venue and provided the space for a set of informal and personal interactions through these employees at the hostel. They provided introductions to several households in the Bhovi and Golla hattis that provided a window into local caste relations as well as allowed me to observe practices of irrigation in the village.

The quantitative data captured the caste hierarchy in the village along three dimensions: a) numerical, using the relative share of each caste in the village b) economic, through its share in

the land economic assets and c) social, through its share in educational years of its working-age members. Indicators for these dimensions are summarized in Table 9 below. Lingayats were the topmost in the social hierarchy in almost all measures, even though they didn't have absolute numerical dominance. Even though their share of households in the village was only about 29%, Lingayats exercised considerable land-based economic power. They had a much higher share in land ownership (58%) relative to their size in the village and had an average landholding of about 5 acres. Seven out of the eight households who owned more than 10 acres of land belonged to the Lingayat caste. Thigalas were the other important caste group in the village in terms of land-based economic power; even though most households belonged to the medium land class and their share of households in the village was low (6%) compared to other caste groups. However, both caste groups have also been able to convert this traditional land-based power into economic and political power in the village, with a higher share in the village assets relative to their household share, along-with consistent membership in the Grampanchayat in the current and previous term. Of the four ward members that Kempapura contributed to the Gram Panchayat, one member each belonged to the Thigala and Lingayat caste in the current and the previous term.

The other caste groups who had political representation were mostly women from Adi Karnataka and Muslim caste groups in reserved seats. Both the women members said that their husbands attended most Panchayat meetings and participated in Panchayat activities even if they were aware of the decision and measures taken. The Gram Panchayat had more in control of organising domestic water security in the form of public water purifiers for drinking water, and domestic water through construction and maintenance of overhead tanks and public borewells to ensure basic levels of supply to various habitations. All the habitations in Kempapura had drinking water access provided by the Panchayat for which water rates were collected from households. On the other hand, those who stayed outside the clustered habitations depended on private bore wells for most of their household water requirement.

**Table 9: Caste groups and their differential basis of power (N=283)**

Caste groups	% Share in households	% Share in land owned	% Share in assets <sup>14</sup>	Share in years of education	Average landholding (acres)
Lingayat	29%	58%	45%	33%	4.9
Adi Karnataka and Adi Dravida	16%	7%	10%	16%	1
Golla	14%	10%	13%	13%	1.6
Uppara	11%	7%	7%	11%	1.5
Bhovi	9%	5%	6%	16%	1.3
Muslim	8%	4%	6%	7%	1.1
Thigala	6%	8%	9%	6%	2.8
Others	7%	3%	3%	8%	1.1

The regional power of Lingayats and their social ties to local political class has meant that the Gram Panchayat is able to negotiate allocation of canal-based surface water to the local tanks,

<sup>14</sup> Asset score for each household was computed as a weighted sum of 10 assets that were chosen to be more sensitive to the lower end of asset spectrum and deprivation status of households (Pani 2020). Assets were assigned relative weights based on its local market value. The most expensive asset is allotted a weight of 100 and the weights of other assets are calculated relative to this. Weight of mobile phone=0.2, cycle=0.7, television=2, refrigerator=4.8, tiller=8, scooter/motorcycle=12, cow/buffalo=16, auto rickshaw=36, car=70, tractor=100

which are then used for ensuring drinking water supply alongside its role of recharging ground water aquifers in the village.

#### **4.3.1 Bringing Water into Kempapura**

There is intense political competition and intermittent conflict between the three main beneficiary districts– Hassan, Tumkur and Mandya – and their representatives for getting water from the Hemavathy reservoir into their constituencies on the left bank canal of the reservoir. Although district-level quotas are fixed at the branch canal heads, the distribution downstream regarding which distributary will receive water for how many days depend on the amount of water supply available for release from the reservoir, in turn, dependent on the monsoon in the previous months. These decisions are often solved through negotiations between Divisional Engineers, who often consult MLAs in the district. The local MLA, considered influential in Janata Dal, is himself a farmer in a village close to Kempapura and several villagers from farming households including two women from Lingayat households credited him with bringing water into local tanks in the region. He has been consistently re-elected to the Legislative assembly for four successive terms since 2004.

Downstream of distributary canals, village Panchayats in the region have competed to get pipe networks laid directly to the village tanks. This is important as the number of days for which water would be supplied in the distributary canal is highly uncertain each year. It is advantageous to use the few days of water supply to fill local tanks whenever the distributary receives water, instead of waiting for the upstream tank to reach full capacity. It is possible that in some seasons, an upstream tank may never get filled if there is a bad year of rains or if the allocation from the distributary to the taluk is reduced for other technical reasons. The nature of intra-district politics and the influence of the MLA in the ruling party are important in these attempts, so are the relative power of the Panchayat and the presence of influential farmers in the village. Large landholders, who have access to local government through representation in

Gram and Block Panchayat play an important role in working with the MLA to bring water into the village, As a result, apart from the economic dimension, getting water into the village tank plays a symbolic value in increasing the status of the Panchayat members.

Collective action bore fruits for Kempapura in early 2019 as the last stretch of pipe networks were installed to the *chikka kere*, the small tank, such that water from the distributary canal could be directly fed to it instead of waiting for the large tank to overflow. The fund collection campaign was led by the MLA and by large farmers in the village. The current Panchayat President in Kempapura, who belong to a Lingayat household lived in a small homestead right opposite the small tank, along the old village centre. His mother reflected the success that the village felt when she shared how a full *kere* reflects the *aishwarya* (prosperity) of the village. Earlier, the canal water from the distributary of the Hemavathy left bank canal brought water into the *dodda kere*, typically in the last week of October or early November each year. In 2018, when I first visited the village, the large tank was only half-full in November and the small one was completely parched. In 2019, both the tanks were full by Dusshera. Since all the tanks surrounding the village are full, there was a general expectation that groundwater levels will improve in the village by summer. While the village works together to bring water into the village, the inherently fugitive nature of the groundwater economy generates differential outcomes depending on how access to groundwater is organised through technologies and local practices of operating them. The next section captures the differentiated strategies that households follow to generate scale economies in agriculture despite small and marginal lands.

#### **4.3.2 Spatiality and Difference in the Irrigation Economy**

Space is known to be an important dimension of differentiation of how caste operates and scholars have noted the segregation based on caste in urban settlements as well as in rural Dalit colonies. While the notions of purity and its effect on segregation and lack of social cohesion between caste groups have received attention, the effects of irrigation technology and its

contribution to spatial fragmentation has received much less attention. The village shows that the geography of caste in ground-water irrigated areas is an important source of difference that has effects on the plans for poverty alleviation through improving access to groundwater. The increasing uptake for borewells for irrigation, private arrangements for drinking water and other domestic uses has been an important source of social fragmentation and differential power in Kempapura. By the 1970s, investments in electricity-powered wells had started the process of staying in a *thottada mane*, or plantation houses. These became increasingly popular amongst large and medium farmers who constructed new houses in the middle of their plantations. Wells provided self-sufficiency of water for irrigation as well as for household use and the ability to move to plantation houses were considered a symbol of status for households. In 2018, 42% of Lingayat households and 60% of Thigala households lived in homesteads of areca and coconut plantation. A contrasting spatial process is the clustering around caste-based settlements amongst marginal and landless households into colonies. The majority of the Golla, Bhovi and Muslim households lived in exclusive caste-based colonies (See Figure 4). Of these, Muslim and Bhovi settlements were nearly a kilometre away from the old village centre. Golla caste households who were traditionally goat and livestock herders are known to live in '*hattis*' in the region. Gollas maintained closer day-to-day social ties with Lingayats compared to Bhovis or Muslims as most of them were still tied worked as agricultural labour in Lingayat farms. Even though several households in the Bhovi and Golla settlement held marginal lands, these were often far away from their places of living and they cultivated marginal land in drier areas upstream of the tank. Smaller Uppara and AD/AK *hattis* or colonies have also emerged along the road from Gubbi in the old village centre. These colonies are visibly poorer living structures often had sheet roofs, no piped water and were often made of mud walls. Panchayat provided drinking water through small water storage structures in these colonies and collected some water charges against them.

Spatial location as well as the size of the farm confers an advantage for households in how they respond to depleting groundwater levels. Traditionally dominant and large farmer households have an advantage on both counts. Lingayat households owned most of the lands next to the tanks and along the traditional drainage channels from the tanks which were historically designated as garden lands. Lands located closer to the tanks provide more reliable access to groundwater as the borewells were less prone to drying. Several Lingayat households had also invested in underground pipes to carry water from their farms closer to tanks to their farms located more upstream from the tank. Larger land sizes also enabled investments in micro-storage structures that allow storage of water for over a few days or a week. This provides reliability to irrigation even if a motor burns or borewell fails. As the quantity and quality of groundwater access are tied to the size and relative location of the land, divergent practices of irrigation are sustained depending on the purpose and nature of the farm and whether it uses family labour or is undertaken on a larger scale. The next section discusses these differential practices of accessing the groundwater economy.

#### **4.3.3 Diversity of Household Responses Using Water as an Instrument of Scale**

Unlike allotment of surface water where inequalities to farmers at the tail end are more visible, groundwater distribution from common resources can sometimes hide inequalities of access. Since access to groundwater is mediated through ownership of land, it is often subject to very little control and has been tough to regulate wherever its depletion and overuse have been a problem. Groundwater access dynamics are also unlike dug wells that typically draw water from unconfined aquifers that are usually at about 20-50 feet below ground level (bgl) and are part of the water table in the area. Deep borewells that predominate in the village extract water from aquifers that are accessed through boring tubes into hard rock fractures several hundreds of metres bgl. In most of the taluka as well as in Kempapura, these are usually semi-confined aquifers that are highly localised. Water yield in these borewells are dependent on the pressure



dynamics in the aquifer and the depth at which water is available is highly variable across locations. In 2018, borewells in the village were extracting water from 400-1100 feet below ground level depending on the location of the land. This required investment in pumps between 7.5-15HP. Local hydro-geological knowledge is often practised in the form of water divining practices in order to locate an ideal location for boring the well as water availability is highly variable even within a single parcel of farmland. Several farmers reported that their borewells run dry in the summer season. It is possible to access another deeper aquifer by drilling deeper or by drilling horizontally for a few metres to access another aquifer. The highly localised nature of availability relies on the ability to invest capital in re-boring or deepening the wells several times over a decade to continue access.

Boring and installation of a borewell cost about 3.5 lakhs in 2018. A single borewell, without any micro-irrigation investments, can irrigate a maximum of about two acres of land in the village, ideal for a marginal landholding size. The area that is irrigable using a single borewell can be expanded further through investments in drip micro-irrigation systems. For the same quantity of water available in the well, this increases the cultivable area through efficient distribution and controlled application of moisture. Several farmers reported that because of the low voltage and erratic supply, the motor that drives the borewell burns several times a year with an average cost of around Rs. 8000 each year to uninstall and re-wire. There were no groundwater markets operational in the village. Because of intermittent borewell failures and the higher cost of prospecting, participation in the groundwater economy by the small and marginal farmers are riddled with uncertainties. These households undertook groundwater investments by sharing costs, often as part of a livelihood diversification strategy within households in the family. While a handful of households reported receiving water from neighbours as temporary arrangements when their borewells failed in the dry season, the majority of investments in the borewell were undertaken through direct ownership of borewells.

By 2018, more than two-thirds of the marginal landowners invested in the groundwater economy and more than half of the marginal land households were already growing arecanut.

The practice followed by marginal landholders to participate in the groundwater economy despite small landholdings is through joint investments with households in the extended family. 26% of the marginal households invested in the groundwater economy through such joint investments. The majority of these joint investments by marginal landholders were ground water equipment that was shared by more than three households. Table 10 below shows investment in bore-wells by various categories of landowners. These arrangements between extended family members typically consist of male siblings who live in separate households in the common property owned by their father and shared a borewell.

**Table 10: Landowning households and diverse irrigation arrangements (N=246)**

<b>Land category</b>	<b>% HH with no bore well</b>	<b>% HH with at least one private bore well</b>	<b>% of landowning HH with only joint-investments</b>	<b>Drip irrigation installed</b>
Marginal	32%	42%	26%	37%
Small	5%	84%	11%	81%
Medium	0%	100%	0%	100%
Large	0%	100%	0%	100%

There are considerable differences in irrigation practices and water use efficiency between large and small cultivators. Marginal farmers typically used a flooding method through the use of a single pipe to pump out water from their borewells. This type of irrigation was typically undertaken by that flexible labour – those who could wait for unscheduled electricity to be supplied. Those with the ability to invest higher in agriculture through drip irrigation technologies used to water more efficiently to use the water in their borewells over a larger area

of plantation. The distribution was typically done through distribution pipes that were operated through valves and directed water to a different segment of the field once in 2-3 days. This, however, required higher investments in drip irrigation systems that could distribute and regulate the application of water to different segments of the farm. These farms focussed on improving yields per unit of water were also likely to have their farm supply automated. During the dry season, most of the large landowners keep their motor on so that the drip irrigation starts working when three-phase electricity, meant for agriculture is turned on. This enables large farmers to undertake irrigation with minimal labour.

