

INSTITUTIONAL SUPPORT TO THE COOLIE SANGHA

*Essays and discussion papers on moving beyond “Poverty Alleviation” to inherently sustainable
Alternate Economies of tomorrow:
role of grassroots development NGOs and enlightened new age businesses who have long crossed the
laissez-faire stage in the current socioeconomic scenario.*

Contributors:

Ram Esteves

Project Director, ADATS, Bagepalli & Convenor, Fair Climate Network

Sunder Raju

Founder & CEO, Managing Director of Atria Convergence Technologies Pvt Ltd

Richie Ahuja

India Program Manager, Environmental Defense Fund, New York

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A. PROLOGUE

Ram Esteves

1. NGOs THROUGH THE DECADES

I have been in grassroots development NGOs for close to five decades; ADATS itself is four decades old. This qualifies me to comment on their historical development from a non-academic, subjective and participant's point of view. Quite naturally, I will trace the history of grassroots NGOs with an empowerment agenda through community organisation, mass mobilisation, et al. This essay is written as a Prologue to our policy brief on Institutional Support to the Coolie Sangha – the post project implementation role that ADATS sets for itself after December 2018.

1.1. The Creation of Spaces

Externally funded NGOs supported a certain lifestyle of choice for development workers. It allowed them to create communities of their choosing, based on values and principles they held to be rational. It also permitted them to maintain a style and standard of living that was different from the norm around them, educate their children in an alternative manner, develop familial ties, experiment with humane social relations, read extensively, ponder, reflect and write, hold get-togethers to pursue intellectual debates/discussions, travel widely, etc. Our vocabulary was a heady mix of the utopian spiced with the anarchic. Young people from cities, unable to conform to the senselessness of middle class values, rejected conventional careers, “opted out of the system” and flocked to these centres. Sensitive youth from Mofussil towns joined them. Some came from established Gandhian and Church institutions where they weren't comfortable with a charity approach. Grassroots development NGOs created *Spaces* for the passionate, the dedicated, the creative, as well as the weird. Campus living in Mofussil towns and community farms in remote villages made it all affordable. This was only slightly different in the West. Development workers placed in the North identified themselves as fellow travellers and partners with those placed in the South, although the resource mobilisation and development education roles they performed were a little different. They too created *Spaces* for alternative thinking and living, albeit in a different socioeconomic milieu. My Dutch and German colleagues from those days say that they still meet once a month, in one another's homes, for day long reflections on contemporary developments. We shared our mistakes, challenges and frustrations with our Northern partners, instead of flaunting real and fabricated achievements. They drew from our collective experience to challenge patronising attitudes and rebut fallacious arguments in their circles.

City based, national and international civil society took their cue from learning gleaned from these experiments at alternate living/thinking. Serious academicians gave a scholarly interpretation. Policy makers got influenced. These “*alternate camps*” in the countryside had an immediate outcome and a long-term impact.

1.2. Alternate Camps

Being so radically different from the feudal reality around them, they offered a safe refuge for those who needed to escape from stark and senseless oppression – be it from the landlords, even more oppressive *Ryots* (middle peasants), or macho men in their own homes.

Every grassroots NGO can give hundreds and thousands of decadal examples of battered and hapless women arriving at their campuses/farms late at night with two or three frightened children in tow; of victims of caste brutality flocking for refuge; of either/both parties to a silly/serious village fight to resolve the issue and restore peace; of desperate calls from people falsely accused of petty crimes; of stupefied borrowers who couldn't believe that they owed very many times the amount they had taken from a money lender or bank; or just to lament the failure of a crop.

ADATS, with our penchant for data, can even give precise numbers against these and numerous other instances. Just ten years back, Coolie women would refer to our campuses as their *Puttina Inlu* (parental homes). We succeeded in extending the boundaries of our "camps" to hundreds of villages where weekly gatherings offered similar succour, even if to a lesser degree.

These were just the outcomes. But we will sell ourselves short if we think this is all that these *Spaces* or *alternate camps* did.

1.3. Counterculture

The far more impressive impact was a sparking of imagination in the rural poor; they envisioned an alternate way of living. Mind-sets got transformed. Horizons got stretched with mental and physical boundaries expanded. The myth of an all embracing and powerful feudalism took a knock. The village landlord was suddenly not the most powerful personage in their universe. The shopkeeper who provided loans and credit was seen as unfit to trade on a city footpath. It was perfectly okay to think and question. Mythology, rituals and sacraments no longer provided explanation for everything worth knowing. Caste ascriptions were rejected not just by Dalits and middle castes; even upper caste rural poor were unchained from the shackles of caste impediments to what they could or could not do.

This should not be loosely interpreted as the caste system being destroyed. Caste did not vanish. It is the *experience of caste oppression* that the oppressed no longer felt constrained by. The next generation did not feel the need to follow in their caste ascribed occupations – i.e. a washerman's son dreamt of starting a business venture, and the cobbler's daughter took up a job in a garment factory. Indeed, the washerman and cobbler themselves searched for other more paying opportunities. This applied in equal measure to Brahman and Reddy youth who, under cover of anonymity, sought employment as servers in fancy city restaurants or housekeeping and security in hotels.

This fall of a 3,000 year-old feudal order occurred at a relatively rapid pace. While this swiftness certainly needs to be attributed to the power of the mainstream bourgeois forces at play, we also need to understand why and how we, external change agents, were able to accomplish so much, so fast.

The human condition at that time, to paraphrase Hannah Arendt,¹ was one where the absolute rule of the head of the household prevailed. This prevented possible disunity. Before the onslaught of the bourgeois ideology, the village acted as if it were one big family, with one opinion and one interest. We capitalised on this condition by changing the narrative that the village was not one big family, but two; with sharp lines drawn between the rich and the poor. This resulted in a larger unity of an enlarged poor across narrow and parochial caste lines and feudal loyalties.

¹ "The Human Condition - 2nd Edition" by Hannah Arendt

When compared to even adjoining and immediately adjacent regions, the Impact was markedly higher in large tracts covered by grassroots NGOs. State efforts to destroy feudalism and usher in democratic norms were fine-tuned, fast-tracked, as well as augmented.

1.4. The Destruction of Feudalism

Quite naturally, village leaders did not take kindly to the sudden appearance of these *Spaces* and *alternate camps*. To begin with, they were populated by young and irreverential outsiders who were far more educated, worldly wise, and articulate than themselves. And then there was our independence from the local economy. They intuitively recognised that the counterculture would trigger dramatic changes in village power structures and lifestyles as a whole.

While senior policy makers and bureaucrats recognised the value in these mass mobilisation forces, local landlords and middle peasants enrolled the sympathy of village and provincial officials to harass, intimidate and even physically assault grassroots development workers and village cadre who dared follow them. Simple everyday activities taken by an emboldened poor, like sending children to school, women attending *in camera* meetings to discuss reproductive ailments, were seen as disruptive. “Yes, today they’ll go to school; tomorrow they’ll want to sit by our side.”

When dominance turned to brutal suppression, we too, and perhaps rightfully so in that day and time, behaved like pseudo landlords, countervailing the power of the landed caste-class, with our own might, knowledge, contacts and external resources. This, in spite of starting off in the post-Independence era with resistance to neo-colonialism of the native elite.

Larger socioeconomic drivers are not just powerful and all-pervasive, they ratchet an irreversible change. In spite of and despite the efforts of grassroots NGOs and their antagonists, feudalism transformed to a mixed semi-feudal economy, and in regions with effective community organisation efforts, quickly gave way to market economy. In large tracts of the drought prone Deccan Plateau, this was hastened by a weakening, and then total displacement, of subsistence cultivation that earlier gave the poor a productive identity and local status in village society. Later in this essay, I will speak of a loss of psychological sovereignty.

1.5. Cadre

When we started our work, we were Cadre-based. A cadre comprising bold and inquisitive persons from each village, young as well as old, joined us. Together, we spread the message to the rest. Conscientisation, politicisation and critical analysis were the role and function of this cadre. A two-way communication between the people and grassroots NGOs was perhaps the most impressive discipline that was instilled.

It is normally presumed that a cadre is needed only to communicate an idea, position or party line to the masses. This is not true. For that, one needs a propaganda machinery. A cadre is needed when we do not have answers, and need to search together with the affected population.

The power of not having answers was forcefully demonstrated 600 years back, when humans uttered the three most powerful words in our history, “I don’t know”. It ushered in the scientific revolution.

In that same spirit, 40 years back, development workers accepted the bankruptcy of their hitherto efforts. We went to the people and searched for answers. Grassroots NGOs created powerful people’s organisations that, as I have earlier described, augmented, fine-tuned, and fast-tracked efforts to destroy feudalism and usher democratic norms.

When the analysis was truly capable of comprehending the reality, through cerebral and practical interaction between the critical intelligentsia and the people, it became a phenomenon. Liberation actions to garner social justice followed. The approach changed to Mass-based when all poor people, across caste/community lines, joined the struggle.

ADATS is perhaps one of the few grassroots NGOs who managed to unite the oppressed and marginalised across parochial caste and community divides. Many years later, as I will later elaborate, we realised that this was not a true form of Unity; that it was just a temporary getting together. Everyone was not comfortable wearing each other's identities. It did not lead to either Individualism or homogeneous grouping. But it worked for 30 long years. Community mobilisation allowed us to implement Projects that responded to particular problems.

1.6. Projects

Projects, by definition, are planned activities based on a linear understanding – i.e. isolating individual problems and applying resources to solve them, one after another. They have good Objectives but do not, in themselves, have a strong sense of Purpose till placed within a larger Framework that explains the total situation. Projects undertaken by grassroots NGOs fall under two categories:

- The first are the ones that germinate from a broad frame analysis, a holistic understanding that encompasses the totality of the situation that the rural poor find themselves in.
- The second are activities taken up merely for the sake of keeping the NGO going and staying employed; usually because funding is available, sometimes driven by the core competence of the development worker.

These two types cannot be identified by the *type* of Projects that are undertaken, but by *how* they are conceived and perceived by primary stakeholders. Children's schooling and community health, for example, will have the very same components irrespective of whether they are taken up in a sectoral manner or within a holistic framework. So too will the building of domestic Biogas units which use the same material and the same technology. Only the Ends will be different.

