

Dimensions of the Energy Crisis in Development Today and Rural Electrification's Role in USAID's Current Strategy

**NRECA Forum on Sustainable Rural Electrification
March 6-7, 2003**

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I. Introduction

First of all, I want to thank NRECA and the conference organizers for inviting me to speak today on Sustainable Rural Electrification and to discuss its role within USAID's current strategy.

Looking through the agenda, one quickly realizes that NRECA has put together a world-class lineup of speakers. Those who follow me will provide you a wealth of information on why rural electrification is important and how it can be achieved efficiently within a wide range of socio-cultural and economic environments. Through the various presentations, we will become more familiar with a variety of energy technologies, policies and practices and how they contribute to the development goals of the men, women and children living in rural communities around the world.

But I'm not going to talk about that today. Well, I am of course, but from a perspective that is perhaps a bit different from what is generally said, particularly within the context of rural electrification and the delivery of energy services.

I want to center my talk on what I think is a critical dimension of rural electrification that goes beyond the conventional benefits we normally ascribe to the delivery of electricity. I

want to highlight the attendant social and political benefits that are delivered in the wake of plugging people into a network of electrons.

For when we talk about rural electrification, we are in reality talking about something much more significant and vital, than simply electrical power and energy services. We are actually speaking about the accumulation and distribution of economic and political power. Technologies, energy and otherwise, embody specific forms of power and authority. And therefore our choices of the kinds of technologies and the accompanying technological systems, to employ are not simply instrumental, but are in fact powerful forces in reshaping social structures, and power relations. In many respects the construction of technological systems entails the reconstruction of social roles and relationships. This of course has significant implications for our work in energy and development.

In his excellent book entitled: "Electrifying America", author David Nye put it this way, "Electrification is not an impacable force moving through history, but a social process that varies from one time period to another and from one culture to another. In the United States electrification was not a "thing" that came from outside society and had an impac; rather, it was an internal development shaped by its social context. Put another way, each technology is an extension of human lives: someone makes it, someone owns it, some oppose it, many use it, and all interpret it."

Those of you who are here today to share your stories and experiences with us on how electrification has taken root in diverse social settings will provide valuable contributions to the interpretations of how electrification and the attendant institutional arrangements have shaped societies around the globe. And I suspect that the answers we'll be giving to the Forum's leading question, "Is It Possible?" will be a resounding YES, and the NRECA experience will give us many reasons for believing so.

We are all now quite familiar with the staggering statistics on the rural poor and the insidious effects of energy deprivation. Pick whatever citation you wish –whether it’s the 2 billion people without access to modern energy services, or the depressingly high number of people who currently try to survive on less than 1 US\$ per day – and think about the economic, social and political implications of that reality, and you probably walk away with, if not a deep sense of despair, then with at least a dreary case of vertigo. But it’s this momentous task of finding solutions to the problem of rural energy poverty and the imperative of human development that brings all of you here to this forum. And NRECA has clearly proven itself as a world leader in diffusing a variety of models on how rural areas can be successfully electrified.

First of all, I want to focus on why any of this matters. What are we truly after when we talk about sustainable development? For most of us, the core values of social justice, liberty, and equity capture much of what we are seeking, at least on the temporal plane. So I want to talk briefly about the relationship between democracy and development, which in and of itself is hardly revolutionary and certainly not new. However, a topic of significance that has been sorely ignored by many of us is technology's role in the promotion of or, conversely, the thwarting of those democratic values that animate our individual and collective behavior. Specifically, I’ll discuss energy technologies and their expansive technological systems as they relate to the development challenge of rural settlements. Finally, I'll relate these thoughts to what the U.S. committed to at Johannesburg at the WSSD in the form of the Clean Energy Initiative, and the Global Village Energy Partnership, and what USAID is doing in this area.

II. Democracy and Development: The Pursuit of Liberty

The past fifty years can, in many respects, be referred to as the decades of democracy, for the number of nation states that have cast off their totalitarian shackles and have embraced democratic rule has grown from 22 to 120. That means that today, 62.5% of the world’s population dwell within lands where popular rule, free speech and assembly, legal entitlements, and transparency of law are the reigning values for political governance.