The ability to stay invested in the groundwater economy despite these uncertainties is enhanced or weakened by various programs by the state. Electricity rationing that aims to restrict the duration of time for which water can be pumped each day have different costs for these various farming practices depending on whether they rely on family labour or automated and controlled technologies for irrigation. Several members of the Golla caste work as caretakers for the plantation, especially in Lingayat households who owned medium to large-sized farms, but worked primarily in non-farm occupations in urban Tumkur or Bengaluru; such supervision tasks required about an hour and included visiting the farm when electricity is turned on to check if the drip irrigation system is working as expected without any blockage in the drip tubes. They were paid monthly wages of between Rs. 2000-3000 for this. In contrast, several marginal and small farmers used family labour to irrigate the land manually – those who live in homesteads monitor and participate in the application of water, often rushing to the nearby field when the three-phase electricity comes on in the ‘motor line’, as it is locally known. In several marginal family farms, especially in Lingayat and Bhovi farms, this irrigation labour is undertaken by women, especially when the farm is not too far from the place of living. On the other hand, men who supervise other farms or those who irrigate their farms, rely on two-wheelers, typically motorcycles to get to their farms during the limited duration of electricity supply during the day. Even in an arrangement where the duration of supply is the same for all

farms in the village, reliable access to groundwater depends on additional costs apart from the borewell investment. This includes the ability to undertake higher fixed costs such as exclusive transformer for water pumping; and also, the ability to invest in intermediate storage mechanisms, which makes a household less vulnerable in the groundwater economy.

The ability to stay invested in the groundwater economy despite these uncertainties is enhanced or weakened by various programs by the state. Electricity rationing that aims to restrict the duration of time for which water can be pumped each day have different costs for these various farming practices depending on whether they rely on family labour or automated and controlled technologies for irrigation, often exacerbating the uncertainties for those who rely on non-automated practices of irrigation and on supervisory labour who need to be more flexible. In the ecology discussed here, this can be done with very little change to the quantity of water extraction, as long as gains from water efficiency leads to further expansion of cropped area of arecanut. In restricting only the duration and time at which irrigation can be undertaken, it accommodates rather than challenge the inequities in the irrigation economy, especially, for casual wage and family labour of small holders in agriculture,

#### **4.4 Conclusion**

This chapter captures the nature of economic and social change that is on-going in the village. Even amidst deepening groundwater levels, agriculture continues to be important as an income diversification strategy for majority of the households. Land fragmentation and reduction in farm sizes are usually associated with economic unviability of capital-intensive bore well irrigation. Against this trend, a move towards, high-value arecanut plantation across land classes is a striking feature of the economic processes in the village. While large land-owning households are able to expand irrigated land through investments in drip irrigation, small and marginal landholding households invest in the ground water economy through joint investments in extended family networks to achieve a viable scale.

While the nature of competition for access to groundwater is highly unequal, it is not a regime of competitive depletion from a single aquifer. Traditional land-based power —the size of the landholding as well as its location within the village —are important dimensions of power in the ground water economy for the larger farms, as it provides the option of investments in farm ponds and drip irrigation; both confer a major advantage in terms of reliability and efficiency of scarce water in drier months. Smaller farms rely on family labour in order to respond to unscheduled routines of electricity supply to farms; rather than duration of supply, availability of flexible labour during the time of electricity supply is the key constraint for households.

The chapter also captures the local political processes that sustain collective action in the village. While private borewell technologies are the means of irrigation for farms, tanks continue to play an important role in the politics of water in the region. Gram panchayats compete for bringing water through canal networks into local storage structures for improving groundwater levels. In this political competition in the region, the local political power of Lingayats benefit the entire village by improving and augmenting groundwater resources during summer. While a network of privately-owned borewells and village-managed tanks that operate alongside canal networks structure the politics of irrigation in the region. While this study has mainly focussed on the intra-village dimension and has not undertaken an inter-village comparison, it suggests that groundwater recharge attempts by the government that brings water into village tanks also potentially favour the more powerful villages in the district. In contrast to the local autonomy for the village and more equitable management of domestic water availability by the Panchayat, electricity provision is organised from a distance from the nearby town of Gubbi through electricity networks. The next chapter provides an account of how the policy intervention of NJY allows the duration of electricity supply to the agriculture feeder to be controlled by the sub-division from far and the arrangements that allow the sub-division to accommodate their interests alongside the dominant interests in the village. This has

consequences for how electricity access, its availability and equity are mediated by existing social and economic differences in the irrigation and non-farm economy.

## **CHAPTER 5**

### **RURAL ELECTRICITY GOVERNANCE: SEPARATION OF FORMAL AND INFORMAL PRACTICES**

Rural electrification has been a long-drawn out process in most developing countries, including India. Technological infrastructures such as water and electricity networks provide the ability for centralized control of economic and political processes in the rural territory; an ability to control the rules for access in a centralized manner. As Chapter 2 has traced, electricity and water infrastructures were used this way even by the colonial state to organize and regulate economic processes in these territories. As a process of technical change, the progress made in extending these networks to vast rural territories over the last two decades in India has been remarkable. As Chapter 2 has traced, while a modernization drive for improving productivity in agriculture was the main goal of rural electrification in the 1970s, a policy discourse of welfare of households, irrespective of cost to serve or ability to collect revenues have been the central feature of political discourse in India and in Karnataka since the 1990s. With all villages now declared electrified and household electrification rates rapidly improving, there is a consensus amongst scholars that the focus of electrification policies needs to shift from merely counting electricity service provisions to providing reliable quality of electricity service to reap the socio-economic rewards of the infrastructure extension that has already happened (Aklin et al. 2016). Provision of safe and reliable access to electricity is now enshrined in the Sustainable Development Goals and subnational states are increasingly responsible for meeting them. However, beyond measurement of access to electrification, which are often centrally-funded, the dynamics of how the state and its institutions balance the goals of equitable access, reliability and cost to serve rural territories are not well known.

The policy discourse of NJY relied on a policy imagination for the rural areas in order to intervene and modify the rules of supply in rural electricity governance. This chapter examines the practices that have emerged in the lowest administrative unit of the rural electricity bureaucracy. It then traces how the interests in these trenches of state interact with the social and economic interests in the village and shape the outcomes of NJY.

## **5.1 Rural Electrification Governance Practices**

In India, Rural Electrification Corporation (REC), a central public sector company, was created to model the American experience of extending electrification into the American hinterland in the mid-1950s through rural electricity cooperatives (Pellegrini and Tasciotti 2013). REC was mandated to finance rural electricity infrastructure through extending soft loans to state Electricity Boards who were in turn expected to recover costs from the consumers. The early focus of rural electrification in the 1960s was the energization of pump-sets as a means for improving farm productivity. The second wave of policies in the 1980s aimed at providing single-point lighting connections to target below-poverty-line (BPL) households. The former Chairman of KEB recounts in his memoir how demand projections in the rural were over-estimated to project that these loans could be paid back in 10 years. He points to these unrealistic projections as the root of financial disabilities of KEBs to these (Rudrappa 2005). Alongside, the discourse of rural populism that compels ESCOMS to charge agricultural consumers based on a flat-rate tariff, rather than based on metered consumption, is now a well-known narrative in the political economy of the electricity sector, the decline attributed to large farmers who were able to exercise political influence on the state. Even when these narratives are in line with the general view that market institutions are better at allocating resources, and that state institutions and political interference make these activities inefficient, these alternating discourse of welfare and efficiency have generated a stable set of governance practices in the sub-division over time.



The response in the 1980s from the Electricity Board to stop metering agriculture, was a lasting one, an administrative one taken by the senior managers of the electricity Boards to reduce administration costs. The former Chairman of KEB, in his memoir, talks about this ‘radical’ decision taken in the early 1980s for removing meters for pump set installations, first suggested by the newly appointed member of the KEB, a former faculty member in the Administrative Staff College of India: ‘This action appeared justified as the cost of taking readings and maintaining accounts was high compared to the revenues realized from this category as the tariff applicable to this category had to be kept low according to the instruction of the government. It was also found that quite often the meter readers were furnishing false consumption figures without visiting installations’ (Rudrappa 2005). This motivation to reduce transaction costs of electricity supply to rural areas and thus gain administrative efficiency in the operations of ESCOMs had a location dimension – it involved letting go of measurement and control over vast areas where agriculture predominated electricity consumption. The state institutions had to forego infrastructural power in order to accommodate rural political power—its capacity to enforce and implement accounting and revenue recovery in the territory (Mann 1984).

A national thrust to make goals of rural electrification into broader development goals of electricity access started only in the late 1990s by making village electrification criteria more stringent<sup>15</sup>. These goals were driven by pressures from above as far as the sub-division was concerned, by multilateral development organizations and the Central and State government. The largest gains in extending connections to all households were made in the period 2000-2010 when access to electrification was made part of Millennium development. Even when the

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<sup>15</sup> A village would be presently be considered as electrified only if electricity was provided to schools, Panchayat office, and Harijan bastis along with at least 10% of households in the village connected to electricity. Till 1994, a village would be considered electrified if electricity was consumed for any purpose in the village

infrastructure creation was financed by the Centre, the huge spatial expansion of the electricity grid severely underestimated the losses of energy that would add to the costs of provision of electricity. Widespread electrification created a dilemma for sub-national governments and utilities between cost-recovery and provision of electricity as a public good and therefore its de-commodification. This large spatial expansion of the rural electricity grid, to sparse and intermittent rural agricultural demand has created an institutional legacy that continues to influence current practices of the electricity bureaucracy at the lowest levels. The next section examines the nature of these practices by drawing on fieldwork at the sub-division and capturing the nature of its frontline work in how its practices relates to those in the village.

### **5.1.1 Actors and arrangements**

A sub-division is the lowest administrative unit of the electricity bureaucracy that is in charge of the implementation of programs, maintenance of electricity grids that supply to last mile and revenue collection. Apart from being mere administrative units, the idea of sub-division as a business unit has gained prominence in the last two decades. This means that the Assistant Executive Engineer who is in charge of the sub-division is to be held accountable for the profit or losses of the distribution business in the sub-division. This demand has tended to overlook the institutional trajectory of gaining administrative efficiency through reducing administrative costs in the rural even as the network and the number of installations has expanded in the past 30 years.

The first noticeable feature of the governance arrangement is the remoteness of the sub-division from the village. Sub-divisions are located in the nearest taluka towns and service a mix of urban and rural consumers. Each sub-division is headed by an AEE (Assistant Executive Engineer) officer whose post is frequently transferrable between districts served by BESCOM. In the two years that I interacted with the sub-division, there were three changes in the post of AEE. The AEE is also less in charge of day-to-day practices of operations and maintenance and

might be available in the sub-division office only intermittently. His time is spent in meetings at the divisional office in Tumkur or in addressing grievances for the delay in project execution and contractors when he is in office.

The sub-division employs two kinds of staff who are relatively permanent employees in the sub-division. Those who work primarily out of the sub-division office located in the town are in charge of sanctioning new connections, accounting and general administration. A larger number of people are employed as field personnel who are allocated functions such as monitoring and fixing faults in the distribution feeders as well as metering, billing and collection from what is known as the Low-tension (LT) category of consumers, consisting of households and commercial shops that typically demand low-voltage consumption. The field staffs work under the daily supervision of a sub-division officer in the grade of Assistant Engineer (AE) who forms the link between the office staff and field staff. The AE is expected to spend time between the office and the field and are responsible for allocating daily tasks to the field staff in response to day-to-day events in the network such as faults. Sometimes the field staffs are sent out on an office vehicle for daily vigilance and monitoring as well as billing and revenue collection from rural households, commercial establishments and small industries. Formally, these are separate functions: Meter Readers (MR) are in charge of metering, billing and collection from consumers and Linemen (LM) are in charge of technical work involving daily maintenance and repairs in the distribution network were separate posts. However, since early 2000s, there have been minimal recruitments in the sub-division for MRs, following a corporate-office decision to perform meter reading, billing and collection in rural areas through Grameen Vidyut Pratinidhis (GVP). GVPs are short-term contractors appointed from the village by the sub-division to bill and collect electricity revenue from specific villages. They were expected to perform revenue collection from a gram-panchayat for a fixed performance-based payment that is paid to them based on their collection efficiency. GVPs were expected to use their own vehicles and could be penalised more heavily for not meeting the targets. Several of

them considered it a tough job and there was a higher drop-out from the role of GVPs, requiring a member of the permanent field staff, often an MR, to fill the role.