Community organisation allowed grassroots NGOs with an empowerment agenda to undertake socioeconomic projects of the former type, shunning the latter. We created sorely needed rural infrastructure through drought relief works and watershed projects (investments that the rural elite simply couldn't fathom the need for). Where resources permitted, we undertook schooling and community health. We made economic interventions in sustainable agriculture, cottage industry and alternate credit. We demonstrated efficient and path breaking ways to tackle complex social problems like adult literacy, empowering the girl child, malnutrition, reproductive ailments, etc. We understood, long before others, that rain fed drylands would be the final frontier for capitalisation of agriculture to penetrate. Many of these were later integrated into the mainstream, to fulfil the bourgeois agenda of creating a rural market.

1.7. A Demand for Results

About two decades back, development workers in the North, under pressure from their back donors, started insisting on showing Results for all and every type of Project, including those undertaken without a clear understanding of the larger picture. This did not particularly affect ADATS since, from our very inception, we practiced a data and results driven development approach. What follows is a description of what happened to grassroots NGOs as a whole.

Half-baked PME systems, further distorted by those who didn't quite understand the logic behind logical framework, were introduced. Verification was weak and NGOs in the South did a bit of showcasing. It worked for a while for both parties. But more importantly, it heralded a new era in the history of grassroots development NGOs.

There was a consequence we could never have foreseen. It exposed the source and conditions under which most grassroots NGOs received their funding. People came to know that they were supposed to deliver concrete, material benefits to the poor. When the mantle of service providers was placed on our identity, it sealed our fate. We could no longer project ourselves as just providers of an alternate counterculture. It demoted our identity from being an advanced section of society, offering leadership, to mere implementers of Projects.

This change in identity happened in the backdrop of a current generation, enabled and emboldened in part by our own efforts. In some small measure, precisely due to our success in creating the earlier described Impact; more so due to macro factors like increased literacy, better communications, information flow, proximity to cities, etc. pressure to deliver results mounted. If we were providers of services, then they were customers who had to be satisfied. Vague euphemisms that identified the "other" as *the poor, the people, communities, beneficiaries, target group, et al* didn't cut ice any longer.

1.8. Funding Partner to Donor Agency

A parallel and simultaneous development occurred. NGOs in the North transformed themselves from funding partners to donor agencies, and we here in the South from group to organisation. The hitherto spirit of partnership, which characterised our relationship for three decades from the late 70's, started disintegrating. It was steadily replaced by a more contractual donor-recipient association. Contracts gave license to licentious behaviour and some rather ugly trends surfaced on both sides of the divide. From an analytical point of view, that was the lesser evil.

Contracts presumed a certainty in knowing what was to be done, why and how. Which left little to be learnt, questioned or explored. Critical thinking and intellectual honesty took a back seat in interactions between development workers placed in the North and South. The Impact that grassroots NGO work had created, inter alia, through a synergetic relationship between development workers placed in the South and North, started waning.

1.9. Pseudo Management Practices

Here in the South, the desire to keep funds flowing led to a scramble for compliance. Inappropriate and outdated management practices, prescribed by redundant experts in the North, were lapped up by self-styled consultants, removed from a rapidly evolving and adaptive business environment in the South. Prescriptions were thrust upon grassroots NGOs who felt they had no choice but to comply. Flat organisations became hierarchical and an absence of distinction between living/working was replaced with shallow professionalism and obsolete systems. The inherent value in collectively being out on the edge of the frontier was lost.

Some NGO leaders felt the need to build their personal security by fair means and foul. For this, they had to distance themselves from proximate group members. From a pedestal of being alternate *Spaces* offering a counterculture, most grassroots NGOs got reduced to places that distributed goodies to the poor, and offered conventional jobs to a distanced and lacklustre staff.

Grassroots NGOs, on their part, exhibited an inability to develop appropriate management systems suited for their particular requirement, calling into question their pretences at intelligence. We should have delved deeper into contemporary management thoughts, principles and practices. We would have been surprised to find that bottom lines were not the sole and only concern of contemporary businesses. Even if it were only to sustain profits and turnover over the long term, companies and corporates were undergoing radical changes through worker empowerment, abolishing layered management, and removing check and control mechanisms. Contemporary management practice had already recognised that check and control mechanisms proved not only to be ineffective, but also a dampener on creative productivity. Business leaders dismantled “paper clip and pencil sharpener” systems by getting rid of inventories and purchase committees.

When hopscotch and half-hearted measures in the North and South failed, donor agencies pushed on with a change in their staffing. New staff felt the need to create a myth of superiority which they felt was erroneously absent in previous times. They had to establish themselves as demigods and patrons. A sense of history was irrevocably lost and change with continuum never understood; the transition was complete.

1.10. Disappearance of Spaces & Alternate Camps

By the turn of the century, another type of NGO started to flourish. These were sectoral interventions, driven by policies, priorities and regional preferences decided by donors. Simplistic, single focused efforts that treated individual manifestations of poverty as easy to communicate to the general public; as aberrations that could be addressed with mere expenditure of bloated budgets. They required no intelligence to grasp complexities, and demanded very little investigation into cause and responsibility. Many grassroots NGOs corrupted themselves into service delivery vehicles. They should not be confused with development workers who chose to *critically* work within the system. Grassroots development NGOs were no longer *alternate camps*. At first the *Spaces* vanished for the ones who occupied them, then for the people whose causes they once championed. We no longer housed the passionate, the dedicated, the creative, and ah yes, the weird.

1.11. Production of Bourgeois Ideology & Reproduction of new Caste-class Relations

As the adage says, no change in history can be attributed to a single cause. Let us then continue to explore parallel developments that occurred in the past two decades.

While wholly preoccupied with changing caste-class relations in the countryside, we did not see what was slowly happening in wider society. Feudalism, as a way of structuring society around economic relations derived from the holding of land in exchange for service or labour, was giving way to a capitalist system. A new liberal market-based system was the leading force reshaping socioeconomic relations. After feudalism gave way to capitalism, we didn't know what to do. Largely because we had posited a utopian socialism against feudalism, or at least a Fabian social democracy. Not neoliberal capitalism.

Grassroots NGOs rode on the wave of this mainstream created liberalisation that swept the villages. Deluding ourselves to be the sole agents of change, we did not see the all-pervasive production of a bourgeois ideology and reproduction of new caste-class relations. This new caste-class hegemony cleverly concealed limited opportunities by offering people the idea of social mobility along with cash returns.

We did not come up with a contemporary, pertinent and viable microeconomic model that would work in current times. Instead we were confused and perplexed by the very poor who had upheld humane and egalitarian values through long and protracted struggles for freedom. We didn't quite know why they now embraced blatant materialism at the cost of liberty, equality and fraternity. We didn't quite understand the penetrative power of the market economy.

It's just that all our past efforts at socioeconomic transformation, rightly so at that time, were anchored in idealistic principles bordering on the utopian. We refused to recognise market forces swirling around us. We promoted economic ventures that were rooted in cooperative principles. These principles, we believed, would forever stand the tide against *laissez fair*.

Nevertheless, the activities we undertook contained the seeds from which a Social Capital was created. In the concluding section of this prologue, I will argue how this capital has to now be contextualised in the mainstream reality.

1.12. Blaming the Poor

For the past few years, many of us have been engaged in bitterly blaming the recently corrupted, co-opted and ungrateful poor, especially the youth. This has dulled our ability to be self-critical and capacity to analyse.

One could argue that we did not foster a true form of Unity; that it was just a temporary getting together to face a common enemy – feudal landlords and the middle peasantry. This is largely true. There wasn't a genuine intermixing. We did not develop a strategy where everyone was equally comfortable wearing identities other than their own. It did not lead to either Individualism or homogeneous grouping. Instead, caste and community identities, and demands for reservation, grew stronger without our even realising what was happening. Our Project work was valuable, effective and still needed. But our words were no longer respected.

Seen in this light, the rural poor haven't changed that much. They were then moved by our socialist rhetoric; now by that of the mainstream. Memories of hunger pangs and not knowing where the next meal was to come are still fresh and stark. This is a bigger driver than any deep comprehension of socialism or critique of capitalism. Just as they dropped their landlords and middle peasant masters four decades back, they now choose to drop us, the self-appointed pseudo landlords. Small monthly remittances from their city jobbed children, coupled with assured, rights-based and, by and large, leakage-free provision of a few basic needs by the State, now provides the freedom to choose.

1.13. The Current Generation

I have deliberately and consciously tried to avoid using the term "youth" throughout this essay, in order to emphasise that it is not the peculiarities of a demographic age-group that we need to comprehend, but the characteristics of the *current generation*.

Let us take a slightly more nuanced look at the rural poor, distinguishing the previous from the current generation. The ones with whom we struggled to hasten the demise of the feudal order began to witness novel aspirations and ambitious in their sons and daughters. They could not stand in the way of their children's dreams of advancement by fair means or foul, even when it meant an abandonment of lofty principles they themselves had followed in their own struggles, just a few years back. The current generation, on the other hand, took freedoms they now enjoyed for granted, relegating the means by which they were obtained to the past.

If tolerating opportunism, impertinence and disloyalty in their children was the price to be paid, parents were prepared to do so. These young people were neither leaving their villages to go work in coal mines and assembly lines, nor equipping themselves to operate large farm machineries that appeared overnight in their villages. With the exception of sweat shops, they were going for more creative and exciting jobs where, after an initial settling down, they wouldn't be stamped with demeaning/restrictive caste-class identities.

1.14. The Arithmetic of Aspirational Expectations

Migration is often attributed to failure of monsoons, leading us to believe that investment in irrigation is the panacea. This is not true. Drought is not the sole and only reason. Along with aspirational expectations, simple arithmetic comes into play. Monthly earnings in city jobs, at all levels, exceeds earning through subsistence as well as mainstream cultivation.