There have of course been set backs, reversals, and those notable states which have remained immune to the democratic wave that has swept across the globe. What's more, I'm acutely aware that there is a huge difference between procedural democracy and substantive democracy and that democratic procedures in themselves do not create jobs, educate children, clean the air we breath and the water we drink, lift up our individual and collective souls, or put food on the table. But, it is safe to say that democratic mechanisms are indeed our best hope to achieve these cherished human development goals.

Now, democracy is a complex and thorny thing; one that is as enriching in its impact, as it can be elusive in its realization. In the most recent wave of democratic fervor, we've witnessed the resurrection of the old concept of civil society with its recognition that true democracy comes from the people themselves –not their government representatives and attendant institutions – and that the art of democracy is most brilliantly played out in our informal associations and relations with one another. And what better defines civil society and the contributions to democracy than the electric cooperatives that form the heart of the NRECA experience? In the words of NRECA CEO, Glenn English, "At the co-op, business-as-usual means accountability to member consumers; it means democratic control and oversight of a business that is owned and operated by those it serves and it means doing business in your community with folks you know you can trust." That quote is pregnant with a number of key themes surrounding the pursuit of democratization such as civil society, local ownership and trust, or what is increasingly being referred to as social capital.

For example, cooperatives are very much at the heart of civil society. Civil society is defined as that space within which individuals mediate among each other, in open and free political discourse, in order that the person *qua* individual can actualize his/her needs and interests, while at the same time serving the community as person *qua* citizen. Civil society consists of the wide range of intermediate institutions –such as electric

cooperatives -- that operate independently between the individual and the government, and is recognized as the cornerstone of a vibrant democratic culture.

Furthermore, social and economic development of the poor is a precondition to a flourishing democratic regime. I maintain that the choices we face surrounding the provision of energy services -lighting, heating, cooling, motors, cooking, etc.- affect and are affected by the manner in which we fashion our social organizations, i.e. civil society. The social and civic scaffolding we erect, and the public-private partnerships we form, are critical to our ability to expand access to modern energy services to rural communities around the world.

III. Technologies as Political things

Part of that scaffolding consists of our technologies. In pursuing the democratic path to economic, social and political development, too little attention has been paid to the impact of our technological choices.

It has now become trite to say that our lives are shaped in a variety of ways by the technologies we use. Machines have a direct bearing on how we eat, play, and work. From automobiles and telephones, to televisions and computers, the tools we employ have continually transformed us as individuals and as societies. Furthermore, technologies themselves possess certain characteristics that address the perennial questions of political thought, such as the nature of justice, freedom, and equity.

Technological devices are developed and diffused in response to problems or needs of society -- they answer questions posed by society. This is a relatively straightforward and seemingly benign truism, yet, the repercussions of the technical answers given to political questions are far from politically sterile. Invariably, the devices result in systems or networks that affect the social organization of power and authority, either by design, or through unexpected consequences that often follow in the wake of implementation. Not all

technologies possess such catalytic power; many are quite innocuous. Thorstein Veblen refers to technological adoption as changes in the “habits of thought”. What I’m claiming is that the changes in the “habits of thought” brought about through the introduction of energy technologies, particularly in the ownership patterns represented by cooperatives, ultimately leads to what the French historian Tocqueville refers to as “habits of the heart”: the acceptance of civil attitudes and behavior and a strengthening of civil society.

In this fashion therefore, energy technologies constitute “political things”. The discovery of new energy sources and technologies translates into new patterns of discipline, authority, and economic and political organization. Certainly the history of electrification in the U.S. supports this claim, and those of you who work overseas surely see the same dynamic in play. The electric cooperative structure, wherever it has been adopted, should be celebrated not only for lighting up homes, farms and factories, but for strengthening civil society, social capital, and democratic cultures.

Today, from several speakers, starting with Abul Barkat, we’ll hear of the tremendous success the cooperative system has had in Bangladesh. A recent report evaluating the economic and social impact of the NRECA/USAID supported rural electrification program in Bangladesh, had this to say on the topic of democratization: “electricity facilitates people’s participation in political as well as local governance related activity. People spend longer periods in union council, clubs, cooperatives and strongly participate in local level decision making since electricity created congenial environments for political social gathering, community and courtyard meetings.”