Due to these administrative changes, despite the formal separation in the posts of LM and MR, in practice, the AEs decide the functions of the field staff in the sub-division on any day. On a day without any major events in the network, the field staff come to the sub-division office, some of them from Tumkur, and need only be available on call around the town. On such days, the functions of field staff include routine monitoring a vigilance of the network through rural roads. However, linemen who can climb an electric post and those with technical skills are often needed to respond to day to day events in the network. The younger staff who are recruited as MRs are also expected to perform the functions of lineman by upgrading their skills. Older linemen were often shifted to meter reading and billing in rural areas where there are no GVPs. A younger lineman was often allotted the responsibility for repair of the network in response to faults on a daily basis and was expected to travel with an MR on the latter's vehicle. The field staffs are expected to co-ordinate amongst themselves based on the nature of task allocated, number of people who report for work and vehicle availability on a given day in order to respond to daily maintenance and repair in the network.

The fluid nature of division of responsibility often meant that an MR was typically an older staff amongst the sub-division field staff who had a longer-term relationship with a village. One of the meter readers whom I accompanied on his monthly round of bill collection, Mahesh, was an employee of the sub-division for the past 23 years. He was recruited as a lineman but worked as a meter reader for the past 11 years. Although he was initially in charge of billing and collection in the taluka town, which he preferred, as he resided in Tumkur, he was given charge of rural billing and collection about 4 years back. His daily routine involved collection and billing from about 50-100 households each day. His goal was to bill all installations at least once in couple of months and collect from those households and shops that are likely to have

higher bills every month. Mahesh confirmed that longer term relationship with the village was necessary to locate and bill several hundreds of small and spatially-spread installations in the rural. He saw billing and collection as his primary function, not vigilance and monitoring. He considered people in the village very compliant when it comes to paying bills. He mentioned how he doesn't show *adhikara* (authority) when he goes for bill collection as he knows the people in the villages well over many years and they treat him in a friendly manner. Some households postpone their payment if the head of the household is not there. But most of them eventually pay either at the office or in the next round of collection. This cordial relationship was evident in my visits as several households, across caste identities offered tea, chatted with family members and even offered farm-grown lentils to Mahesh after payment collection.

### **5.1.2 Sub-division as a Locus of Efficiency Measurements**

For the higher bureaucracy, in the Energy and Finance Departments, as well as in KERC the sub-division has increasingly become the administrative unit for measuring efficiency as a business unit. This section traces the accountability practices in the sub-division and how this has resulted in the need for separation of farm and non-farm consumption as the main solution to rural electricity governance issues. In 2018, the sub-division studied, served about 60,000 installations across several categories of consumers located in urban and rural areas. These installations are served through electricity feeders, which are electricity distribution infrastructure, called HT lines, that carry electricity from the substation located in the taluka town to the points of consumption where they are stepped down using a distribution transformer (DT) before distributing it to various consumer categories through low tension (LT) distribution lines. Once the electricity supplied to a feeder is measured at the substation, what is accounted for depends on the subsequent point of measurement, usually the DT and then once again at the point of consumption. There are several losses in the distribution system between these two points of measurement. Notionally, these losses can be classified into a) technical (electricity

lost in transmission due to flows through various equipment in the feeder lines, transformers etc.) and b) commercial (electricity that is consumed but for which revenue is not collected). However, as the Assistant Engineer in charge of energy audits in the feeder explained, it is not possible to separate these as not all consumption is metered or measured.

A study jointly conducted by KPTCL and Indian Institute of Science that sought to study the extent of losses in the rural electric system in Karnataka in 2002, based on detailed measurements of several parameters along four rural feeders confirms the problems in trying to account for technical and commercial losses when a large portion of the electricity consumption is unaccounted. The actual number of agricultural pump sets operating in any feeder is unknown; the study also found that a significant part of the distribution losses takes place in the first half of the feeder in the HT side because of the heavily loaded rural feeders as well as the haphazard extension of feeders to nearly 40 km that has become typical of rural feeders for BESCOM. This is contrary to the belief that most of the losses in distribution occur on the LT side. As the consultant notes, this can be attributed to how rural electrification progressed in the state. The last of the dispersed habitations and households were connected by increasing the line length of the nearest feeder, thus increasing the technical losses in the rural distribution network<sup>16</sup>.

The losses also vary seasonally as it is linked to the mode of operation of irrigation pump sets – several pumps operating under low voltage conditions further increased the losses in the distribution feeder. The difference between the energy that is input into a feeder and what is billed to various metered consumers is captured using a metric called the aggregate technical and commercial losses (AT&C). This number has increasingly become the central component of the politics of measurement in the rural electricity discourse. The unaccounted consumption needs to be ultimately accounted for during tariff-setting. As such, AT&C losses for each

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<sup>16</sup> Interviewed on 12 March 2018

ESCOM are a number closely monitored by the Karnataka Electricity Regulatory Commission (KERC) as well as by the Ministry of Power for benchmarking performance of ESCOMs. In this discourse of efficiency, 14% has emerged as a benchmark for monitoring ESCOMs. However, there is a lack of consensus on whether this benchmark is to be used for monitoring AT&C losses at the scale of operations of the distribution company, sub-division, or at the level of each rural electricity feeder. Currently, the efficiency standards are used as a benchmark by MoP and KERC at the level of the ESCOM. However, within the ESCOM, this is often demanded from the smallest administrative unit of a sub-division and also at the level of each electricity feeder. The Assistant Engineer in the sub-division pointed out how it is impossible to achieve this benchmark at a feeder level in rural areas which have been extended in all directions. As he exclaimed, ‘If I can restrict losses in a rural feeder to 14%, I would be given an award’<sup>17</sup>.

### **5.1.3 Informal Practices in Rural Electricity Governance**

The sub-division has responded to the demand for commercial efficiency gains by turning to technology to improve collection. Revenue collections from the field are updated instantaneously to a centralized server through a hand-held machine provided to each MR. The sub-division also sets performance benchmarks for billing and collection for each MR or GVP through two measures: a) billing efficiency (% of active installations that are billed in a month) and b) collection efficiency (% of revenue demand that is collected). The MR is expected to generate the bill for each metered installation once in two months. The performance standards for GVPs were often stricter as they were compensated only if they collect at least 90% of the billed demand with additional incentives for collecting above 95%. Collection efficiencies for meter reader in the sub-division varied between 75%-95% and are monitored at the sub-division office. However, as long as the electricity is billed and accounted for over a year, variation in

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<sup>17</sup> Interview conducted on 9 Nov 2018

collection efficiencies was overlooked month-on-month. It could be reported as arrears and collected in the following month. The practice is usually to improve collection efficiency from installations where outstanding dues from a particular installation are inordinately high by the year-end of account closing in March. As the AE commented on the practice, even the gram panchayats and town municipalities do not pay for public water and lighting regularly. This is often collected through escrow accounts whenever local governments receive funds from GoK.

The periodicity of collection and accounting practices contrasts with the need and necessity to consume electricity when it is available. This has generated a set of practices, an informal ethos for field workers in the electricity distribution as well as for consumption that has been established over the years in rural electricity governance. Legality is a fluid concept in this arrangement. The routines dictated by the limited field staff and the informal nature of the water economy means that illegality of pump sets, i.e., the fact that they are not registered in the sub-division through a registered RR number, is only one of the several ways in which electricity use is unaccounted and unknown. A newly-constructed house in the village usually started consuming electricity by connecting to the nearest electricity feeder. There is an acknowledgement that this will eventually be converted to a legal connection once an application is submitted. However, the application process and allotment of a new registration number might be time-consuming. A farmer expressed a similar sentiment to the question of whether his borewell had a legal registration number. He mentioned that an old borewell that was registered during his father's time had an RR number: 'In the village, we don't apply to the revenue office for drilling or to the sub-division for a registration number first...we first drill the well when one fails, install the pump set and after that apply for an RR number for the borewell'. Mahesh expressed a similar view regarding his indifference between whether a bore well was authorized or not as they are all unmetered: "the same pump set is used for drinking water, for use in homes and the farm. The bore wells keep failing and it is difficult to say how many each household is using at any time".



The registration of pumpsets has largely been driven by a need for accounting and measuring agricultural consumption. This is incentivised through several schemes; the most recent one is a formal procedure called '*akrama sakrama*', through which farmers could apply for regularization of pumpsets by paying 50,000 Rs in return for dedicated transformers to their IP sets which significantly improved the voltage levels to the motor. Several larger farms often operated an authorized pumpset along with 1-2 unauthorized ones using the transformer. Besides, even if an irrigation pump set is registered with the ESCOM, it can operate in an unauthorized manner if the pump is operated outside of the 3-phase supply duration meant for operating the pumpsets. This is usually done by using a converter that allows for pumps to be operated even during the single-phase supply period meant for lighting load and caused higher distribution losses in the system. This mode of operation by several pumps in the village was typical in summer because of the higher requirement for water for irrigation. However, the operation of pump sets is considered essential to the daily routines of irrigation and is accepted even by the subdivision field staff.

There have been various responses to control and estimate the size of unaccounted electricity consumption in rural feeders. As far as the sub-division is concerned, this is often posed as a technical question: 'what proportion of the unaccounted electricity in a feeder can be ascribed to agriculture consumption and what to AT&C losses'. The question has been answered through devising methodologies for estimation and reporting over the years. The most recent practice that was agreed upon and adopted by the KERC used an estimated value of annual consumption of pump sets in each sub-division which would be used for estimating agricultural consumption in each feeder. However, knowing the actual number of borewells connected to each feeder was an important pre-condition in this method. This divergence between reasoning that tries to account for the 'real' agricultural consumption and the mandate of the sub-division to serve the immediate needs of water and electricity in the village is central to the need for carving out a new set of formal practices of electricity through NJY.

## **5.2 Separating formal and informal practices**

The solution devised by NJY sought to draw a new rural electricity infrastructure that was designed to shift all metered installations to the new NJY feeder and create a domain of uninterrupted electricity supply to rural areas in order to improve metered demand. All the consumption in the older agriculture feeder could then be measured at the substation and accounted under agriculture as well as controlled and limited. This was the ideal solution in the policy imagination which categorizes the village as consisting of farm and non-farm installations that can be separated spatially. As Chapter 4 shows, this has little coherence with the patterns of spatial clustering and dispersal that has happened in a rural territory where ground-water based irrigation and living has been central for several decades.

### **5.2.1 Households Left Behind in Agriculture Feeder**

To accommodate the deviations from this policy imaginary, the sub-division had to draw the new NJY feeder strictly along the main arterial road from the town. Limits on the length of the NJY feeder are crucial for restricting the technical losses in the feeder. Restricting the feeder to the main road was necessary for visibility in the village and allowing only metered connections on it. The compromise meant that only those non-farm installations in clusters of 20-25 houses along the road were connected to the new NJY feeder. This adaptation of the NJY feeder to meet the efficiency standards meant that several non-farm installations, households that are not in clusters along the main road, got excluded from the NJY feeder with the higher duration of supply. Only 63% of the households received a connection to the new feeder within the village while 36% continued to remain in the agriculture feeder. The distribution of households and their electricity connection status are summarized in Table 11 below. Expectedly, households that were connected to NJY feeders reported a significant improvement in the average duration of supply, receiving almost 22 hours of supply in a day compared to 12 hours for those who were left behind in the agriculture feeder. Table 11 follows in the next page.

**Table 11: Electricity Connection status of households, Primary Survey, 2018 (N=283)**

	<b>No electricity connection</b>	<b>Connected to NJY feeder</b>	<b>Left behind in the agriculture feeder</b>
Share of HH in the village	0.7%	63%	36%
Mean reported hours of daily power supply (hours)	0	22	12

More importantly, households that remained in the agriculture feeder received supply from a heavily overloaded feeder for about 2 hours, through a schedule determined by the local irrigation needs in a season. A household could choose to connect to the NJY feeder at their own expense if they were left behind in the agriculture feeder. Only 8 households opted to do this by spending between 8000-12000 rupees, a function of the distance of the house from the NJY feeder. The majority of the head of the households who were in the agriculture feeder mentioned that they did not value the additional duration of supply during the daytime as it was not spent on a productive activity. The sub-division treated all the households in the agriculture feeder as farmhouses, households that break from the policy imagination. While several of these households were amidst plantations, majority of them were also outgrowths of habitations<sup>18</sup> or poorer households in marginal farms.

### **5.2.2 Accountability practices in the agriculture and non-farm feeder**

Before NJY, rural areas had limited hours of daily supply as a matter of stated policy – three-phase power for 7 hours for running agricultural pump sets, usually when electricity demand is the lowest (usually 11 AM-5 PM) and 8-10 hours of single-phase supply for lighting loads in the night. Even if this was the stated policy, 7 hours of supply was actively resisted by farmers

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<sup>18</sup> National electrification and drinking water policies have treated a habitation as a visibly distinct cluster of households

in the region. As the AEE of the sub-division said, the office used to receive several petitions to restrict the duration of electricity supply to a few hours as this was important when the dominant irrigation arrangement was one where the pumps were left in the auto-start mode. A higher duration of supply would lead to wastage of water and burning of motors, as the wells in the region had limited needed to recharge through natural horizontal flow and seepage after couple of hours. As the need to regulate electricity supply according to the dominant practices of irrigation imposed an artificial restriction on all consumers, the expectation from NJY was that metered demand in rural areas could be improved through reliable electricity supply.