In semi-arid regions, less educated youth go to cities and work in factories, sales, hospitality, security, etc. where they get ₹ 6-10k a month, which is often more than the profit from a single rain fed crop on their scattered family holdings even during a normal monsoon.

Friends who read an early draft of this paper tell me that the ratio is much the same in villages of coastal Andhra Pradesh. There too, a better educated generation is migrating for higher studies and better paying city jobs, prompted by the fact that they earn as much in a month as their parents do the whole year around, in spite of lush paddy fields and 2-3 crops every year.

The shift in priorities, socio-political choices and loyalties in the younger generation was soon copied by their parents, perhaps in order to maintain cohesiveness in families.² Were they ingrates? We ought to answer moral questions like these in fairness. Fair-mindedness is obtained by putting ourselves in the other person's skin.

1.15. Disconnect & Overrated Influence

On our part, the larger struggle was more important than obtaining immediate material benefits for individuals whose causes we championed. Perhaps because we considered ourselves to be non-party political formations who could, through offering a counterculture, impact larger socioeconomic forces. With all our stellar intellect, we failed to recognise our own insignificance. We overrated our coverage, our influence, and even our abilities and capabilities. We believed that we could, at least at the local level, change the subjugated status of women, end untouchability, root out corruption in anti-poverty programmes, force elected representatives to be accountable, make social laws work in letter and spirit, etc.

To an extent and for a while, we did accomplish what we set out to do. We did have an Impact as earlier elaborated, but it was just to accelerate and amplify a much larger agenda *set by someone else*. The destruction of feudalism was *their agenda*, for reasons of *their own*, however much we tried to appropriate it as ours. This marks the end of the classical development model.

² Note the change in the earlier described human condition, with pre-bourgeois relations breaking up and a diminished status for the head of household.

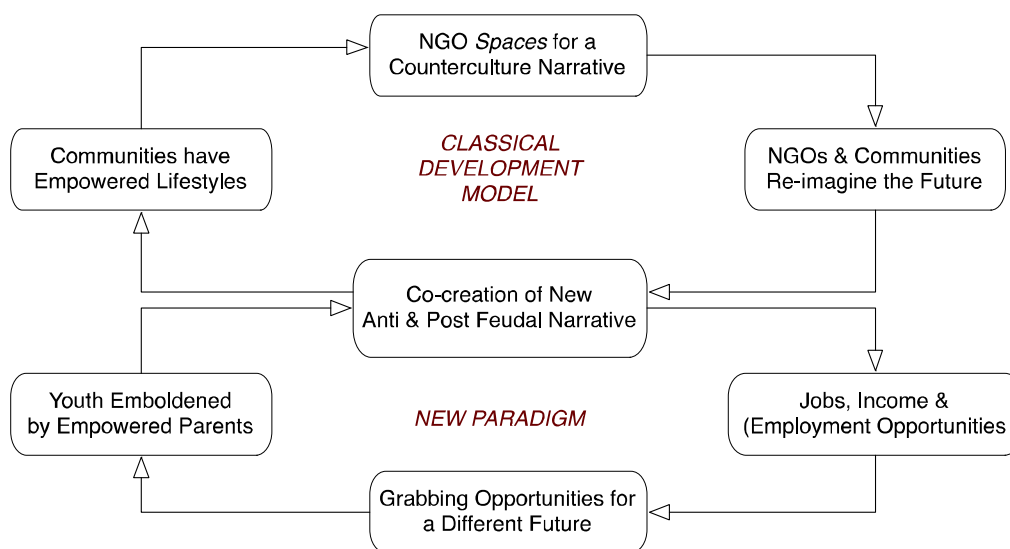
2. THE NEW DEVELOPMENT PARADIGM

In this prologue, I will not get into details on what grassroots NGOs now need to do. That is for each to decide for themselves, based on peculiarities of their specific situation. However, when tracing a history, it is acceptable to glimpse into what is in store for our future.

2.1. Revive the Mass Organisation

The *Spaces* and *alternate camps* are still needed, fulfilling their previous anti-feudal functions as well as embracing new post-feudal roles. Not all the previous generation have been empowered; not all the current generation feel emboldened. But the ones who have, need to move forward.

The below chart attempts to show continuum with change:



2.2. Jobs, Income & (Employment) Opportunities

To stay relevant to current aspirations, the new definition of development has to be Jobs, Income & (Employment) Opportunities. They are the Results against which our performance will be judged by an aspiring rural population. We have to accept macro-economic realities and cater to the legitimate greed and ambition of the current generation. Purist positions with moral judgements passed on the poor will lead us deeper into the quagmire of irrelevance. The poor cannot be expected to practice abstinence and do paid penance for our brazen over-consumption of energy, goods and services.

Even if the economy is heading towards a loss of jobs, and we know it to be a futile pursuit, we still need to arrange for the current generation to get city jobs. For the simple reason that this is what they want.

2.3. The Dilemma of Shrinking Jobs

But, even as a temporary and stopgap measure, where are these jobs to come from? The neo-liberal economy is headed for unprecedented unemployment through technology, digitisation, AI and automation. A fraction of the workforce will skill-up and equip themselves to get dignified employment in the machine age. The rest are headed for dole. Already, even before the onset of the fourth industrial revolution, minimum income guarantee schemes are used to feed the population and keep them from starving. As the economy grows, luxuries will be converted into necessities and commodity markets will get expanded; many more iPhones, Denims and Pepsi cans will have to be bought by an unemployed population in order to sustain artificial growth rates. The neoliberal

economy will try to solve this impossible enigma of creating purchasing power by separating Income from Jobs and Work with more sops, using direct cash transfer, creating a new paradigm in the 70,000 year-old history of *Homo sapiens*.

Aside from rising unemployment, the minimum income guarantee model itself will last for just another decade or two. Quite apart from the utter and ludicrous senselessness behind the arrangement, the severe de-humanisation that will engulf more than three-quarter the population will eventually destroy assumptions behind the neo-liberal model. Employment doesn't just provide income; it preserves self-respect, dignity, fulfilment and sanity. No economy can sustain itself in the face of a restless population.

Then *HOW*, one may ask, do I advocate a shift to finding Jobs & Income for the current generation? In order to answer this seeming dilemma, we need to understand Moravec's Paradox. Artificial Intelligence and robotics researchers discovered that high-level reasoning requires very little computation, but low-level sensorimotor skills require enormous computational resources. It will therefore be stock analysts and petrochemical engineers who are in danger of being replaced by machines. The gardeners, receptionists, and cooks are secure in their jobs for decades to come.³

- After the first industrial revolution, millions of jobs were created overnight.
- In today's world, *manual as well as cognitive, routine/repetitive tasks* are being done by machines even in emerging economies like India.
- Only those jobs involving *manual, non-routine tasks* will be available for the aspiring rural population.

The next question is *WHY* I advocate this strategy. Partly because even these city jobs, *in the perception of the current generation*, are more paying, more exciting and humanising than life in a failed subsistence cultivation. The bigger reason for supporting this aspiration is because we development workers need to identify with subaltern concerns of the previous generation, the ones with whom we built the people's organisation in the first place, and respect their unwillingness to go against their children's dreams and aspirations.

Grassroots NGOs urgently need to re-establish and renew relationships that seem to have waned over the past decade. In order to do so, they have to draw upon the immense amount of social capital built over the years and put it to work in this day and age.

2.4. Loss of Sovereignty & Identity

Sovereignty is an unshakeable and inalienable sense of belonging that comes from being rooted to a piece of planet Earth. It cannot be snatched away as long as that physical connection exists.

Through dozens of distressing conversations with families who have migrated to city jobs, I've arrived at a psychological understanding of Sovereignty. It evidently is not obtained when living in a rented room in a town/city from where one can be evicted at whim; it doesn't even come from owning a one room apartment, high up in the sky. Leaving the village robs them of Sovereignty. Continued absence and distress sale of village lands and tumble-down houses, due to urban compulsions of attempting to start a business or clear a loan they just can't repay, leaves them with no roots.

Loss of sovereignty leads to loss of identity. They become Nobody's. City jobs land them in demeaning and dehumanising positions, far worse than their previous status in the villages, with no turning back.

³ The Second Machine age – Erik Brynjolfsson & Andrew McAfee

2.5. Employment Opportunities

Employment is very different from Jobs. A job is something one does simply to earn money. Earnings from employment are not the same as *salary* or *wages*. Employment is usually understood as a series of jobs one does, in the same line, in order to build a career. But in the context of this discourse, I refer to Employment as a discovering of opportunities to undertake economic ventures. It is self-driven and ceilings are not determined by appointment and promotions, but by endeavour and success. There is no one to blame or give credit to. The employed enjoys mastery over herself.

The real solution in today's political economy lies in creating Employment opportunities which are very different from government jobs, factory jobs, and company jobs. We need to promote fundamental economic drivers that open the door for local innovative entrepreneurship. This is the only mind-set that will make investments in rural ventures viable and feasible. Besides arguing for a decentralised economy, we also need to make the subjective conditions attractive by transforming social capital we have painstakingly created into institutional capital – i.e. putting to work the unity and discipline of yesteryears.

2.6. Creation of a Post-Feudal Counterculture Narrative

But this broad frame understanding of ours, distinguishing Jobs from Employment, needs to be accepted through a nuanced and experiential recognition by the ones who currently aspire for Jobs & Income. Else it will remain a theoretical model to be debated in clever conversation. Member Coolies have to buy in to the idea that it is possible to capitalise on their social capital.

Everyone –the current and previous generation, those who seek city jobs as well as those who stay back– must start treating their everyday activities as businesses. Peasants should stop cultivating lands simply because they are farmers; they must predict monsoons, calculate costs, anticipate prices, and then take calculated decisions. Shepherds should graze sheep, increase flocks, and cull lambs only if it makes business sense.

Grassroots NGOs must help identify economic drivers and support economic ventures. These should not be measured by the number of direct Jobs they create. They need to spawn Employment opportunities for everyone around.

2.7. Corporate Re-imagination

Corporate business recognises the unemployment prognosis as imminent. An increasing number of far-sighted companies and corporates are reimagining the future along untrodden paths. They are exploring ways to divest from fossil fuel and simultaneously invest in renewables, as well as in clean-up technologies for the manufacture, processing, packaging and marketing of goods and products.