The point here is not just that electricity provides the energy services that facilitates enhanced social interaction. Just as important, and perhaps at certain levels, more important, the provision of electricity, in certain models, requires local groups to choose, finance, operate and maintain the technological systems that provide those services. The provision of electricity –particularly through the cooperative ownership structure – require the community to organize effectively to make decisions regarding the basic elements of

politics, i.e. who gets what, where and how. It requires the citizenry to practice the fine art of democracy and exercise the skills of cooperation, consensus building, compromise, and conflict resolution.

The significance of the electric technological system is that the community now has a compelling reason and incentive to act cooperatively, based on the collective desire for energy services. Perhaps even more importantly, the individual has the incentive and motivation to cooperate and communicate with his/her neighbors. An individual cannot purchase, operate and maintain these systems alone; he/she requires the assistance and comity of his/her neighbors. In short, the pursuit of private autonomy and liberty—a principle value of democratic cultures—necessarily runs through the public square. This dynamic will have particular relevancy for those countries that are trying both to widen the sphere of electricity access, as well as deepen their democratic cultures.

IV. Distributed Power: Electric, Social and Political

And the insights and lessons NRECA and the cooperative system have demonstrated through its ownership structures and business models may be even more valuable in the future given the increased attention many are paying to Distributed Generation (DG), which as all of you know, means local, on-site, at the point of use, generation of electric power.

Now, we must be very clear at the outset that DG will not displace the existing grid systems, but it will I think play an increasingly important and vital role in the years ahead particularly in those regions of the world currently suffering from energy poverty.

The utility industry is currently undergoing a turbulent and at times, traumatic change in the way it does its business. In addition to the global trend of privatization of utilities, with its unbundling of generation, transmission and distribution services, is the equally momentous trend of the technological downsizing of power generation capabilities. The

average size of generating units in the United States has dramatically dropped within the past fifteen years. Improvements in microturbine efficiency, various forms of renewable energy technologies, such as solar, wind, biomass and small hydro, and the long-term prospects of fuel cell technology all suggest that localized power generation will indeed constitute a vital component of the utility paradigm of the future. This is not only a new way of generating electricity, but of distributing it as well, which is a dramatic departure from the way we've been doing it for decades. However, curiously enough, distributed, neighborhood power, is precisely what Thomas Edison envisioned when he threw the first switch in his historic Pearl Street generating plant in New York City, 120 years ago.

Furthermore, in many cases, distributed generation is the best hope of reaching the nearly 2 billion people in the world today without electricity and to ensuring better service delivery to the millions upon millions of individuals in rural and peri-urban settlements who while, technically connected to the grid, suffer under the weight of antiquated and over-burdened power distribution systems and the consequent brown and black-outs. Now I must be clear in saying that this shift to distributed generation does not mean a replacement of the existing large-scale system, and much work both technically and institutionally needs to be done. Distributed Generation most realistically should be viewed as a way to supplement current grid systems, rather than supplanting them.

Now, while electrical engineers may be fascinated with the engineering efficiency of this transformation, and utility managers may see this trend as thoroughly disruptive –which in many respects it is – what is particularly intriguing about distributed power in my mind, is its contribution to another global trend. This other, parallel trend is itself monumental, but when coupled with distributed electrical generation, it becomes downright inspiring and revolutionary. This other global trend is the devolution and decentralization of political and administrative power to sub-national units that we're seeing across the planet.

Localization of political decision making is a result of several things, ranging from widespread recognition of the inability of central states to adequately provide requisite

services to the populace, to the resurgence of local cultural, ethnic and political voices making claims on their right to autonomy, liberty, and sovereignty.

The symmetry of these two trends foretells the possibilities of stronger, more vibrant democratic cultures in the future; cultures that can capture the synergistic benefits of these two trends whereby electrical power translates into political, economic, and social power for local communities. The democratic implications of the convergence of this technological downsizing and administrative decentralization can be profound. Local communities can now take control over the lifeline of infrastructure service delivery and match it to their own social, economic and political circumstances. It can be strongly argued that individual liberty and social justice can best be actualized when decision-making structures are closest to the individual. The introduction and adoption of distributed energy systems offer the opportunities for municipalities to enter into civic covenants with one another and practice the art of democratic politics. In this respect, Distributed Generation meets Distributed Governance, with democracy as the outcome, and liberated people the winners. And the electric cooperative experience provides a model that complements in a very elegant way the technological and political localism of these two trends.