As NJY has notionally created an exclusive agriculture feeder, formally, the duration of three-phase electricity supply is limited by the sub-division to match the water requirements of local irrigation practices, about 2 hours in a day. This has allowed flexibility in managing the load and duration of supply. While this has generated ‘transparency’, informal practices are allowed to continue in the agriculture feeder; the higher bureaucracy monitors this through aggregate measurements in the division or at the level of the ESCOM. As indicated in the last section, agriculture feeder also serves several households that are left behind for which single phase supply is provided in the night time. This allows several informal modes of accessing the agriculture feeder to continue in the territory. These modes of use in the village and the responses by the sub-division before and after NJY are summarized in Table 12 below in the next page.

**Table 12: Procedural Changes to accountability before and after NJY**

<b>Formal Status of end-use</b>	<b>Sub-division Response before NJY</b>	<b>Sub-division Response after NJY</b>
Pump sets that are registered with ESCOM and assigned an RR number	3-phase unmetered electricity for 7 hours	Continued on Agriculture feeder. This was two scheduled rounds of about 1.5 hours per day in 2018
Pump sets that are registered with ESCOM and assigned an RR number	Use of 1-phase supply meant for lighting load. Farmers install specialized equipment and wind the motor for low voltage operation; Widely practised during summer months.	Unmonitored on Agriculture feeder through 1-phase supply is limited to 7 PM-6 AM
Unauthorized/illegal pump sets/pump sets that are not registered with the ESCOM	Option to regularize and get a dedicated transformer on payment of Rs. 50,000.	A dedicated transformer improves voltage significantly
Households that are waiting to be assigned meters after application but has already connected to the nearest agriculture feeder	No penal action since the formal application has been submitted to ESCOMs.	Tolerated in agricultural feeder if it is a single light bulb or borewell;  Not allowed in NJY feeder
Hooking or bypassing of meters by households	Tolerated for small loads. Independent police inspector assigned in the subdivision as per Anti-theft Act.	Meter readers and linemen monitor the NJY feeder strictly;  Unmonitored in Agriculture feeder

NJY has also enabled the sub-division to respond to demands of efficiency improvement by separating the energy accounting of electricity in the agriculture feeder from financial practices of accounting. Post NJY implementation, the practice is to account for all electricity consumption in the agriculture feeder as subsidies when feeder data is called for at KERC or to Corporate office to demand data on consumption in the agriculture feeder. BESCO has also argued that the concept of losses in agriculture feeder does not make sense when only aggregate consumption is measured. In financial accounting, the sub-division accounts for metered households who remain in the agriculture feeder who are billed and revenue collected as per domestic tariff. As long as the overall quantum of consumption in agriculture feeder is kept low annually, monthly variations are tolerated. After five years of NJY implementation in the sub-division, about 89% of the electricity supplied by the sub-division is still accounted for by agricultural consumption (Table13). This is usually collected by the corporate office and paid by GoK as subsidy payments to agriculture. The sub division was directly accountable for metering only about 11% of electricity supplied who belonged to the non-farm category of consumers which accounted for about 20% of revenue demand raised by it. Table 13 follows on the next page.

**Table 13: Metering and Collection Arrangements in the sub-division in FY18** (Active installations in March 2018= 58,877; Aggregate Consumption in FY18=239.2Million kWh; Aggregate revenue demand in FY18=Rs. 921 million)

<b>Metering and collection mode</b>	<b>Category of consumers</b>	<b>Share in active installations</b>	<b>Share in electricity consumed</b>	<b>Share in revenue demand raised</b>
Unmetered and collected as agricultural subsidy from GoK	Agriculture	32%	89%	79%
Metered and billed by sub-division field staff; collected as subsidy from GoK	Free lighting for BPL households	11%	0.6%	1%
Collected by sub-division (field staff or online/cash at the office)	Non-farm (Domestic, Commercial, Industries, Public lighting and water supply)	57%	10%	20%

### 5.3 Conclusion

Sustainable development goals on electricity access increasingly make sub-national governments like Karnataka accountable for provision of access to all households. The promise of continuous uninterrupted supply to the village economy and its potential to transform the rural non-farm economy was central to the discourse of NJY adoption during policy formulation. The policy model of rural electricity feeder separation program continues to be undertaken by the central Ministry of Power at large costs. In academic and popular discourse, it is understood as a successful case of policy design and innovation that combines political goals with the technical goals of the state (Chindarkar 2017).

As this chapter shows, there are consequences of representing the solution to reliable rural electricity access in terms of a separation of the farm from the non-farm sector. The assumptions in the policy model to separate infrastructures for use by farm and non-farm overlooks the socio-spatial processes that are already on-going in the village. This creates new social boundaries regarding who gets connected to the higher duration line. As the case of the village shows, it also makes void the idea of an exclusive agricultural feeder, as several households, get left behind in the agriculture feeder. This lack of full separation has equity implications for both farms and households.

This inability for full separation is however not acknowledged in the discourse of feeder separation even during evaluation, which often measures the effects on those who are connected to the new reliable electricity feeder. The success of the model accommodates the exclusions from reliability as an outlier, as ‘farmhouses’ that get left behind in the agricultural feeder; these households receive a more limited electricity supply schedule compared to before implementation of the program. The policy model makes assumptions regarding the nature of competition in the water economy and diverse responses available to villages in diverse agro-ecological contexts. These effects are likely to be greater in rural areas in peninsular India where hard rock aquifers and the nature of the groundwater economy generate social and spatial processes that require limiting agriculture supply to fewer hours during the day.

These interactions have consequences for both poverty-reduction goals from increasing electrification access to households and its secondary effects in terms of female labour force participation that are envisaged through increasing electricity access. Apart from the outcomes for reliable electricity access for a significant number of households, the thinking also has consequences for marginal landholders who invest in agriculture as a livelihood strategy with minimum capital investments. The promise for groundwater sustainability through rationing electricity does very little to farm-level practices of intensive irrigation by allowing those who



can invest in micro-irrigation and complementary storage technologies to expand the land under cultivation.

While the macro relationship between electrification and economic growth is established, the process by which electrification impacts rural productivity and structural transformation at a micro-level is highly contested (Burlig and Preonas 2016) (Dinkelman 2011). The chapter shows that the dynamics through which centralized grid as a choice of technology for providing electricity access to rural areas translate to development outcomes in specific rural contexts are likely to be mediated by the nature of economic and social processes that are ongoing in specific regions. A policy solution that overlooks the spatial arrangements through which non-farm and farm livelihoods are organised in rural areas are likely to generate interaction effects between the two sectors. The consequences after the implementation of NJY for the higher bureaucracy are also noteworthy as it fails to resolve the issue of increasing subsidies, even when it provides transparency of subsidies at the agriculture feeder level. However, transparency of the data is used to legitimize the increases in agricultural subsidies, even if the distribution of this aggregate subsidy falls beyond scrutiny.

## CHAPTER 6

### UNDERSTANDING LEGITIMACY IN THE POLICY PROCESS

#### 6.1 Introduction

Policymaking and implementation are acknowledged to be a complex process in a democratic context and scholars who seek to generate knowledge about the process choose to manage this complexity through methodological and empirical strategies. This is often done through a focus on a few variables such as interests and worldviews of powerful social actors and on their strategies for getting their preferences met, or through a focus on interactions between policy actors in a particular stage or site of the policy process. This study has taken an alternative analytical route to study the policy event as consisting of a series of inter-related actions for bringing into analytical focus the mechanisms of negotiating change at multiple venues. The overarching objective was to use the empirical case to identify the mechanisms through which various forms of power negotiate within the policy event.

The policy case of NJY offered an empirical strategy for studying a policy ‘model’ that generated acceptance in diverse sub-national contexts, regulating the practices of water and electricity consumption and affecting lives and livelihoods in diverse agro-ecological contexts. Tracing the mechanisms of negotiating change in NJY was therefore a way to understand the mechanisms through which arrangements are changed in a domain where governance ‘reform’ has been difficult. Having traced the policy process from the highest rungs of the government to its trenches, several aspects of negotiating change in a complex institutional arena stands out. First, there was a remarkable lack of public discussion and a ready consensus with which policy instruments travelled as part of development discourses based on their characterisation as a ‘model’. Second, this abstraction of goals into a policy model created space for negotiations lower down the government hierarchy, closer to the policy beneficiaries, and away from the

public arena. This often resulted in compromises to publicly-articulated policy goals, the sub-division, the lowest level of rural electricity bureaucracy playing a mediating role in continuing informal practices of electricity supply and consumption in the village while also carving out a new set of more 'formal' practices, both sustained in parallel through two different infrastructures. Thirdly, these local negotiations resulted in the exclusion of some households from the publicly articulated goal of reliable electricity even though these were tolerated in the village and was never fed back into policy discourse during its evaluation. The focus of this chapter is to capture the diverse interests and values behind policy negotiations at these multiple sites and understand how they relate to each other in the policy process.

This chapter interprets the empirical findings from the policy case by drawing on deliberative understandings of democratic political theory. The focus is on how-actually the policy content, policy actions and outcomes are justified and become acceptable. To do this, this chapter adopts a working conception of legitimacy and elaborates on its dimensions by relying on existing scholarship. Legitimacy is conceptualised relationally, as a claim that requires justification by the government as well as requiring an appraisal by those affected by the policy in a context of negotiated change. These concepts are used to examine the characteristics of how legitimization practices worked in multiple sites at which NJY was deliberated and justified.

## **6.2 Towards understanding the deliberative context in policymaking**

Procedures and arrangements for enabling the participation of a wider set of stakeholders in governance processes are a central concern and a normative prescription of democratic political theory (Rawls 1951). Even though the deliberative ideal is often stated as an aspiration, and evaluated procedurally for major programmes as a formal procedure, a variable that is present or absent, how actually policy actions gain legitimacy are often not analysed in empirical studies in policy analysis.

Definitions across disciplinary boundaries usually emphasize two distinct aspects of legitimacy. The first one that has been a focus of political theory focuses on the normative element: the morally justifiable rules and principles, the general conditions necessary for action in order to justify exercise of political authority. The second focuses on the descriptive aspects of legitimacy; on the norms and beliefs in a particular socio-historical context and conceptualises an action as legitimate if it can be justified by appealing to shared beliefs of those subject to it (Peter 2010). For this study, I use a definition from the context of change management that explicitly acknowledges the concerns of these two broad dimensions. For this analysis, legitimacy is defined as a 'generalized perception that the actions of an entity are desirable, proper, and appropriate within some socially constructed system of norms, values, beliefs, and definitions' (Suchman 1995). Several aspects of the concept can be delineated for analysis that seeks to understand legitimation in a dynamic context of policy proposals and responses to it:

a) Legitimacy is generalized in the sense that it is an overarching evaluation that depends on the historical context of practices. This means that it can tolerate particular adverse events without being actively challenged

b) Legitimacy depends on subjective beliefs: It depends on the evaluation of action by those affected by the actions and hence has a subjective component that depends on their perceptions, beliefs, interests and values.

c) Legitimacy is dynamically constructed: Due to the above-mentioned aspects of legitimacy, actions of the state authorities are actively constructed and is subjected to a 'legitimation demand' that consists of dynamics between the authority of the actors seeking consent from an audience by giving justifications that are based on shared beliefs, interests and values.

Therefore, more than just the exercise of state authority, a changing context involves making proposals for change and giving justifications for it to an audience that are affected by those

actions. Such changes result in new rules for behaviour or create new incentives which result in winners and losers in the context. As a dynamic process, policy actions can be thought of as actively undertaking this legitimisation demand and finding ways to reach agreements. This interactive context involves giving justification for policy action by the state actors and response through acceptance or resistance takes place in multiple sites of policy legitimisation and can be characterised as a process of negotiation. Such a view of policy negotiation allows for analytical elements that allow understanding actions by the state in the context of policy change as a dynamic process of negotiation with multiple audiences. This interactive view of meeting a legitimisation demand is used to analyse the policy case of Niranthara Jyothy – in terms of how policy change is conceived, the justifications that were offered, and the intended audience in various sites of policy action.