Unlike feudalism and State controlled socialism, capitalism doesn't have a pre-ordained path. There is room for creative adaptation within its broad framework. Even the all-powerful and all-pervasive globalisation can be restructured.

Provided we ally with all stakeholders, including the owners and managers of capital, we can find viable and inherently sustainable alternatives to the extractive economy. New partnerships based on mutuality and trust can be developed with those we hitherto labelled as adversaries. The need of the hour is to project a sound and feasible rationale and demonstrate disciplined social capital. Only then will far-sighted entrepreneurs with new business models invest in villages.

2.8. Climate Projects & Clean-up Technologies

We have well passed the time to unreservedly accept and treat Climate Change as the single largest determinant in practically everything that happens to resource poor people the world over. Resource rich may delude themselves that they can shunt the consequences for a while. Still more short-sighted may attempt to make hay while the sun shines.

Climate Change has to be the all-encompassing concern/theme in all that we do. This has to go beyond merely conceiving and implementing mitigation/adaptation projects. Climate, like gender in the past, has to be mainstreamed not just by development workers, but by every actor in every single socioeconomic sphere. It is no longer just silly to treat it as a sectoral fad; it borders on criminal negligence to not pay heed to a critique of the extractive economy.

Elsewhere I have elaborated how climate change offers hundreds of thousands of rural women an opportunity to adapt to adverse effects of climate change while, at the same time, be productive players in the economy of tomorrow. I have cautioned that conventional management practices that were developed for centralised large-scale deployment at single sites will not work when tens and even hundreds of thousands of families participate in as many locations to meet their energy requirements. These are new age businesses needing a radical change in organisational culture, structure and management systems.⁴

Similarly, when we partner with cutting edge technology, the rural population will get a toehold into the new clean-up technologies sector that is fast emerging. Especially in farm and off-farm products. They too have the potential to create enormous Employment opportunities.

Returns from micro-level Emission Reduction activities carried out by hundreds of thousands of rural women will not be on par with returns from conventional non-renewables like windmill, hydro, *et al.* But the added value is the involvement of humongous numbers into the building of the alternate economy. History has proven that large scale cooperation is the only way forward for our species, especially when answers are not known and the way forward is unclear. This business outlook is propelled by the realisation that if *Homo sapiens* are to survive on planet Earth, the so-called alternative of today has to become mainstream by tomorrow.

Grassroots NGOs who have an intimate relationship with communities are best suited to implement large-scale climate projects and, in the days to come, own and manage clean-up technology businesses. We need to recapture our socio-political base and convert the Social Capital, created through the decades, into Institutional Capital. This is the time to truly be an advanced section of society, unshackled by conventional ideologies, and offer new and exciting possibilities to enlightened business and finance capital.

However critical I've been in tracing our history, the past 5 decades were not futile. We accomplished the unbelievable and laid the foundation for the unimaginable.

⁴ Please see my Keynote Address to the 8th FCN Meeting, Uttarakhand Visit Report, Crowdfunding FCN Projects and other documents at the FCN Library at <https://fairclimate.com/library/topic/6>

B. INSTITUTIONAL SUPPORT TO THE COOLIE SANGHA

Four years back, we began to ponder on a role transformation for ADATS. We started by asking ourselves if and how the Coolie Sangha would continue; indeed, whether at all it had any role in a radically changed socioeconomic and political milieu. A year back, we were clear that our involvement will not remain the same after the current ten-year Strategic Plan was completed in December 2018.

40 years back, ADATS described the political economy of the day, and it served us well to plan appropriate responses. The time has come to develop a new theory that explains today's happenings; one that finds resonance in the people we work with. Not a generic and all-embracing one that pretends to explain all that's going on in rural India right now. Just an understanding of what Member Coolie families are experiencing here in this region where four decades of community organisation has empowered and emboldened them.

Maybe there is some purchase in repetitiously continuing what we've done so far, since there always will be remnants of unfinished business and uncovered individuals. The Coolie Sangha can very well do that. But ADATS is unable to monotonously repeat what we've done merely to safeguard our lingered existence.

Ourselves continuing to implement ongoing projects is not the manner for ADATS to meaningfully contribute. Our role is no longer to merely identify sectoral lapses and make piecemeal attempts at successive responses. It is not to fragment every problem and solve them linearly, one after the other.

We need to comprehend the reality of changed times with a holistic intermixing of socio-economic, political and cultural disciplines, as well to understand technology that plays an ever-increasing role in shaping everyday life. An overload of information is not quite the same as a holistic framework where happenings are placed, and reality is squarely faced. We need to suggest ways to respond, with a well-orchestrated intertwining of different skillsets.

The post-project implementation role that ADATS sets for itself is to create institutional capital from the social capital that has been built in the Coolie Sangha, and generate employment opportunities for the rural poor to participate in locally owned and operated decentralised ventures.

3. NGO WITHDRAWAL REDEFINED

3.1. ADATS & the Coolie Sangha

A handful of grassroots NGOs have succeeded in making themselves financially sustainable even after external funding stopped. They had the foresight to build corpuses to maintain themselves, and use accumulated experience to offer training and consultancies. Many others shifted their areas of operation to new geographies and restarted what they had once done with varying degrees of success.

What distinguishes ADATS is that we are perhaps one of the few NGOs who can claim that the actual work carried out during the external funding phase will continue at the same pace, with the same intensity, for the foreseeable future, as long as it stays relevant to changing times.

This is because independence, self-governance and financial sustainability were incorporated into the vision and thinking behind Coolie Sangha building, right from the word go.⁵ These principles were entrenched in every single grassroots planned and monitored activity we carried out these past four decades.

Alongside, we constantly showcased Coolie Sangha strength and capacity to the outside world, as opposed to projecting poverty and deprivation. Intertwining myth with reality, we created a self-perception of strength and self-confidence in the rural poor.

3.2. The Roles We Played

As has been amply elaborated in the prologue ADATS, along with many other grassroots NGOs, evolved from being Learners to Catalysts, Managers and Incubators. We will now become Facilitators. These are not clear-cut stages, one following the other, but broad descriptions of the roles we played over time. We did not follow a clear-cut and time bound exit strategy, but used Relevance as the touchstone to determine when we should move on.

The 3 functions to fulfil the role we now have to play are:

- Facilitator of processes like petty entrepreneurship, business opportunities, start-ups, digital adaptation, markets, etc. that are thrown up by the changing political economy; all of which are difficult for Coolies to comprehend and avail on their own.
- Enabler to enhance understanding of global, national and regional phenomenon, including climate change, the digital world and extractive economy.
- Collator to support through data collection, documentation, analysis and financial compliance.

3.3. Role Transformation

NGO withdrawal is not an abandoning of the people's organisation at the end of external intervention, merely by conjuring the term "independent". We need to *responsibly* ensure that self-governance really happens. This is neither easy nor automatic. Carefully planned and thought through arrangements are needed.

A realistic assessment needs to be made of capabilities and limitations of persons managing the independent people's organisation. Threats and opportunities facing the mass organisation in a rapidly changing political economy have to be understood. Non-patronising support has to be extended without trampling upon functions of the cadre or stifling their potential to make mistakes, learn and grow. This requires a mature balancing act which is possible only if the NGO, in its institutional support role, is itself answerable to constant and hard-hitting critique.

Way back in 1995, 18 years after we started building the people's organization, we argued for a 2 Organisations Policy.⁶ We foresaw that the relationship between development workers and the Coolie Sangha would outlast our intervention cycle. This relationship would eventually grow into and define the roles and boundaries between the post-intervention NGO and the independent people's organisation. The transformation would have growing pains.

⁵ See "Coolie Sangha Model of Development (1986)" at <https://www.adats.com/documents/book5/0505/> and "Coolie Sangha Formalisation (1988)" at <https://www.adats.com/documents/book5/0509/>

⁶ See "Coolie Sangha Consolidation & Withdrawal" at <https://www.adats.com/documents/book5/0511/>

We had then stated that development workers and NGO leaders would act as referral points to the electorally determined democratic leadership of the Coolie Sangha. In the 2 Organisations policy, the NGO would not wither away into oblivion like some temporary tactic to create a somehow holier and purer of the two, the people's organisation. These observations have turned out to be fairly accurate.

3.4. Moving Away from Project Implementation

From 2019 the Coolie Sangha will continue to run projects with zero external money and no day to day managerial support from ADATS. We will move away from implementing projects to providing institutional support to the Coolie Sangha. Our role will be to facilitate Member families and Coolie Sangha functionaries distil experiential learning to improve, adapt and evolve.

Planning, implementing and monitoring projects in a professional and bottom-up manner contributed to an assertive self confidence in Coolie Sangha members. They will continue to implement Projects they have successfully run these past four decades, and also take up new ones that respond to an evolving situation. ADATS will play a complementary role.

ADATS has developed proficiency in project implementation. Together with the Coolie Sangha, we brought 72% of 60,374 acres of scattered holdings of small and poor peasants on par with neighbouring middle peasant fields – a precursor to the MG-NREGA. 62,374 interest-free loans worth ₹ 19.8 crore was given out with a repayment rate of 83%.

We ensured that over 90% of school-age children stayed in school for 10 years, with a perfect sex ratio in high school classes, shattering the glass ceiling of puberty for 18,788 girls. Every single case of reproductive ailment was attended to, with a sharp drop in fatalities due to cervical cancer.

Single women and young mothers were supported to become economically self-reliant. 17,500 women solved their practical and strategic gender needs through 2 Biogas CDM Projects; 12 years later, after clearing a humungous debt incurred to construct and maintain these units, functionality is still at 56%. For 21 long years, 1,300 families attempted to switch from timely rainfall dependent field crops to tree crops; 509 succeeded in sequestering 32,938 tCO_{2-e} in one of the world's first A/R CDM Projects.

The Coolie Sangha will continue to run these projects. When genuine needs arise and the changing context demands, new projects will be taken up. Perhaps by the Coolie Sangha itself, or through collaborations with sector specialised NGOs. ADATS will provide introduction, vouchsafing and facilitation.