Now, I'm no technological determinist and therefore should quickly note that history is replete, as we all know, with examples of where local elites have stolen the show and have been every bit as tyrannous as the despot residing in the far away national capital. Small can be Beautiful, but it can also, to borrow from Thomas Hobbes, be "solitary, poor, nasty, brutish and short." But the potential for a more democratic and development-enhancing scenario exists. As always, it will up to us to see to it that the promise not the perils of this opportunity become the reality. Here, the issue of scale, the merits of localism, and the technological interface is fortuitous and relevant. And, most importantly, it is here that the cooperative experience may be the most vital lesson of all.

V. USAID, and the Global Village Energy Partnership

But what is USAID doing in this regard? Well, the USAID Energy Office for some time now has worked hard to illuminate the linkages between energy and all aspects of the USAID development agenda. Our humble view is that energy is simply at the center of everything the Agency wants to accomplish and should therefore be viewed as one of the most important offices in the entire Agency. However, it is probably safe to say that not everyone within USAID embraces this view. Nevertheless, we remain relentless in proselytizing this message.

We within the Energy Office are continually searching for ways to make manifest the linkages between energy and health, education, economic growth, environmental stewardship, gender equity, and yes, democratization. We are working hard to connect the development dots for our USAID colleagues in the field, and to give demonstrate that energy interventions will make all their other development goals more achievable. We continually point out that energy is the input and the means, to the broader goals of sustainable development. It's not easy, but we remain persistent.

One important event that has helped our cause is last year's World Summit on Sustainable Development (WSSD) which focused on the issues of energy and water. The U.S. at the Summit launched the President's Clean Energy Initiative, which is a three part energy initiative designed to increase access to modern energy services, improve the efficiency with which energy is generated and used, and improve the health impacts of energy use. For the purposes of this Forum, the most relevant element of the Clean Energy Initiative is the Global Village Energy Partnership, which is designed to increase access to modern energy services in participating countries around the world.

The USAID Energy Office has the USG lead for implementing the GVEP and is working hard with the other partners: World Bank, UNDP, a variety of European Bilateral donors, industry and NGOs to begin implementation this year. And I am happy to say that NRECA will be working closely with USAID in this initiative.

GVEP and the entire Clean Energy Initiative is significant in its devotion to the principles of public/private partnerships and the leveraging —both intellectual and financial—potential that is found through teaming up with other participants. This indeed was the theme of the World Summit in Johannesburg—public/private partnerships.

The public-private partnerships that punctuated the Summit's proceedings gave those of us negotiating text, glimpses of hopeful realism. For these partnerships reveal the deepening and broadening of programmatic relationships built on shared commitments to rural energy development fueled by a passion for social justice, freedom and equity. If one looks carefully at the structure and goals of the numerous partnerships launched in Johannesburg one finds a vast web of interrelated activities in search of greater strength and effectiveness through enhanced linkages and relationships.

The U.S. government understands only too well the need for linkage and collaboration. Through our "Clean Energy Initiative, we are seeking to address the multiple dimensions of the energy poverty problem, and strive to significantly increase access to modern energy services, improve the energy efficiency of energy production and use, and facilitate healthier and cleaner forms of energy use. We understand that we can only do this through networks of public-private partnerships that draw on the social capital that is increasingly in greater supply. Such partnerships as the Global Village Energy Partnership manifest, both in structure and objectives, the essence of distributed power —electric and political—and the thirst for a more democratic future.

VI. Conclusion

Let me conclude simply by saying that if we are to make the kind of difference in this world that I believe motivates all of us in this room, then we need to continuously rethink the way in which go about our business. In addition to the economic, social,

environmental and political dimensions of sustainable development, there is also the epistemological dimension that encourages us to reevaluate what constitutes truth and what counts as knowledge. Solutions defined by models and perceptions of a reality born of the industrial age will hardly suffice for the problems confronting us in the Age^m of the Network. Ultimately, we are judged, not by our words, but by our deeds. As St. Francis said, "Preach always, and if necessary, use words."

I look forward to listening to your words that express the good works that you have all been a part of; and we within USAID look forward to working with you in the future.

Thank you for your time and attention.