### **6.3 Discursive Legitimation through the authority of the model**

Models can be thought of as representations of specific situations of change. It can be usefully distinguished from a theory in that it has a much narrower scope, and are more precise in its assumptions regarding the goals of change and the variables that need to be controlled or manipulated for effecting change. The policy intervention of feeder separation was considered an innovative and central component of the development model that sustained a decade of high agricultural growth in Gujarat (Debroy, 2012) and a prescription for power sector reform that could be replicated in all states (Jai 2014). Like all models of practice, it was evolved through trial and error in a specific context. However, once abstracted and formulated as a model, the policy discourse became highly mobile and easily accepted in several subnational jurisdictions. This was evident in the case of Karnataka which became one of the early states that adopted the program with scant public deliberation. In Karnataka, an overlapping consensus between the political interests of the new government and the bureaucratic interests of the Energy Department was readily formed over the choice of instruments rather than based on consensus over policy goals (Chapter 3). Chapter 3 shows how the authority of the model was based on

two distinct policy discourses —one in the public articulations of the program through popular media and the other in the bureaucratic discourse. This section identifies the main features of how these two discourses sustained two different *ethoi* for the policy model, justifying itself to two different sets of the audience during policy formulation.

### **6.3.1 Ethos of modernization and inclusion**

The public articulation of the policy problem is reflected in its name: ‘Niranthara Jyothy’(NJY), meaning continuous light. In that framing, the goal of the program is to provide continuous electricity to villages that will enable economic development in the rural. The main beneficiary of such a continuous (24\*7, according to the policy text) supply in the village. For instance, the Energy Minister spoke of the programme in the media as a new ‘technology’ that will supply uninterrupted power to villages. Policy texts reflect the main justification for the need for such an intervention —the lack of continuous electricity in villages as a significant constraint on economic activity in the non-farm sector in the village. The policy text explicates this as such: NJY will enable “flour mills, Xerox shops and other commercial activities” and also that “uninterrupted electricity is essential to prevent migration to cities”. This ethos of a developmental state and the main ideas behind the choice of policy instrument depended on thinking about economic activity in the rural in specific structural terms - in terms of farm and non-farm - and a narrative of transformation with a specific teleology: that the farm sector in the rural can be increasingly transformed into non-farm economic activities; uninterrupted electricity is a key instrument for achieving this. This narrative is familiar in critical development studies scholarship as the general ‘will to improve’ that frames issues in a manner amenable to a technical solution so that it makes a particular mode of thinking possible, to circumscribe and direct budgets and attention to spaces and people through the creation of targeted programs and their beneficiaries (Li 2007).

As Chapter 2 shows, this narrative of agriculture as a residual sector in the rural reflects two key changes in development thinking: First, ideas regarding the role of the state in redirecting the rural economic processes and the imaginary that the farm sector can be increasingly transformed to non-farm activities through state-led interventions. This prospective discourse during formulation enables it to intervene into a reality in the rural where more than 80% of electricity supplied by the last mile of the state, the sub-division, is still to agriculture. The second set of ideas includes those regarding what constitutes welfare in the rural using electrification as an instrument – increasingly associated with human development and more recently, sustainable development goals, ideas regarding welfare in the electricity sector have shifted from support for income generation to universal electricity access, to the last set of households hospitals and schools in the rural. Alongside, gradual institutional changes where the performance of public sector utilities was measured using ‘efficiency monitoring’ facilitated changes in instruments of welfare and how they were administered. This has accompanied changes in the role of the state in the rural as a provider of public irrigation for maintaining agriculture income starting in the 1970s to an arbiter and regulator of electricity subsidies by the early 2000s.

This fragmentation of the discourse of development in the rural – between economic policy and welfare policy can be illustrated by contrasting the current policy narrative with the first round of rural development programs in the 1960s that also had a ‘village’ as the primary beneficiary of the program and was aimed at the productivity of the farm sector. On the other hand, the framing of the conflict of welfare distribution within the electricity sector as between large and small farmers for delegitimizing electricity subsidy and the role of the state in transforming the rural economic activity from farm to non-farm was central to the choice of policy instruments and the narrative of fixing ‘problems from the past’. This involved taking on a different ethos, one that relied on a narrative of crisis; this had a different logic from the narrative of prospective transformation in the public arena.

### **6.3.2 Ethos of efficiency and transparency**

In contrast to the public discourse of the programme as one that provides “uninterrupted electricity to villages”, the negotiation between various departments in the state was a retrospective discourse, indicating an ethos of a state that was determined to reduce waste, one that focussed on fixing excesses of the past. This was justified through a discourse of efficiency that was the basis of negotiations between departments even as the conceptions of ‘efficiency of what’ and how to evaluate it varied: state-owned utilities claimed commercial efficiency of utilities as a co-benefit of the program whose primary goal is a continuous supply of electricity as it would increase metered sales and allow for control unmetered consumption of electricity by the farm sector, thus improving the efficiency of the utility. Recall from Chapter 3 that bureaucratic consensus between the Energy and Finance department was a prolonged deliberation, and support for allocating budgetary resources for the program was achieved only when it was linked to the goal of subsidy control and transparency. Even though the efficiency of utility became a co-benefit in the policy text, the goal of fiscal efficiency through subsidy control and transparency through accurate measurements were the main policy goals for the Finance department. In the bureaucracy, the need for controlling electricity to the farm sector is discussed as misaligned incentives for efficiency. For instance, the lack of incentives for farmers for conserving groundwater due to free electricity becomes an issue of environmental efficiency as well as a fiscal crisis for the state of increasing subsidy pay-outs to agriculture. On the other hand, the Energy department claimed that the separation of the farm from non-farm infrastructure in the rural would lend transparency by accurately quantifying how much electricity was supplied to agriculture. All the three outcomes – a) commercial efficiency of the state-owned electricity companies, b) fiscal efficiency through transparency and control of electricity subsidy to agriculture, and c) water efficiency by limiting overuse of groundwater – was to be achieved through the instrument of separation of infrastructure that supplies to farm and non-farm in the rural.



## **6.4 Legitimation of policy practice**

While separation of infrastructure for electricity supply in the rural between farm and non-farm was the instrument for achieving several goals in formulation, Chapter 5 shows how the practices of separation in the village do not lead to a full separation of the farm from the non-farm. It does however create two parallel economies of electricity in the village – a new formal economy of electricity which allows only metered connections and provides near-uninterrupted supply, and the continuation of the informal economy of electricity, used primarily for ground-water extraction in farms as well as households but also several other informal practices of electricity use in the rural including unmetered pump sets and temporary connections awaiting formal approval. Creation of new rules for electricity access in the rural alongside the old, can of course be seen as a descriptive category for one mode of gradual institutional change, but also as a way to understand what layering achieves in terms of its effects (Capano 2019). The next section examines aspects of continuity that ensures stability and its justifications.

### **6.4.1 Legitimation to the economic bureaucracy**

For the sub-division, separation of physical infrastructure into the formal and informal economies enables sustaining two separate logic of justification in both. One set of justification relies on market logic of allocation based on price –where formal tariffs and metered sales become the logic of accountability for those served through the NJY line. On the other hand, in the agriculture feeder, transparency of the aggregately measured data serves the logic of accountability, avoiding the need for a direct challenging of the informal norms of electricity use, continuity of these norms rest on moral claims: based on expectations of what services cannot be hindered even if ‘illegal’ or informal – primarily water use for farms and how this can be informally extended to households if the consumption involves no more than a light bulb or a TV.

Separation of infrastructure allows the separation of these formal and informal economies, changes the practices through which authority is delegated and accountability is given between the sub-division and the higher bureaucracy. Before the separation, unaccounted electricity in the single feeder would be considered 'losses' for which the sub-division is accountable and in turn, the meter reader, who is the primary agent of the state in contact with the village and in charge of revenue collection and monitoring of these infrastructures. The supposed separation of the farm from non-farm renders the idea of losses meaningless as only the input to the agricultural feeder needs to be measured transparently and the revenue for this is collected by the corporate office from the government. Thus 'giving of accounts' through measuring the aggregate becomes the main instrument for delivering efficiency. Transparency thus becomes an instrument for legitimation for the sub-division, restricting what part of the consumption in the rural they can be held responsible for.

While the rules for accessing the informal economy of electricity continue without change in the designated agriculture feeder, the rules for supply that determines the duration of supply is controlled by the sub-division. Separation of infrastructure allows adjusting the duration and time of supply to the informal economy through local negotiations with the dominant interests in the village and the sub-division. For the higher bureaucracy in the Energy Department, this ensures that the size of the informal economy can be controlled at an aggregate level even while distribution within it is locally negotiated in the sub-division.

This increases both the authority of the sub-division in the village and the dominant and politically organized agrarian interests in the village to determine the number of hours of supply according to the water requirements of existing farming practices in the local agro-ecological context. It also allows the sub-division flexibility to choose the time of day during which each feeder will be served, its commitment restricted to 2-3 hours during the day, thus restricting supply to periods when non-agricultural demand is the lowest. For the sub-division, this avoids

any direct conflict or challenging of norms of informal electricity use in the village leaving the practices intact as long as it is controlled in the aggregate. A poly-centricity of authority in the allocation of electricity is achieved through the program, replacing the earlier arrangement when the number of hours of supply to agriculture was stipulated uniformly for the entire state, in a centralized manner, by the Energy Minister and formalized in tariff discussions by the state electricity regulator.

#### **6.4.2 Legitimation to the energy bureaucracy**

The spatiality of the village becomes a key determinant for who is served through the formal economy created through NJY and its ability to provide uninterrupted electricity. While access to reliable electricity is provided to schools, panchayats and shops in the village centre, installations to which full metering and billing are enforced, this infrastructure is also necessarily restricted in space as commercial efficiency, measured in terms of revenue collection relative to the input into the feeder become the central logic of accountability. Spatial restriction reduces both technical and commercial losses incurred, and allows vigilance, monitoring and revenue collection resulting in improvements in the efficiency parameters of the sub-division on NJY feeders.

The new practices reflect the changing welfare discourse which has required the spatial extension of the grid to connect the last household even as performance of the sub-division is measured mainly through efficiency according to commercial principles. The existence of an informal economy to serve the social goals caters to the need for all households to be connected and all pump sets, irrespective of their legality, to be allowed. This generates a new arrangement for serving the social goals through which all consumption in the spatially spread-out rural network can be collected by the corporate office from the government as agricultural subsidies without incurring additional monitoring and collection costs in the sub-division.

One of the discussed goals of the program, of reducing the losses of state-owned utilities is achieved through changes in practices for how efficiency is evaluated through negotiated practice between the sub-division as well as for the higher bureaucracy in the energy department. This change in practice is oriented to the prospect that the size of the informal economy can be controlled even as the formal economy of electricity in the rural can grow. The policy imaginary is sustained even if the demand in the formal economy accounts for less than one-fifth of the revenues of the sub-division.

### **6.4.3. Legitimation of outcomes in the village**

#### Accommodating Inequalities in the water economy

Restrictions to the duration of supply in the agriculture feeder, primarily affect the private water economy in the village. These are various historical and social practices that make the inequality in the water economy acceptable as these are managed through a domain of private responses by households and extended families. In agriculture, restrictions to the water economy leave the nature of dominance and hierarchy of relations in the water economy unchanged. Cultivators respond to limited farm power through either capital-led strategies that require investments in technologies – private transformers, auto-start extraction pumps, private farm ponds and micro-irrigation technologies or through family labour strategies that irrigate farms through ‘flexible’ labour to cope with the unscheduled nature of electricity for irrigation. Legitimation of the new arrangement depends on these private responses to coping with unreliable and limited duration of supply. The local negotiations that determine the number of hours of supply to agriculture feeders are determined by water requirements of the crops and irrigation practices of the politically dominant caste groups.

While the relative hierarchy in the structure of distribution in the village is unchallenged, politics of the aggregate availability of water in the village is negotiated by the dominant caste through regional politics of water in which competition operates between talukas and villages

rather than within the village. This authority by the dominant castes is exercised through narratives in the irrigation and agriculture department of water-recharging in drought-prone districts through surface water. In this politics, the regional power of dominant castes and politics of patronage help to bring water into the village. The effect is a legitimation of the status quo in the competition over water as the village transitions from dry land irrigation crops to water-intensive, high-value plantation crops through multiple negotiations with state institutions.

### Justifying Exclusions of 'Farmhouses'

Through the NJY program, access to uninterrupted electricity was provided to households and establishments along the main road, to habitations that are larger than 25 houses, through the creation of a new parallel infrastructure with formal rules of access where tariffs regulate demand. Exclusions of a significant number (34%) of households in the village from the continuous supply are tolerable even if this leaves them with only 2.5 hours of electricity during the day, as they are left behind on the infrastructure meant for agriculture, and the schedule of supply is determined according to local irrigation needs. Even though this makes these households worse-off compared to seven hours of supply stipulated by the regulator before the programme, this unequal arrangement within the village has acceptance within the village and the sub-division: a negotiation that relies on moral justifications.