Coolie Sangha run projects are already largely self-financed through Sangha Fund collections. When new needs arise and new projects have to be undertaken, ADATS will help them find resources.

Member Coolies realise that it is an open and transparent grassroots mechanism of collecting and spending moneys that will guarantee the continuity of core Coolie Sangha activities, and not an arbitrarily arrived at quantum of money. Our experience is that when the Coolies were pre-occupied with only COLLECTING monies, revenues tended to be low. It was only when they applied their collective minds to the question of SPENDING and fixed mental targets as to how much they needed for what purpose, that collections also increased.

We developed systems that allowed us to repeatedly perform the same activity processes over and over again, with the same outcome. But systems do not operate in a vacuum. We must accept that they were, to a degree, kept artificially alive by pumping in external money. They now have to be supported with Coolie Sangha resources that derive from the mainstream economy.

Projects run by the Coolie Sangha will be of 3 types, elaborated in a table at the end this document:

- i. Continuation of activities that impact the everyday lives of Member Coolie families include accessing state welfare and transfers, children's schooling, reproductive health, protecting women, skill training and job placement, providing alternate credit, and sustainable agriculture.
- ii. Critical activities to make the above possible are regular Coolie Sangha meetings, membership renewal, self-finance practices, and effects monitoring exercises.
- iii. Social capital vested in the Coolie Sangha now attracts carbon investors for climate adaptation/mitigation projects. It must also attract industrial capital with cutting edge clean technology for new age business ventures to promote local entrepreneurship and generate employment.

3.5. Organisational Culture

ADATS recognises that we are no longer the Group we were when we started, four decades ago. We evolved into an organisation with structures, discipline and systems to implement projects. There is no turning back. To use our own coinage, development workers at ADATS will no longer have "jobs" in the post-project implementation phase. Instead, we will be "employed" in providing institutional support – i.e. facilitating the Coolie Sangha to make sense of macro developments, identify economic drivers, and enable them to grab opportunities in current times.

The institutional image of ADATS will surely not be as grandeur as when we were externally funded. This is a mixed blessing. With the power of persuasion alone, we will have to etch an acceptance through the force of our argument; indeed, a daunting prospect in an ever increasingly material world!

This is the contemporary organisational structure in today's business management. Flat organisations with minimal hierarchy and zero bureaucracy, where everything is open to scrutiny and everyone is simultaneously appreciative and self-critical. It unleashes creativity and enhances productivity in manners never known before. These principles apply to ADATS as well when we are in the business of leading the rural poor into a sustainable economy.

ADATS needs to be answerable to a wider intelligentsia – likeminded members from civil society. Only then will we retain a clarity of purpose and intellectual honesty. But a far more mundane reason is that if we are not accountable to our peers and betters, we will not act with responsibility.

Should they choose to buy in, our erstwhile funding partners suit this requirement provided they genuinely believe they were partners in building the Coolie Sangha and see value in its continuation. They need to *acknowledge* accomplishments made by the collaboration, and view the funds they provided as investment in a holistic and continuing process that needs to constantly evolve in order to stay pertinent and relevant. This cannot happen in a linear project mode with mere measurement of sectoral outputs, occasional mention of outcome, and no investigation into attribution.

4. STAYING RELEVANT

4.1. Preventing Institutionalisation

A paradoxical function of institutional support is to prevent archaic institutionalisation in the people's organisation. Or else the Coolie Sangha will get bogged down in futile attempts to preserve outdated practices that no longer serve a purpose. While it is tempting to think it's important to pass on

values/practices to the next generation and influence their thinking, this may not be possible in changed times. Values, perhaps; practices, no.

Even if the objective conditions that the next generation find themselves in remain the same (which won't be so, of course), there are serious changes to the subjective environment comprising influences, identities and culture – i.e. the intermixing of different myths and perceptions that each caste-class grouping has about itself in relation to others.

Protest songs they sing will not be the same, weekly meetings will not be as regular. Special assemblies may not reach ten thousand. Social pressure may not ensure timely repayment of unguaranteed and interest-free loans. Mutual support and physical protection may not be so readily forthcoming. All and every decision affecting their lives may not be collectively taken in open gatherings.

4.2. Critiquing Unity in the Coolie Sangha

It is true that we were able to stamp a uniformity through class identity and unite the previous generation across parochial caste-class lines and gender divides. But that was done in the face of a stark and inhuman semi-feudal reality of yesteryears, where the oppressor was easily identified. We focused on just one common issue that marginalised people faced – their low economic status and total lack of possibility for advancement in feudal society. They related to other cultures only out of tactical necessity to forge large numbers.

ADATS did not develop a strategy for intermixing wherein everyone felt equally comfortable within identities other than their own. The exception, perhaps, is Coolie Sangha support to inter-caste and inter-religious marriages. But we now realise that this was merely a response to matters of the heart; not based on any strategic position to promote individuality and self-determination. The slogan was heard by young couples, but not internalized by the Coolie Sangha.

We may no longer be able to maintain that form of unity. The new getting together must be based on today's aspirations and current interests. The current generation wants Results from the macro-economy; a share in the cake of GDP growth and the rest of the hype that rulers rant about. When all hope of obtaining a place in the larger economy is lost, they turn bloody minded and irrationally lash out. Negative actions follow and we are perplexed by self-defeatist impulses.

We ask ourselves if prime reasoning has collapsed. Why, when benefits are so evident, do some End User women still choose to not maintain their Biogas units? What has macro-economic failure got to do with gains that are well within their own control? Why are interest-free loans not repaid when the alternative is a surrender to usury? Why do voters succumb to petty cash inducements during local body elections when the consequence is a total loss of their right to demand for the next 5 years? Why do they tolerate large scale pilferage in MG-NREGA works? In short, why does common sense, logic and reasoning seem to fall on deaf ears?

4.3. What Makes the Current Generation Click?

The huge challenge ahead of ADATS is to find what makes the current crop of *Homo sapiens* click. Should we fail, all our efforts, however well intended, will crumble. Let us then begin to understand, without pretending to arrive at definite answers, why the current generation is confused to the point of being churlish.

- Semi-feudal society collapsed with an astonishing speed that flung the rural population into the vortex of a flux they just couldn't understand. There was a perverse sense of security in the semi-feudal past, now irrevocably lost; current times are always unknown and unsure.
- The previous generation had certain life expectations and skillsets which resulted in their working on the fields, albeit with an arguable level of contentment. It resulted in the agrarian economy that sustained a living of sorts.
The current generation has different expectations. They want to participate in a different economy made up of trade, commerce and factory jobs; one that gives them far more material benefits than what their parents were satisfied with. But they lack in skills, capital, contacts and resources.
- Being unread, even if worldly wise, gave the previous generation a myopic view of the world. Within that restricted world, resistance made sense to the ones who built the Coolie Sangha. This changed with schooling, exposure, and education. The vast extent of power and position enjoyed by an elite was laid bare, simultaneously giving birth to ambitions and also a lurking sense of never being able to meet aspirations.
Community mobilisation and local resistance is no longer seen by the current generation as a sensible way to counter the status quo; co-option has become their intuitive choice.
- Dismantling of caste ascriptions in society at large, locally spurred by the Coolie Sangha, did not lead to either individualism or homogeneous grouping. Instead it led to a projection of narrow caste identities and demand for proportionate reservations.
This is because our political economy didn't evolve a capitalist mode of production starting with primitive accumulation, where every person had the same relative advantage to exhibit the "each one for himself and god for all" trait. Instead emerging economies were late comers to the world stage of global capitalism. Polarisation was already at play and there wasn't room to aspire from Rags to Riches. Reservation was their only way to try and put a foot into the door.
- Cleverly phrased disinformation planted by any ideology –capitalism, socialism or religious– afflicts even otherwise rational and reasonable individuals from any caste-class or demography. For the well placed, it fuels a quaint reluctance to let go of ingrained myths of the fictional reality they've been raised on. For village youth, it becomes the prime input for soul searching and decision making.
- Raising expectations is indeed an imperative to unleash undiscovered talent and potential. But doing so with mere populism leads to serious problems.
The previous generation found an explanation for their marginalised status in the opiate of religion; it bred a passive and fatalistic acceptance. In today's world, unmet aspirations are in direct proportion to a rise in fundamentalism.
When an overwhelming majority are provoked by rhetoric but denied of possibilities for advancement, when they find themselves with no chance to attain material aspirations, religion gets perverted to play a contrary role, from pacifist to virulent. It advocates an abandonment of established rules, norms and standards of this world, in favour of an afterlife. Living is underrated, life becomes inconsequential, and death a strategy with the conjuring of a perverse pseudo-history of myths and fables that never took place.

5. RIDING PIGGYBACK ON THE SUCCESS OF THE COOLIE SANGHA

We have already clarified that a critique of achievements does not amount to a nullification of all that was accomplished. Without what ADATS did in the preceding four decades, even if the exact contours of that approach are no longer pertinent, we will not be able to take on ambitious goals we now set for ourselves. Let us then examine what will last and form the basis for future achievements.

5.1. Parochial Benefits

Continuation of the Coolie Sangha for the sake of Member Coolie families is self-evident. Their newly engraved survival strategy depends on the Coolie Sangha. Their socio-political presence depends on a visible presence in village society, for otherwise the altered power balance will soon revert against their favour. This is especially true for Coolie women since, as we have observed time and again, gender achievements are easily reversed. Their ability to make sense of flux in a rapidly changing political economy, and make alterations to their mutual support system depends on collective comprehension made in the Coolie Sangha. But the value goes far beyond self-serving provincial benefits.

5.2. Climate Projects

Across India and neighbouring countries, a whole lot of grassroots NGOs ride piggyback on the success/failure and collective experience of the Coolie Sangha. It creates a synergy that benefits both. The most obvious of these appears to be climate projects undertaken by FCN Members. Coolie Sangha efforts have a demonstration value for project proponents, carbon investors and a wider arena of climate actors.

- ✓ Grassroots NGOs are inspired and draw confidence to undertake climate projects after interacting with the Coolie Sangha. Processes are identified and SOP's gleaned by observing everyday practices in village units of the Coolie Sangha. Truthful and exception-free sharing of serious setbacks gives others the courage to venture despite knowing it will not be a pain-free journey. A practical demonstration of the power of social capital, especially the value in women enjoying strength and recognition within their own homes, the final bastions of their degradation, is provided by the Coolie Sangha.

From ADATS, they learn about organisational capital – business models, intervention strategies, implementation technologies, organisational form, open office concept, and new age business processes. Similarly, they witness the play of human capital in a flat organisation where empowered staff invest in their personal and professional development.

Digitisation of processes followed at ADATS/Coolie Sangha has never been to merely meet our own narrow functional requirements. There is a constant upgradation, not just bug fixes and user interface, as and when more ambitious goals are set; data, including financial information, doesn't sit in unconnected silos. Digital monitoring solutions, when offered to other grassroots NGOs through Tristle solutions, also carry within them the rationale behind efforts and constantly keep the context and purpose in mind. Their organisational restructuring is influenced in a subtle and noninterfering manner.

- ✓ Carbon investors view Coolie Sangha efforts and achievements as setting standards. They raise/lower the bar on their own expectations based on Coolie Sangha performance. They witness NGO capacity to develop and follow data and results oriented management systems, and how we

follow the “pay for performance” principle. They are awestruck by our ability to diligently monitor emission reduction technologies spread over tens of thousands of diverse locations.

A practical interpretation/demonstration of the avant-garde FCN principle of selling *yet-to-be-delivered* Carbon Offsets at the *actual-cost-of-generation*, within whose boundaries the “benevolent carbon market” rests, is obtained from Coolie Sangha experience. Realistic win-win financial projections are drawn up to fix the price of Carbon Offsets.

- ✓ The Coolie Sangha offers social scientists, academia, and climate activists an opportunity to develop a more nuanced understanding of the local environmental take on climate change. This important viewpoint captures the imagination of those negatively affected and encourages them to engage in massive adaptation efforts.

5.3. Community Mobilisation

It is not just climate projects that ride piggyback on ADATS/Coolie Sangha experience. Over the years, a whole lot of community mobilisation and self-determination practices have served as fertile learning ground for fellow grassroots NGOs. Well after external support is over, the Coolie Sangha will continue to demonstrate that:

- ✓ Unification of the poor across narrow and parochial lines of caste and community is not just possible, but an imperative for the success of any pro-poor development work.
- ✓ Decentralised village level collecting and spending of moneys, controlled by women, results in serious mobilisation of finances for as long as relevance is maintained and recognised by primary stakeholders.
- ✓ Data and results oriented management systems provide stark revelations of the naked reality, as opposed to showcasing and back-patting. This allows us to stay grounded and relevant to changing times.
- ✓ Self-financed efforts result in astonishing retention of children in school, an unbelievable 50:50 sex ratio in the final years of high school that shatters the glass ceiling, and zero cases of unattended reproductive ailments.
- ✓ Aggregating, marketing and distributing carbon revenue to End Users results in domestic labour not just being acknowledged, but finally getting compensated.
- ✓ Serious industrial capital can be mobilised by projecting the social capital and staying power of people’s organisations.
- ✓ Locally owned and operated decentralised energy solutions are necessary to spur entrepreneurship and create lasting employment opportunities in the villages.

6. FUNCTIONS

6.1. Social Capital & Institutional Capital

Human, social and institutional capital are key factors in economic growth. Social capital focuses on social relations that have productive benefits. It is an economic idea that refers to connections between individuals and entities that can be economically valuable. Social networks include people who trust and assist one another, and is as powerful an asset, as other economic drivers like infrastructure, communication, connectivity, market, etc.

A group endowed with social capital does not concern itself merely with the here and now; it is *predictive* in character. Immediate benefits are, of course, important to fulfil individual aspirations

that are personal and important for any human existence. A deeper socio-cultural, political and sustainable economic aspiration does not surface at the Individual. Nor at the collective level where there is a mere “getting together to get the job done”. Social capital is a cohesive expression of a mature group of people seriously concerned with the future. It can be expressed only when a theory capable of encompassing it is evolved.

We have repeatedly emphasised that the conversion of social capital into institutional capital will be the chief function of ADATS in the coming years. Simply put, it is putting to work the unity and discipline in the Coolie Sangha, however shallow and superficial it may be at this point in time.

We have critically examined how and why it got weakened these past years. We have to find ways and means to rectify and recreate a relevance that has, to some extent, been lost. Putting unity to work needs inputs that ADATS has to discover together with the Coolie Sangha. These inputs comprise skills, contacts, communication and a horde of other tangibles and intangibles that neither of us can clearly identify on our own, till we actually walk the path.

This paper, in a scathingly self-critical manner, attempts to determine the extent to which social capital truly exists in the Coolie Sangha after 40 long years. When we looked at how and why Member Coolie families got together, we found that the getting together of large numbers often created a euphoria around appearances of temporary gains. It was not an ideal form of Unity; not what was needed to sustain business ventures and employment generation.

In order to forge larger numbers and guarantee continued large-scale cooperation, it is imperative to create a new and interdependent identity. There are communities who are entrepreneurial and tech savvy, but shackled by a world-view that pulls them back; then there are other communities who are intrinsically more rational, but lack a commercial outlook. The former is quick to grab opportunities, but fail to place them in a larger framework; the later have their understanding, but lack in enterprise. These +/- traits in different communities who comprise the rural poor need to be brazenly inventoried without embarrassment or shame. Unless there is a genuine intermixing of all, there will not be a mutuality that benefits the group as a whole.

ADATS role, through providing institutional support, will convert the rhetoric, excitement and superficial getting together into a pragmatic efficiency – i.e. Institutional Capital. Our partners will be different; we will stay far more attuned and genuinely grounded. Our endeavour will be to find roles and functions that will take the rural population on a totally different trajectory, away from poverty alleviation, to inherently sustainable alternative economies of tomorrow.

6.2. Plugging in to the Outside World

We have entered a new economy with new aspirations and raised expectations. To get a sound and useful appreciation of this new world, we need to keep our ears to the ground and listen to the current generation. The nuanced reality of rural life today, with all its perils and potential, must be communicated to the outside world. This is equally as difficult as giving true and accurate information on what’s happening in the outside world to a rural population bombarded with misinformation and deliberate disinformation.

Developments in today’s world are surprising in their speed and content, largely due to a rampant growth in innovations that put ideas and inventions to work. Companies use digital technologies to reorganize decision-making authority, incentive systems, information flows, hiring systems, and other aspects of their management and organizational processes.

6.3. Ideation

The true work of innovation is not coming up with something big and new. It is recombining things that already exist. The Coolie Sangha has, to date, achieved such co-invention of organisation and technology which, in popular perception, is the exclusive domain of more educated and creative workers. Below are some illustrative examples, though not an exhaustive list:

- ✓ Data and results oriented management system was a natural way of doing things, with nothing extraordinary or special attached to it. This stimulated ADATS to adopt computerisation in the early 1980's and practically every single Coolie Sangha operation got digitally planned and monitored, permitting truthful introspection and third-party verification.
- ✓ Way back in 1984, when planning their decentralised village level credit system, the Coolie Sangha abhorred the concepts of interest and security/guarantee, associating both with the prevalent practice of usury. They disregarded conventional wisdom and placed a flat 10% price on capital, to be paid at the time of borrowing. After 33 years, rotation of their ₹ 7.13 crore capital has generated ₹ 1.09 crore Sangha Funds, and repayment rate of their unsecured interest-free loans stands at 84%.
- ✓ In the mid 1990's when climate activists descended at Bagepalli, the Coolie Sangha could piece together the then revolutionary hypothesis of planet earth being a greenhouse, erratic and spatial rainfall, failure of field crops, possibility of tree crops, carbon sequestration, *et al* and come up with the Bagepalli Tamarind Project (the very first AIJ project registered in April 1998). This became one of the precursors for the market mechanism globally adopted at Marrakech in February 2005.
- ✓ 12 years back, the world at large sympathised with the concept of pro-poor CDM, but had legitimate concerns as to whether well-meaning grassroots NGOs had the rigour to comply with complex requirements. They also wondered if emission reductions could be monitored at thousands of sites covering hundreds of square kilometres. Both apprehensions were reassuringly answered with the Tristle monitoring solutions, distilled from standard operating practices of the Coolie Sangha.

Perhaps Member Coolies are not even aware of their innovative accomplishments. The role of ADATS will be to promote *Ideation*.

6.4. Investments & Employment Opportunities

Development is a heady and multifaceted concept, constantly debated and redefined. But for the underprivileged in villages, desperate for economic advancement, it translates into any sort of Jobs & Income, at any cost. Long-term and larger implications of extractive fossil fuel based economies, climate change, oligarchy and imperialism, *even if understood*, are way outside their attention span. They will, quite understandably, settle for the here and now.

This is perhaps the most challenging function that ADATS will perform – respond to legitimate aspirations of the current generation by engaging with them to draw up realistic, achievable and sustainable plans for investments and employment generation. Our natural partners in this endeavour will be enlightened new age businesses who have long crossed the *laissez-faire* stage.

6.5. Managing Finances & Statutory Compliance

The principle is that unhindered control over their own finances is the hallmark of independence for an organisation. Like any universal principle, this too must be tempered with a candid assessment of the context.

Books of accounts need to be consolidated and statutory compliance met. Statutory compliance is very different from maintaining Receipts & Payments and exercising due diligence in expenditures. The Coolie Sangha, especially Mahila Meetings and women signatories, have shown terrific acumen and dexterity in operating their respective village bank accounts. At the individual village level, they are quite capable of making annual budgets and planning expenditures. Totally they collected ₹ 19.66 crore over the past 23 years,⁷ spent ₹ 13.01 crore and put aside ₹ 6.65 crore in their respective bank accounts.