The sub-division justifies this arrangement by categorizing the feeder that sustains the informal economy that serves both the farm and non-farm sector as predominantly serving the farm sector, by categorizing consumers, including households and retail shops that remain in agriculture feeder as 'farm-houses'. For the sub-division, the inclusion of habitations that are clustered and along the main road is the main criteria for beneficiary selection. The category of 'farmhouses' that are households excluded within a village does not enter the discussion in policy documents or policy discourse. Reference in the policy texts to the primary beneficiary

of the NJY as the village allows room for ambiguity for who in the village would be connected to reliable electricity. Uninterrupted electricity to spatially isolated clusters or households according to this justification could be undertaken by households who could incur the private cost of connection over the last mile through insulated conductors. This was necessary to prevent theft by others when wires are drawn out in space, effectively justifying reliable electricity as a private good.

In sum, adherence to strict commercial principles in the NJY feeder is acceptable because the reliability of supply is not an expectation for households if they are minimally connected: first-level of access for night-time lighting was the minimal expectation for public service provision. Between getting first-step access and continuous electricity, a clear hierarchy of needs from electricity as a service is reflected in attitudes towards the reliability of provision. Lighting at night and drinking water provision by Gram Panchayats both of which relied on electricity were considered the primary set of services that was essential. Several respondents differentiated between lighting needs during the night for the household as essential and the needs during daytime as negotiable and others pointed to how uninterrupted electricity in households during daytime was unnecessary as they had no use for it and it helped to reduce the bills. The majority of women respondents reported cooking is the task most affected due to unscheduled electricity in households. On the other hand, lighting at night was the justification to continue supplying agricultural feeders in the night – cultivators used this night-time supply for irrigation in summer when there is excess water requirement in agriculture. The NJY feeder was used by Panchayat for assuring the public provision of drinking water supply that relied on groundwater, assuring a lifeline supply of drinking water in the village even if habitations that are excluded from the NJY feeder would have to rely on private tube wells for water provision or travel to collect the public water arrangement installed by the village panchayat.

## **6.5 Separating Sites of Policy Negotiation**

As the policy case demonstrates, the goals of the program as uninterrupted electricity for the non-farm sector in the rural and rationing of electricity to farm installation assumes a neat separation of the electricity consumers into the farm and non-farm consumers. While this was not realised in practice, sustaining this ideal is central to the legitimation of the policy. Far from being inadvertent slippages of policy goals, maintaining separation of the farm from non-farm as the ideal and ambiguity of policy goals is intrinsic to how the program reduces conflict and justifies itself to multiple interests. While the program assembles a stable set of discursive and material arrangements that lends legitimacy to it, its discourses, and practices appeal to different set of interests and uses different justifications. The work for keeping this assemblage stable is achieved through minimizing interactions between these multiple domains of legitimacy where change is negotiated. Several processes can be identified in keeping these separate.

### **6.5.1 Separation of Policy Discourse from Practice**

The construction of policy as merely a technology for the separation of the farm from non-farm and the ambiguity this allows is crucial to how multiple interests align in the policy process. Whether deviations or ‘gaps’ from the ideal are fed back into the policy depends on the nature of the information that emerges from policy practice. The policy emerged as a model for the continuous supply of electricity to the non-farm sector in the rural from Gujarat and is a celebrated success for improving quality of life in the rural in public discourse and during program evaluation (CEPT, 2004). However, its evaluation as a model of reform extends to several others aspects. The consensus that is reflected during formulation that both the “sustainability goals” as well as ‘autonomy’ goals of the state in regulating subsidies can be achieved through an overall control over the quantum of electricity supplied to agriculture is widely prevalent in the discourse of electricity and water management in the rural. The status of the instrument as a model hinges on several narratives: that rationing of electricity leading to

local environmental sustainability (T. Shah and Verma 2008), and such a co-management as a central element of a development model that sustained a decade of high agricultural growth in Gujarat (Debroy 2012). It is also evaluated as a model of power sector reform that resulted in a reduction of losses and efficiency of utilities (Jai 2014). In the aggregate, the policy model is evaluated as an instance of the state's autonomy in disciplining rural elites (Chatterjee 2020).

The consensus of policy as a model relies on generalized propositions that are considered valid: for example, the proposition that 'free electricity leads to overconsumption of water in farms' is justified in the higher bureaucracy in the discussion between Energy and Finance departments as the rationale to control electricity for the farm sector. When one evaluates at a village scale, it is clear that the objective of environmental sustainability at the farm level through control of electricity is complicated by several ecological and political processes at the local scale. The nature of competition in the local agro-ecological context that allows multiple options to negotiate in the local, as well as coordination between villages in the region to bring water into the region, was crucial for generating acceptance for limiting electricity to farms in a way that does not disrupt or affect dominant cropping patterns and social rhythms of irrigation practices. Creation of an exclusive technical infrastructure that allows all agricultural consumers to allow local negotiations with the state work to make subsidies transparent, even as time-limited electricity works towards the expansion of area under water-intensive crops in the village rather than local environmental efficiency.

### **6.5.2 Measurement and Quantification: Separating Domains of Knowledge**

Though the spheres of policy action are fragmented with delimited authorities, they relate to each other through measurement and quantification and relations of accountability. Measures and practices of quantification are central to how these multiple spheres of legitimacy relate to each other. Transparency is a bureaucratic virtue that figure in most discussions of good governance and is central to practices for how efficiency is measured while delegating

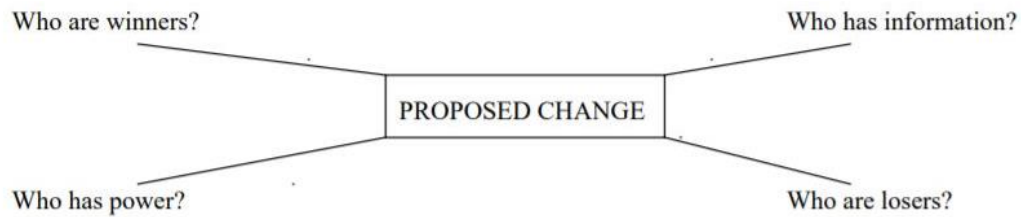


authority. However, what is measured also influences what line of action is pursued and what becomes 'issues' in the public discourse. The case demonstrates how the continuation of informality is legitimated through measurement and transparency of the aggregate quantity of electricity that is supplied to the informal economy. This shifts the administrative control of electricity subsidies to the local level, even if the accountability for revenue collection is not at the local. What gets measured and reported as agricultural subsidies continue to be the aggregate consumption in the informal economy of electricity in each sub-division. While this is monitored at an aggregate level, it makes invisible the politics of allocation within the informal economy. The measurement also allows all the technical losses in the technical infrastructure that has a large spatial spread to be accounted for under agricultural subsidies, thus allowing the sub-division to not be accountable for it.

## **6.6 Analysing Policy Processes in Fragmented Societies**

In mainstream frameworks that try to characterize the policy process, legitimacy is assumed to be derived from the state and its institutions, allowing capturing only the formal procedures through which change is negotiated. For instance, in the mainstream policy studies scholarship, policy formulation in a subsystem can be understood as coupling of three otherwise-independent streams – politics, policy and problem streams – by powerful political agents (Kingdon 1984). Coupling assumes a point of time that gives rise to consensus of problems and solutions by political agents (those who couple policy streams to politics) and technical interests (actors who couple problems with policy) leading to decisions with identifiable goals as well as winners and losers. Much of the negotiation between diverse interests in this account happens before the policy decision. Analyses that assume dominant interests tend to account for policy change through the assumption of coherence and the notion of winners and losers, who can be identified during formulation. A range of constructs are available to study policy acceptance, support or resistance in a context of formal change which seeks to evaluate correspondence of policy content with dominant beliefs of the public

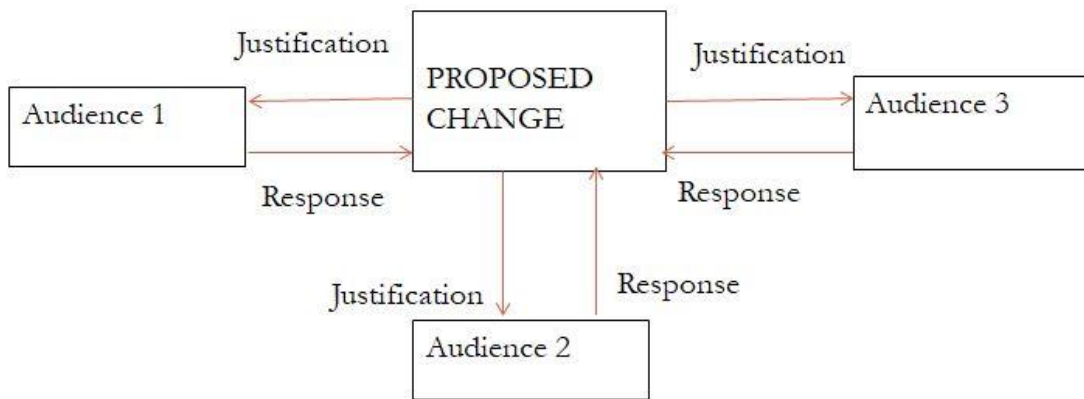
(PytlikZillig et al. 2018). The assumption in these accounts is both that policy content is sufficiently clear and unambiguous and that a dominant set of beliefs or interests can be identified amongst the public to predict resistance and acceptance(Drews and Van den Bergh 2016). Policy analysis that studies this political process of contestation can be stylized as below:



**Figure 5: Policy deliberation between dominant interests, knowledge and power. Source: Adapted from (Sutton 1999)**

In contrast, the policy case presented here demonstrates how actors with varying objectives and problem framings can be assembled in the policy arena to generate an initial consensus. The case demonstrates the loss of understanding that results when analysing policy process as if there is a single moment of ‘rupture’ when change is negotiated in a context of multi-level governance. A style of policy-making involving an initial consensus over policy instruments allow abstraction of policy goals into arguments that can be achieved under ideal conditions. The ambiguity of policy content implies that winners and losers are not readily apparent and can be adjudicated through local negotiations, at sites closer to where policy outcomes are realised. In such a process, lack of policy coherence is central features of how change is negotiated and legitimised. Although such a process of policy deliberation involves separation of sites, physical separation is only one aspect of the fragmentation.

The concept of arena is developed here to capture the performativity and practice dimensions of policy negotiation alongside the discursive or rational-deliberative. Arena is better understood as a sphere of legitimacy that allows for ‘framing’ some public issues as important to act on and providing justification for resolving these issues, each with a specific audience at a time. This specification of an arena as a domain of legitimacy can be contrasted with the conception of policy negotiations as unravelling in arenas of power that is used to understand policy processes using an analysis of political-economic power of interest groups (Kellow 2009). Traditionally, policy studies have considered policy arenas at the level of nations or political-administrative entities to suggest that the nature of the policy and the outcomes proposed – whether it is distribution, redistribution or regulative – determines the nature of interest groups who organise around it and participates in it through deliberations. Such a typological approach that attempts to locate the policy case according to whether it has distributive, redistributive, or regulatory effects can overlook the purposes for which power is exercised when an initial policy consensus is forged around a policy instrument and the nature of deliberations that are involved. The policy case exemplified here demonstrates a process of de-politicization such that the expectations that the policy generated and the politics it created were not known beforehand. An alternative process of policy deliberation to understand such a style of policy making can be conceptualized as evolving in multiple arenas, each with its separate basis of legitimacy. These fragmented negotiations can be stylized as in Figure 6.



**Figure 6: Policy negotiation in fragmented arenas of legitimacy**

The section summarizes the nature of fragmentation within the empirical case and the implications of such a process.

### **6.6.1 Fragmentation of policy issues**

When one conceives of the policy process as an event that unravels in multiple arenas, involving a separation of deliberation styles, an initial policy consensus can be a commitment to change at different levels of abstraction – decisions regarding intentions and goals, decisions regarding choice of instrument, and decisions regarding rules of practice. NJY provided a policy case in which the consensus for change was built around a technical policy instrument. As Chapter 3 shows, this allowed the policy instrument to be represented as a solution to multiple policy issues. Discursive practices during formulation reveal aspects of politicization as well as de-politicization – the extent to which politicians formally take control or abdicate responsibility for political decisions (Flinders and Buller 2006). This allows some public issues to be politicized—presented and framed as desirable and feasible to act on by the government—as well as others that are de-politicized, which are framed as inevitable to achieving the goal.

As Chapter 3 shows, the public discourse of the policy and expectations that it raised-- of '24x7' electricity to the villages—depoliticised the earlier rural electricity governance discourse of inclusion of all households. The empirical case illustrates how the policy 'model' was sustained by a parallel bureaucratic discourse in the higher bureaucracy, raising expectations of the policy being a regulative policy initiative that would control the subsidies paid to the farm sector as well as reduce its the impacts on groundwater, under a broad discourse of efficiency and transparency. The solution offered by the model, thereby brought multiple interests together during policy formulation. However, which of these issues are resolved or reconciled depended on decisions in the arena of practice where more local interests were accommodated.