But the Coolie Sangha is not particularly adept at financial consolidation and statutory compliance. Their appointing rank outsiders, or even contracting an outside professional agency to fulfil this function is a recipe for disaster. Aside from the danger of larceny, ADATS has always maintained that accountants *per se*, however professional they be in their specialised field, are ill suited to scrutinise expenditure patterns and match them to performance, when they have no ilk to the rhyme and reason behind transactions. Especially due to the decentralised nature of diverse and divergent transactions in over 900 village CSUs.

This is the reason we partnered with Tristle Technologies to develop *Transact*[®], a proven solution that allows development workers with zero accounting skills to maintain top class books of accounts. This does not obliterate the function of the Chartered Accountant. It merely assigns her role to the end, during annual audits, when financial statements are finalised. A caveat, of course is that scrupulous honesty is enforced, not by conventional bureaucratic practices, but by open and exception-free transparency in all matters financial – yet another aspect of organisational restructuring.

The annual collection of Sangha Funds, when large volumes of cash are deposited into respective village CSU bank accounts, needs to be electronically executed. Service delivery like children's scholarships, health compensations, pensions, legal aid, etc. should be digitized through customised DTB.

6.6. Crisis Management

Every organisation will have to weather ups and downs, high points and low. If an artificial plateau is continually maintained with outside inputs, the body will bust with the onslaught of the very first untended crisis. However, an outsider's objectivity is needed to critically understand what happened, why, and how to overcome. This will be a vital function of ADATS, after withdrawal, vis-à-vis the independent Coolie Sangha.

7. ROLES

A team comprising 3 Taluk Coordinators, 3 Desk Workers, 1 Systems Administrator and 15 Field Staff, along with ADATS leadership, will together perform the below roles:

⁷ To put these numbers in perspective, EED/BfdW contribution totals to ₹ 18.35 crore; the total external funding received by ADATS is ₹ 100.51 crore.

- Communicate the nuanced reality of rural life, with all its potential and perils, to the outside world, and give true and accurate information on what's happening in the outside world to the rural population.
- Take Ideas to the villages, discuss in Coolie Sangha meetings, record feedback, obtain responses, and bring these back to ADATS for further refinement.
- Link the Coolie Sangha with state agencies and departments to achieve targets on sustainable agriculture, alternate energy, using the digital platform, skilling the workforce, etc.
- Develop a positive rapport with and relate to external stakeholders to conceive larger plans that attract industrial capital and cutting-edge technology, promote local entrepreneurship and create village level employment opportunities.
- Assist Coolie Sangha members to implement plans that emerge from the above, disseminate the idea, arrange logistics and physical arrangements, prepare documents, obtain government permissions and licenses, and generally do everything to quickly execute.
- Critically analyse developments along with Coolie Sangha members/functionaries through annual Effects Monitoring exercises and other instruments like special meetings, reflection sessions, etc.
- Facilitate, coordinate and interact with short-term visitors from other grassroots NGOs and obtain mutual learning; host long-term stays by students and academics to make impact assessments.
- Coordinate with Tristle Technologies to introduce/upgrade digital tools for data collection, analysis and online monitoring with easy-to-understand real-time informative as well as analytical reports; develop digital tools for leakage-free financial transactions.
- Maintain books of accounts for 907 village CSU and 843 CCF bank accounts, Producer Company, Private Limited Companies and other entities set up by Member Coolies, conduct annual audits, file statutory returns, and make finance information available in an open and transparent manner.

We have not, at this stage, given serious thought to how we will finance this next phase of our involvement. Perhaps the Coolie Sangha will contribute from their business profits, maybe it will be a crowdfunding platform where the wider intelligentsia will support, or it could be an erstwhile funding partner who recognises value in moving ahead and staying pertinent to changed times.

But we are certainly not looking to create an endowment of sorts. We are not a bunch of retirees, at the last leg of our involvement, arguing for our self-sustenance. Funding has to remain an instrument that enforces pertinence through the practice of "pay for performance".

Project Activities	Coolie Sangha Role		Institutional Support from ADATS
Children's Schooling	<ul style="list-style-type: none"> ▪ Enrol and retain all 6-16-year olds in school. ▪ Make need assessment, allot and distribute scholarships 	Mahila Meetings	<ul style="list-style-type: none"> ▪ Maintain children's database. ▪ Encourage going beyond this once-a-year activity.
Reproductive Health	<ul style="list-style-type: none"> ▪ Appoint Village Health Workers. ▪ Encourage women to speak out about their physical discomforts. ▪ Early identification of ailments. ▪ Take patients to hospitals and health camps. ▪ Ensure follow up treatment, and subsidise medical costs. 	Mahila Meetings	<ul style="list-style-type: none"> ▪ Negotiate with specialised hospitals to hold health camps. ▪ Bargain for concessional treatment.
Protecting women	<ul style="list-style-type: none"> ▪ Deal with cases of domestic violence. ▪ Prevent under-age marriages, enrol and retain the girl child. 	Mahila Meetings	<ul style="list-style-type: none"> ▪ Link Mahila Meetings with larger women's groups and state institutions.
Accessing State Welfare & Transfers	<ul style="list-style-type: none"> ▪ Influence and deal with the Panchayat Raj system. ▪ Conduct annual Customer Demand & Satisfaction (CD&S) exercises. ▪ Use socio-political presence to influence and obtain individual and village benefits. 	Village CSUs GP Meetings Taluk Coolie Sangha	<ul style="list-style-type: none"> ▪ Train on accessing government websites and procedures to apply and follow-up. ▪ Develop, introduce, train and improve on usage of digital monitoring tools.
Skill Training & Job Placement	<ul style="list-style-type: none"> ▪ Assist youth through their training/initiation. ▪ Support youth for first few months in city jobs. 	Village CSUs	<ul style="list-style-type: none"> ▪ Link Coolie Sangha with sector specialised state and NGO institutions.
Low Carbon Farming	<ul style="list-style-type: none"> ▪ Appoint Village Monitors. ▪ Delineate discrete plots. ▪ Implement LCF package of practices. ▪ Maintain Plot Diaries 	Participating Farmers	<ul style="list-style-type: none"> ▪ Maintain database. ▪ Offer technical advice to Village Monitors; link to state institutions. Maintain database. ▪ Conduct annual verification and issuance under international standards. ▪ Find benevolent market for land-use and forestry Carbon Credits.

Critical Activities	Coolie Sangha Role		Institutional Support from ADATS
Coolie Sangha Meetings	<ul style="list-style-type: none"> ▪ Weekly village CSU, Mahila Meetings and GP Meets ▪ Monthly Taluk Coolie Sangha Meetings 		<ul style="list-style-type: none"> ▪ Coordinate with Tristle Technologies to develop, introduce and upgrade digital tools for data collection, analysis and online monitoring. ▪ Generate easy-to-understand real-time informative as well as analytical reports. ▪ Shift all digital solutions to the cloud for mobile device access.
Membership Renewal	<ul style="list-style-type: none"> ▪ Annual income declaration and paying of Sangha Tax. 	Village CSUs	<ul style="list-style-type: none"> ▪ Maintain decentralised village level books of accounts. ▪ Develop and introduce digital tools for leakage-free financial transactions. ▪ Prepare consolidated statements, conduct annual audits and file statutory statements.
Self-finance	<ul style="list-style-type: none"> ▪ Collect and spend Sangha Funds; spending decisions by Mahila Meetings. 	Village CSUs & Mahila Meetings	<ul style="list-style-type: none"> ▪ Design formats for data collection and structured discussions. ▪ Collate information, discern nuanced understanding and draw inferences. ▪ Obtain feedback and reactions from the GP Meets to influence strategy and improve tactics.
Effects Monitoring exercises	<ul style="list-style-type: none"> ▪ Functionaries and interested Members gather data/information. ▪ Discuss Outcomes and Impact for 4-6 weeks every year 	GP Meets	<ul style="list-style-type: none"> ▪ Maintain records and database. ▪ Use carbon projects as entry point to impart a deeper understanding of climate change. ▪ Conduct annual verification and issuance. ▪ Find benevolent market for Carbon Credits
New Age Business	Coolie Sangha Role		Institutional Support from ADATS
Post-ERPA Biogas CDM	<ul style="list-style-type: none"> ▪ Implement a robust Repair, Maintenance & Monitoring system. ▪ Distribute 100% of carbon revenues to End Users in proportion to their actual CER generation. ▪ Put aside portion of carbon revenue for continued Repair, Maintenance & Monitoring. 	End User women	<ul style="list-style-type: none"> ▪ Maintain records and database. ▪ Implement a robust Repair, Maintenance & Monitoring system. ▪ Conduct annual verification and issuance.
Biogas CDM during ERPA	<ul style="list-style-type: none"> ▪ Biogas usage 	End User women	<ul style="list-style-type: none"> ▪ Develop plans for decentralised energy production and distribution. ▪ Develop vision to promote local entrepreneurship. ▪ Communicate nuanced reality of rural life, with all its potential and perils, to the outside world. ▪ Provide true and accurate information on what's happening in the outside world. ▪ Project social capital in the Coolie Sangha and attract industrial capital. ▪ Assist in setting up business ventures.
Setting up Industries	<ul style="list-style-type: none"> ▪ Assist in market surveys, explore raw material sources, etc. ▪ Pay share capital and participate as "owners" in industrial ventures. ▪ Update land records and lease to respective Pvt Ltd company. ▪ Obtain government permissions and licenses. ▪ Identify youth with skills and aptitude to work in these ventures. 	Coolie Sangha Members	

			<ul style="list-style-type: none">▪ Manage Producer & Private Limited companies.
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C. DISTRIBUTED ENERGY – A PANACEA FOR PANCHAYAT DEVELOPMENT AND RURAL SUSTAINABILITY

Sunder Raju⁸

8. INTRODUCTION

The industrial revolution brought in its wake a multitude of disruption in all aspects of life. Areas as varied as employment, education, health, governance have been upended over 250 odd years. From then to today there is a metamorphosis into fossilised structures that has been gradual but inexorable. The question, whether in providing a path for necessities of humanity, we have created a vortex that will sink humanity and threaten its existence, is moot.

Everyday there are new pointers and proof of the impending doom. As is the wont, we are divided into two camps, the status quoists happy to maintain that doom scenarios are a figment of doomsayers and proponents wringing their hands and pointing fingers. The vast majority is happy to be ostriches with their heads in the sand hoping it will all work out.

The North-South divide is extremely stark, the North maintaining that the steps required are here and now, while the South maintains that given that the past rapacity of the North had brought us here, we need the time and ability to get to your economic levels so allow us the luxury of pillaging earth and you bear the costs of correction.

The ideal way to chip away at the problem is to find small bite sized answers that are commercially doable but attack the issue in multitudinous directions. Hopefully the sum of those will add up to answer the climate change challenges before the Day of Reckoning is irreversible.

In this context we have been studying the problem of rural India and the gaps, pitfalls and challenges in the present approach to rural development and their linkage to climate change. Ram Esteves has pointedly argued in monographs elsewhere that while droughts have been a factor in rural to urban migration the reality is “Most of the rural to urban migration is for bettering economic conditions even in the absence of immediate urgency that droughts create”. Climate change willy nilly is in many ways hostage to this migration and the consequent overnight increase in the energy intensity of every individual that makes the jump from rural to urban living.

The question and the quest before us that we have to find answers to was:

1. Is Rural to urban migration preventable?
2. Will such a step reduce the energy intensity?
3. Can this be made sustainable?

Interestingly we believe we may have serendipitously fallen upon an elegant answer to the last of the questions asked above. Whether that will lead to the right answers for the remaining two is a matter of intuitive conjecture and of course potential research for at least a few doctoral theses. But given

⁸ Sunder Raju serves as Managing Director of Atria Convergence Technologies Pvt Ltd. He was a key player in setting up Sunray Computers in 1981. His other endeavours under the Atria Group include ventures in hospitality, real estate, power, and information technology.

that human nature is very prone to inertia, any reduction or elimination of the triggers for rural to urban migration would presumably reduce such migration to a trickle.

9. PROBLEM STATEMENT

Sharpness in stating the problem will allow for a well scoped out resolution. Our search for the various challenges that circumscribe the economic engine in the rural environment led us in many directions. The constraints range from capacity building, economic poverty, inability to plan short, medium and long-term capital building, lack of robust social enabling networks and the start stop nature of governmental interventions that are dependent on the personal whims and predilections of the local administration. Trying to distil the insights gained from interactions with stakeholders ranging from the district administrations to Zilla Panchayats to NGO's to the villagers led us to many a cul-de-sac. Parsing information to find meaningful paths that we could build solutions on seemed a bridge to far.

Does one take a trickle-down approach or does one build safety nets to those at the real bottom of the pyramid or just spray and pray and hope that one of the approaches will provide the traction required. Also in the search, to keep focussed on addressing climate change is a challenge, given the breadth and depth of problems of alleviating poverty and our belief that any narrative will have to necessarily blend the two seamlessly if we are to unshackle inertia.

The light bulb moment for us was when we ran into the ADATS community. Ram Esteves and his band of merry workers run a very unique program. They run a social collective but the underlying rubric is capitalism. One project caught our eye and over many a walkabout gave us the contours for defining our problem statement. This was a program being run under an entity called the Fair Climate Network. Their problem statement was simple "How to eliminate firewood as the fuel in the kitchen".

The reasons to do this were many but the main driver was to liberate the woman. Primary issue being addressed was the fact that obnoxious fumes in a closed environment meant a certainty in health disabilities, lowering of economic earning capacity with a disproportionate time of the woman lost in collecting firewood, and in many a case some freedom from the man in the house treating her as a chattel that could be abused for lack of firewood in the hearth. The achievements that they have had is a testimony how a promise that has failed elsewhere when government subsidy driven, can be successful when the approach was driven with a whole set of new metrics that emphasised many cross linkages.

The solution was to provide gobar gas based stoves with each house having its own generation pit and a dairy animal to provide the requisite feedstock. What was unique was the systemic approach to the create linkages. They have approached the problem as a solution to climate change. The rigour of documenting CO2 reductions to earn CERs and thereby provide an earning to the household that would eventually pay back the capital investment has meant that the owner has a self-interest in making sure that the upfront investment made survives the challenges of both learning curves in keeping the system operational, and disruptions in the supply of feedstock during difficult economic times. More importantly they introduced a new social linkage in the form of a documenter whose job it is to both document the number of days the system works and produces gas and also ensuring that any support for repairs is timely. This simple intervention is the underpinning of the success of the Gobar gas plants as an alleviation measure in a rural household in their area of operation.

Problem is, simple measures are simple, once they take root. Getting them to take root is the hard work. It requires local trust in the implementing agency, it requires robust ongoing communication on the advantages (they are not obvious to the rural community as much as it seems obvious to us), it requires creating local skill sets for ensuring rigour in the documentation process(a nontrivial task again in the rural context), handholding on a daily basis over long periods when economic challenges bring feedstock to a grinding halt and most importantly the implementing institution needs to ensure it is in it for the very long haul. All of this was in abundance at the "Fair Climate Network".

What was it in this process that gave us a light bulb moment? Many learnings: The most important, but one that is unlearnt every single time, "Get the local involvement at ideation stage". Co-create the solution. Let them have the primary ownership. Demonstrate that they stand to economically gain both directly and also that there are knock-on community benefits. Build enormous or leverage social capital before even venturing to solve the problem. In every project things will not go as per plan and at that time the only thing that holds a project together is the social capital and the belief that you are with them through the journey. Do not throw crumbs, make them work for it. There is genuinely merit, for learning is acquired only when they are fully invested.

All these seem fairly obvious but time and again lip service and a tick the box derails the best of intent.

So, onto what was the problem that we wanted to address and how do we define it sharply. The contours got defined as we studied units larger than a village. The problems we decided that could be addressed as an integrated solution were:

1. Electricity: From a rural perspective the elephantine problem was the availability of electrical energy both round the clock and in sufficient quantum. This basic need constrained everything else that would help the virtuous cycle of growth and allow a modicum of respectability to rural living for the entire local population
2. Drinking water: The entire rural population productivity is held hostage by water borne diseases. There are enough studies to show that just addressing this problem could potentially add a point or more to GDP growth rates.
3. Cold storage: One major issue in an agrarian economy is to figure out an answer on how to add to the family income by moving beyond a single cereal crop annually on marginal lands. While horticulture (vegetables and fruit) potentially can provide this step up, the challenge is to grow short term (45-90 day) cash crops as the holding capacity of the marginal farmer does allow them the luxury of plantations that have a multiyear gestation. Such produce come with a concomitant problem – short term surpluses create price slumps that financially drain the farmer completely. Most times, just the ability to store the produce for a few days to weeks, is the difference between financial viability and ruin. This is best done by a cold storage locally.

Given our own interests in renewable energy it was a short step to figure out a way of creating an integrated solution. That, in hindsight, turned out to be an elegant answer from many perspectives.

As with all such plans drawn on the back of an envelope the distance we have had to travel to get to a point where at least the detailed system design passes enough muster to be confident of starting a pilot was excruciatingly involved and took not months but years of effort. Today we can, with

reasonable confidence, say that most subsystems that go into creating this solution have been physically validated and as we mull the potential disruption feasible around this integration, there is palpable excitement around what this could potentially do to the rural ecosystem.

10. WHAT IS THIS SOLUTION?

As we did the research on the sizing of the solution it became quite clear that the scale of the system needed to be as small as possible to ensure that the sense of ownership is preeminent. An ideal community solution would have been one that serviced a village if not smaller. However, design reviews for the product show that there is minimum size below which the efficiency drop below economic levels. Interestingly the right sized solution evolved to be one that fit the average population of a panchayat in the range of 8000-10000 people in the state of Karnataka. The average energy consumption across a study of many panchayats followed the figure shown below.

FIGURE 1

Turns out that the energy consumption averages at 9,500-10,000 units daily. Based on this number we have arrived at what we believe is an ideal sized solution that has growth built in to give a life of over 50 years.

The product has the following specs:

1. A 1mw steam turbine evacuating at 11 KV
2. A parabolic solar field that will allow base load energy generation of 10,000 units a day and capable of expanding all the way to 25k units of energy a day
3. Storage to follow load profile during non-solar hours
4. A back up biomass to fire the unit during monsoon and cloudy days
5. A distillation system to provide 30-60,000 litres of clean drinking water
6. A cold storage of 1,000 tonnes at 4-5° Celsius
7. Both water and cold storage are driven by the waste heat of the turbine and so complete solution is driven by renewable energy

The product itself is a technology innovation but what is even more interesting is the economics around it. And this not in the cost of the system per se but what it replaces and what it can potentially do to the panchayats ability to be a self-sustaining unit. During our study we realised that the state of Karnataka subsidises over ₹ 8,500 crores annually towards free electrical energy. A 5-7 year capitalisation is all that is required to provide all the 8,000 odd panchayats with system so they become self-sustaining units. No new capital is required and the state permanently removes from its annual balance sheets the need to provide for free energy to the marginal farmer. This is as powerful as it can get, but is not even half the story.

At the panchayat level a revenue generating asset has been created. The panchayat could decide the pricing of the energy, water and cold storage and decide at its level how much it should subsidise each of those products. Energy could be from 0-5 rupees, water from 1- 3 rupees a litre and cold storage from 1-3 rupees a kg per instance for fixed periods. The Revenue to the panchayat can range

from 3-9 crores annually based on how much subsidy is built in. This is enough for the panchayat to develop itself into a well serviced entity delivering all objectives in the charter before it. As we said earlier, the excitement is palpable.

11. CONCLUSION

The road map that has come out this study allows us the luxury of saying that we maybe on the verge of solving a big chunk of sustainable rural development.

The validation of course is how well we steer this and the confidence comes from the partnership that has evolved between FCN and Atria Energy. We realise that this project has technology challenges but even more importantly the adoption is where success or failure will really happen. FCN with its understanding of social milieu, how to prime them, how to hand hold them, how to get them invested in the project economically, physically and socially is the glue that will take us across the finish line. The first pilot is scheduled to be executed over a period of 24 months with dependency on funding to take it forward.

The issue of urban sustainability is a subject of another conversation.