As Chapter 5 has shown, the policy model allowed for more decentralized and local negotiations between the sub-division and the village to manage the politics of water. NJY legitimised two parallel domains of accountability that has emerged in rural electricity governance — a formal domain where electricity governance could be accounted for through tariffs and collection, and an informal domain which only need to be controlled in the aggregate.

### **6.6.2 Fragmentation of knowledge**

The nature of knowledge and its use in the policy process is an on-going debate—often framed as a contest between experts who have expert knowledge of the policy domain, and politicians who are motivated by interests of a dominant group. Experts are assumed to choose sound policies that deliver efficient governance of resources, in contrast to the partisan nature of political choices. However, as has been argued, it is the nature of the question being asked that determines what knowledge is relevant in complex decision-making contexts: whether it is to clarify the situation and nature of the problem ('data'), to develop a response to the problem ('ideas'), or to justify a preferred course of action ('arguments') (Radaelli 1995);(Weiss 1999).

Ambiguity of policy goals was central to the creation of an initial consensus around the policy instrument before policy adoption, and during decisions to allocate resources for implementation. The consensus during policy formulation relied on generalized propositions that are were considered valid; for instance, the proposition that ‘free electricity leads to overconsumption of water in farms’ was widely shared as a background assumption in the higher bureaucracy across the Energy and Finance departments. The origins of the policy model can be traced back to expert knowledge with interests in integrated water resource management (T. Shah et al. 2004); knowledge that justified intelligent rationing as a solution to regulate the use of water as well farm consumption of electricity. This assumption of static efficiency improvements at the farm level was one of the arguments offered in the policy model to justify the need to separate and control electricity for the farm sector. Once the model, gained authority, the separation of farm from the non-farm was also taken-for-granted and as a necessary condition for achieving transparency of subsidies and environmental sustainability of groundwater. As the case of the village and the choice of rules by the sub-division indicate, several political and social processes in the particular agro-ecological context, unsettles the assumption of open competitive depletion of water in the village. After NJY, the number of hours of electricity supply to farm consumers was reflective of dominant farm-based economic interests in the village.

Fragmentation of knowledge also operates by preventing feedback regarding households that get excluded from uninterrupted electricity supply. Even though the policy discourse during formulation was about its ability to provide uninterrupted electricity to ‘non-farm’ installations, the number of households that remain in the agriculture feeder is never fed back into the evaluation. The policy is evaluated by ESCOM for its ability to control the peak load and ability to report low technical losses in the NJY feeder, without an evaluation of its other claims such as its impact on the non-farm economy in the rural or the nature of exclusions from it. The policy also enables accounting for aggregate measurements on the farm infrastructure for

‘transparent data’ regarding farm subsidies. This in turn legitimises the informal economy of electricity in the rural.

### **6.6.3 Fragmentation of audience**

A third and related aspect of the fragmentation is the audience to which policy actions are justified. A policy process that evolves in fragmented arenas can be strategic about which issues get politicised and the nature of knowledge that is brought to bear to resolve this. As the case demonstrates, reliable supply to the non-farm economy and the efficiency of state-owned utilities become the key issues to be addressed in public narratives of the policy. However, as Chapter 3 shows, the Finance department lent support to the policy after it was linked to the goal of transparency of subsidies, thereby creating a consensus. The policy model is justified through both an ethos of a developmental state to a public audience, as well as an ethos of a regulatory state that attempts to achieve goals of technical efficiency and water-use efficiency to a bureaucratic audience. The contradictions between these multiple arguments are resolved through negotiations in the arena of practice. Such a strategy of change-making permits divergences and enables local rules and practices to emerge, creating new political spaces where alternate sources of authority can influence policy actions and shapes the outcomes.

The existence of multiple arenas in the policy process allows for issues that are relevant to a particular audience to be raised and resolved. As this enables decisions to be taken at sites closer to where the beneficiaries are located, it can privilege local contextual knowledge and interests that ensure continuity of practices. In the village, the practices that allow for continuity of informal practices are based on justifications of continuity of access to the groundwater economy as improving welfare for households despite intra-village inequalities. Fragmentation of audience allows these new issues and knowledge that are not articulated during policy adoption to enter the process and influence the outcomes.

## **CHAPTER 7**

### **CONCLUSION**

In beginning this work, the overarching objective was to understand how the processes of deepening of democracy and the pressures of liberalization have influenced the policymaking process in the Indian context. The study was designed to go beyond a causal account of the policy process; instead, the exploratory design attempted to capture the modes and arguments through which policy change is negotiated. Several inter-related concerns motivated such framing and analysis. Chapter 1 details the need for such an analytic which is outlined briefly here. Most frameworks that guide empirical studies of policy analysis in India are concerned with capturing political processes before a policy decision, the so-called agenda-setting and formulation stages of the policy process. The focus of these studies have been about explaining policy initiatives as a process of consensus-generation through public political deliberation; structured through actors or groups who have access to decision makers. This analytical focus becomes limiting in understanding Indian policymaking contexts, as evidence of a high degree of policy autonomy to undertake formal institutional changes by the higher executive, coexist with the failure to realise substantive outcomes.

On the other hand, analyses of policy practices after the decision— the so-called implementation studies— are usually studied separately and are often concerned with either answering the question of ‘what works’, or towards identification of the factors in the implementation context that explain deviations from policy goals. Consequences of such an analytical separation are reflected in both popular and academic debates. To overcome ‘implementation gaps’, the prescription has been to gain more control and coordination between multiple levels of governance through transparency and feedback in measuring and



monitoring policy achievements in policy goals. Such an analytical separation leaves out the mechanisms through which multiple social forces interact, contest, and negotiate with each other during not just in the sites of policy adoption, but also when it is translated into the domain of practice and where its outcomes are realised. This study attempted to bring the ‘how-actually’ of policy negotiations into focus in the rural electricity and water governance domain, a policy domain considered tough to reform despite attempts to re-calibrate the government’s role since liberalization. The study used the empirical case of NJY as an exploratory case study to capture the most prominent features of the policy process that sought to intervene in a complex policy domain where multiple levels of the government – national, sub-national, state-owned companies were involved. Using a discourse of rural development, the policy also attempted to intervene in diverse rural agro-ecological contexts with consequences for daily lives and livelihoods in the rural. By following the policy to its multiple sites, the study was interested in the question of how multiple sources of power negotiated change and how change was justified and accepted.

## **7.1 Policy Analysis in Complex Governance Domains**

Overall, the policy case demonstrates the loss of understanding that results when analysing policy process as if there is a single moment of ‘rupture’ when change is negotiated in a context of multi-level governance. It suggests that a fragmentation of interests across multiple institutions of the state and therefore a lack of policy coherence and a politics of ambiguity are central features of how change is negotiated and legitimised. This has both constructive and destructive potential. On the one hand, it offers the possibility of reducing policy conflict by accommodating diverse interests through fragmented negotiations and generates new arrangements that make solutions temporarily acceptable. This is useful for politicization of the most urgent policy issues in the public discourse. However, during policy practice, a process that accommodates local knowledge and beliefs, can also tolerate and exacerbate inequalities of power in pre-existing arrangements. An implication of a

policy process that has multiple legitimacies is also its ability to claim success at different levels and sites using different criteria. Unlike policies in which goals, targets and beneficiaries are identified clearly, a policy process that relies on the policy as an ‘ideal’ raises questions regarding “success for whom” (McConnell, Grealy, and Lea 2020). Policy evaluations based on successful evaluation of one goal can make exclusions or unjust outcomes at a different scale invisible. As fragmentation of arenas allows different orders of worth to be balanced in the policy process but also creates contradictions between how different audience evaluates the policy for effectiveness. For instance, the finance department evaluates the policy as failing to achieve subsidy control even as the Electricity department evaluates the policy as a success for improving the welfare of the rural non-farm economy.

By using the policy case of NJY and placing this in the context of development processes in Karnataka, the study illustrates some features of policy deliberation in the late developing nations and issues in its governance. The governance context in such polities is one in which a recalibration of the state’s role has been attempted over the years even if they have resulted in only incremental changes. In analysing policy process in this context, it contributes to academic conversations in three distinct issues in policy analysis.

### Policy Deliberation in Practice

When democratic process and participation are conceived as a formal procedure, it is a variable that is either present or absent in the policy process. Such a consensus over goals through open deliberation in the public sphere is an ideal of a dominant strand of deliberative notions of democracy. However, a significant feature of the policy context in developing countries is that while government actors and institutions have a high degree of authority and autonomy of interests, these are also often severely curtailed, not through

direct contestations of deliberations in the public arena but during practices of implementation.

The evidence presented in the study suggests a mechanism of negotiating change that proceeds through the fragmentation of issues and knowledge that are validated or contested at multiple sites. Analysis that does not take into account these fragmented negotiations and their diverse basis of social legitimacy is likely to discount the modes of accommodating or contesting change in implementation as a residual process. The case also suggests that a focus on formal institutions may result in a partial understanding of governance arrangements and overlook the as-yet-unstructured and informal political practices that emerge. Such informal practices of governance appears to be an important feature of the policy process in the Indian context where state actors and social groups are engaged in a process of state-led change in the social and economic spheres. Using policy-focussed analytical lens, the empirical case provides some starting points to analyse and explain the co-existence of seemingly contradictory phenomena: the relatively high autonomy of policy elites – sub-national politicians and powerful bureaucrats who occupy the highest rungs of governance and the lack of capacity to fundamentally change social relations that are raised in the institutional accounts of the state-society relations in the Indian context(Kohli 1990). The thesis suggests some methodological and conceptual alternatives by focussing on the mechanisms through which multiple social forces interact with the policy making process.

#### Policy autonomy and authority

Public policy processes involve a series of actions that governments do in the name of the public and therefore derive their legitimacy from the state and its formal institutions. Analysis that proceeds from the assumption that the authority of the state is concentrated amongst the highest rungs of government decision-making, the so-called policy elites, considers policy decision as the key moment that generates legitimacy and acceptability for

the policy. This assumption is implicit in the analysis that separates actions during policy formulation from those during implementation. As the case shows, even if it is possible to identify a time when a commitment to the policy was made by a powerful actor who wielded the authority of the state – a Chief Minister provides political support to the policy or a senior bureaucrat initiating the cabinet note, this need to be understood as a separate domain of legitimacy where strategic policy discourse can foreclose or open political spaces.

Even while policymakers at the highest rungs of the state had a high degree of policy autonomy to adopt a policy with minimal deliberations, the case exemplifies the ‘framing’ contests that redefine the ‘goals’ of the policy and its intended beneficiaries by those located in different sites of policy action. The existence of multiple arenas of legitimacy has implications for the interpretation of various kinds of policy action. The case suggests that at least two kinds of actions in the policy process are left out of analysis or misdiagnosed when sites and stages of policy analysis are separated.

First, is an underestimation of the symbolic function of policy discourses in adopting a policy that pursue widely accepted and shared goals. The case presented here demonstrates how the discourse of “24/7 electricity to the rural”, a widely-shared goal of sustainable rural development, creates an overarching consensus for the policy the instrument, even though multiple contradictory goals are pursued at different sites of the policy process using the policy instrument. Second, fragmented deliberations have an implication for policy feedback and a misdiagnosis of the policy outcomes. While there is acknowledgement regarding the dispersion of power in the governance scholarship, studies that are situated in particular sites, tend to overstate the importance of the particularities of the local context or discretionary practices of local government institutions, overlooking how networked relationships of governance arrangements, produce these policy outcomes. A policy process lens provides some insights into how the ‘ways- of- thinking’ about developmental

outcomes generate practices that are less ordered and informal can be a response when change is negotiated in separate arenas of legitimacy, which can accommodate multiple forms of knowledge. This can result in outcomes that are intended and unintended in different local socio-political contexts due to the existence of relatively autonomous spheres of legitimacy in the policy process.

### Policy knowledge

A related issue in policy analysis is what counts as knowledge in the policy process and how it is integrated into the policy process. When analysed primarily through the events of formulation, the empirical evidence from the case shows how the policy was adopted with minimal deliberation by generating a consensus across diverse stakeholders at the highest rungs of the government. An account of policy adoption as an interaction between expert knowledge that provide fact-based reasoning and political knowledge that accommodates value-based reasoning of political interests is often the predominant account of deliberation. For instance, the policy case of feeder separation in Gujarat has been accounted for as a case of policy design where such technical and political reasoning coincided (Chindarkar 2017). Analytical focus on formal deliberations before policy adoption provides a sparse account of the type of knowledge and their use. Beyond a narrative that endorses the power of ‘ideas’, a more diverse set of deliberations and reasoning come into the purview of analysis when attention is paid to deliberations beyond policy formulation. This can bring into view the place-specific and informal forms of knowledge that become relevant and validated in multiple sites where the policy is negotiated.

## **7.2 Sub-national Electricity Governance**

Technological infrastructures such as irrigation and electricity networks provide the ability for centralized control of economic and political processes in the rural territory; an ability to control the rules for access in a centralized manner. As Chapter 2 has traced, electricity and

water infrastructures were used this way even by the colonial state to organize and regulate economic processes in rural territories. The economies of scale that was generated through centralized infrastructures for modernization of economic activities in rural territories were generated through foregoing the power of the state to collect revenues for these services. as However, these institutional arrangements that allowed for productivity increases in agriculture to be extended over large territories have been challenged through the liberalization discourse, both from within and outside the state. Ever since the 1980s and the coming of liberalization, electricity governance has been an arena of conflict, both in popular and academic discourse, often showing up as urban-rural conflict (Varshney 1998). The political economy approaches to understanding ineffectiveness of reform has primarily understood the issues in governance in terms of rural populism, as competition between agriculture and industry for priority over cheap electricity; The electricity-water nexus is often invoked in the reform narrative in a limited sense: how electricity subsidies result in over usage of water and how it is poorly targeted as a welfare measure. The policy solutions have been framed in terms of trade-offs within rural governance in terms of farm and non-farm as well as within farm sector in class terms —between large and small farmers in receipt of agricultural subsidies. Those who have called for a political solution to the complex governance problem have advocated for state-level bargaining between large and small farmers (Dubash 2007). However, the institutional arenas for resolving these negotiations have been uncertain.

Within the institutions of the state, these conflicts are reflected in discourses of blame between various actors and departments in the policy domain (Chatterjee 2012). Improving commercial and technical efficiency of operation of utilities has been the key consideration in the attempts by the Central government as well as bureaucrats at the top of the state. Amongst the bureaucrats in the sector, there is a suspicion of ‘politics’. Styles of policymaking that have tried to separate political considerations from technical

considerations of efficiency and cost of service provision have been the norm. The study draws together some insights regarding sub-national politics of policy development in such domains of diverging interests. The case of Karnataka is illustrative to understand the nature of tensions that have emerged in balancing the productivity goals in industries and agriculture for subnational states. It suggests that ways of negotiating these diverse interests might be specific to regional development pathways and its resource endowments. Diversity arises out of both the material base of resources available for energy in various states; the institutional settlements that have been developed to respond to pressures from below, including regionally separated energy distribution companies. Sub-national states are more subject to these pressures for managing the structural transition of the economy in rural areas and the associated conflicts on land and water that accompanies such changes in the rural. The paradox of development process is that, socio-economic changes in rural territories have demanded these new informal arrangements that operate outside of market institutions or formal institutions of the state in order to fulfil the developmental and welfare functions of essential services like electricity and water.

As the policy discourse in the case of NJY reflects, the central imagination and guiding vision for rural areas is one in which the non-farm economy will increase in size and provide the main source of demand for electricity services. The expectation is also that farm consumption will eventually reduce and become a smaller component of demand. By tracing the experience of how a policy 'model' is implemented in the context of a dry-land region, the study shows how the pursuit of efficiency improvements in the sector have led to the emergence of informal and place-specific negotiations between dominant rural elites and the local sub-division. This has allowed institutionalized practices of unmetered consumption of electricity and intensive groundwater use to continue without challenging rural inequalities of access of water and electricity. The case of Kempapura studied here offers an example of village and its agro-ecological context where non-farm accumulation proceeds outside rural

areas, resulting in a persistence of farm economy. The arrangements necessary for responding to these changes in rural areas have required a form of administrative decentralization in the electricity bureaucracy where rules of supply for irrigation are locally negotiated. By tracing the experiences of implementation of a policy 'model' of where technical and political interests had aligned, the case captures a picture of fragmented deliberation through not just discursive rationality but also through informal practices. Such a process of gaining policy legitimacy separates policy issues and their audience making it more amenable to intervene in diverse socio-political arrangements.

The findings in the case also suggest that these fragmented processes can coordinate multiple goals of electricity provision local responses in different agro-ecological systems. While these informal processes serve the function of stabilization of local agricultural incomes and livelihoods, they also do not challenge intensive ground-water based farming regimes or inequalities in access to water and electricity. Therefore, an assumption that control of aggregate agricultural subsidies translate to ground-water sustainability might hide the nature of these place-based negotiations that can continue to sustain intensive agriculture through a local politics of water. The policy case offers an account of how the transparency discourse over subsidy to the farm sector as well as reliability of supply in rural areas, central concerns at the heights of the state, are resolved through local negotiations at the division and sub-division level. Rather than class-based negotiations, place-based negotiations are becoming a central feature of how multiple levels of government are accommodating changes in the rural areas. By situating the electricity-irrigation nexus in the politics of sub-national development, the study makes an important contribution to scholarship by illustrating the emergence of this place-based and informal economy of electricity as a response to efficiency-oriented reform measures.



## **APPENDIX**

### **INTERVIEW GUIDELINE**

1. Perception of the problem and need for NJY: Could you talk about why NJY was considered necessary in Karnataka?

- a) What was the main objective? What were the other objectives?
- b) How long have these problem(s) existed?
- c) How did the idea of feeder separation as a solution to issues in Karnataka come about?
- d) What other solutions were tried before NJY to resolve these problems?
- e) How was NJY expected to be different from the earlier programs?

2. Nature of deliberations

Please recall the early stages of discussion regarding NJY in 2008 when the program was being considered in Karnataka. Could you talk about what kind of issues was discussed in the early stages of NJY?

- a) Was there a discussion on costs?
- b) Could you tell me what other considerations came up?
- c) Were there any objections that were raised before implementation?

3. Perception of Outcomes

It has been nearly 9 years since the implementation of NJY started. Can you reflect on whether NJY has achieved its goals?

- a) Are there goals that have not been met, why has this happened according to you?
- b) Can you describe what has changed for the villages after NJY? How did you learn about these outcomes?
- c) Can you describe what has changed for BESCO due to NJY?

4. Organizational context and role in implementation: BESCOM Corporate Office, Division and Sub-division employees

a) When did you join the organization?

b) What was the process of recruitment?

c) What is your current role? What activities are you required to do daily?

d) Did you have a direct role in the NJY work?

e) Can you describe how the organization prioritized the different villages in which NJY implementation was required?

f) What kind of information was required for planning NJY? How did you get this information?

5. Final Question: Can you recall if there is any individual, who assumed a prominent role during the planning or implementation of NJY?

## SURVEY QUESTIONNAIRE

Habitation Name	Date of interview	Name of head of the household
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### 1. HOUSE

1	Is the house owned or rented?	1=Owned, 2=Rented 3=Other
2	How many years have you been staying at this house?	
3	Roof type of the house	1= Thatched 2= Tile 3= RCC 4= Sheet 5=Others
4	What is your ration card type?	1=APL 2=BPL 3 =Antyodaya 4= Others 5=No card
5	What is your Caste (Jaati)?	No caste/Can't say
6	Caste category	1=SC 2= ST 3= OBC 4=Others 5=No caste/can't say
7	Religion	1=Hindu 2=Muslim 3=Christian 4=Jain 5=Others 6= Can't say
8	Source of drinking water in your house (all that apply)	1=Private borewell 2= Public/Panchayat borewell 3=Other
9	Does your house have electricity	1=Yes 0= No
10	Cooking fuel in your house (all that apply)	1=LPG 2=Electricity 3=Kerosene 4=Firewood 5=Others

HOUSEHOLD MEMBERS

Can you tell me who all stay in this house?

Sl. No	Relationship to head of household	Age	Sex M/F/Other	Marital Status	Number of years of education	Primary Economic activity	Location of work /study	Name of village/town	Has the person held political office?
	101*	102	103	104*	105*	106*	107*	108	109
1									
2									
3									
4									
5									

101\* 1= Head of household 2= Spouse 3 = Married Child 4= Spouse of married child 5= Unmarried Child 6= Grandchild 7= Father/Mother 8=Father-in-law/Mother-in-law 9= Brother/Sister 10= Brother-in-law/Sister-in-law 11=Grandfather/Grandmother 12= Niece/Nephew 13= Other relative 14= Non-relative

104\* 1= Never married 2=Married 3= Widowed 4=Separated/Divorced 5=Other

105\* 0=No formal e 10=SSLC 12=PUC 13= Diploma/Certificate 15= Graduate 17= Masters/professional

106\* 1= Cultivator 2=Agriculture labour 3=Other wage labour 4=Govt. salaried job 5=Private salaried job 6=Student 7= Domestic Unpaid work(including cattle, firewood) 8=Unable to work due to disability 9= Seeking work 10=Not working 11=Unpaid work in HH enterprise 12=Self-employed (transport/trade/retail)

107\* 1=In the village 2= other village 3= urban area in commuting distance 4= Other urban area

## 2. ASSETS

How many of the following items do you own?

Sl. No	Item	Quantity	Sl. No	Item	Quantity
1	Cycle		6	Refrigerator	
2	Scooter/Motorcycle		7	Colour TV	
3	Car		8	Radio/transistor	
4	Tractor		9	Tiller	
5	Mobile phone		10	Cow/Buffalo	

### 3. HOUSEHOLD ELECTRICITY USE

Q301	What type of connection do you use? All that apply	1=Domestic 2= Commercial 3 = Agricultural pump 4 = Industry		
Q302	Does your house receive BJ/KJ connection from the government?	1= Yes 2= No		
Q303	Does your house have an NJY connection?	1= Yes 0= No 3= Don't know		
Q304	Approx. how many hours of power cut do you face per day	Yesterday	Day before yesterday	Last Sunday
Q305	What are the times of the day during which this happened	Yesterday	Day before yesterday	Last Sunday
Q306	Is the load shedding at home as per a schedule	1= All scheduled 2 = Mostly scheduled 3= Mostly unscheduled		
Q307	How do you usually know about the power cut schedule	1= Newspaper 2=From BESCO 3= Friends/family 4 = From field		
Q308	Which months do you experience the lowest and most hours of power cut	Lowest		Highest
Q309	How do you communicate with the local electricity office when there is a	1= Over phone 2= Visit to the electricity office 3= to field staff when		
Q310	Who reads the electricity meter in the house	1= Member of HH 2= GVP 3= Electricity office employee 4= Other		
Q311	How do you pay your monthly bill	1= Online 2= Visit to electricity office 3=Cash to elec. office		
Q312	How much did you pay for electricity last month			

Q313. Can you tell me which of the following electric appliances you used at what time of the day this week?

Sl. No	Item	Quantity	Hours of use	Time of use	Sl.	Item	Qty	Hours of use	Time of use
1	Bulb				6	Geyser			
2	Fan				7	Refrigerator			
3	Tube light/CFL				8	Washing machine			
4	Mixer/Grinder				9	Computer/laptop			
5	TV				10	Electric pump for home			

Time of use: M= Morning (6-12 Noon) A= Afternoon (12-6 PM) E=Evening (6PM- 10 PM) Night= (10PM- 6AM)

4. LAND

Could you tell me how much land you operated last year?

Crops	Land cultivated (Acres)	Relation to land	Source of irrigation	Hours of pumping done in a day (if 404≠1) *	Season: 1=Rainy (Mungaaru) season 2= Hingaaru 3= Other
Q401	Q402	Q403*	Q404*	Q405	Q406

403\* 1=Own 2=Leased in 404\*: 1= Rainfed, 2=Well 3= Borewell 4=Tank



## 5. IRRIGATION

How many pump sets did you use for irrigating the crops last year?

Sl. No	Ownership 1= Own 2= other Private 3=Public (Name of the scheme)	Approx. Depth of well	Rating of the machine (in HP)	Source of finance 1= Own 2= Loan 3=Other	No. of repairs in last year	Appro x. cost of repair	Auto-on feature installed 1= Yes 2=No	Condenser connection 1=Yes 2=No	RR number from BESCO 1=Yes 2=No	Authorizatio n for borewell 1=Revenue 2=BESCO 3=Other	Exclusive transformer 1=Yes 2=No
	Q501	Q502	Q503	Q504	Q505	Q506	Q507	Q509	Q510	Q511	Q512
1											
2											
3											

Q513	What is the time of the day when you use the pump in Kharif?	1=6-12 Noon 2=Noon- 4 PM 3=4-7PM 4=7 PM- 11PM 11PM-
Q514	What is the usual time of the day when you use the pump in Rabi	1=6-12 Noon 2= Noon-4 PM 3=4-7PM 4=7 PM- 11PM 11PM-

Q515	Is the electricity for pumping as per schedule?	1= All scheduled 2 = Mostly scheduled 3= Mostly unscheduled 4= Only unscheduled
Q516	How do you find out the power cut schedule?	1= Newspaper 2=From BESCO 3= Friends/family 4 = From field staff 5= Observing 6= Other

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