

Social participation and the politics of climate in Northeast Brazil

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Abstract

This article examines social participation in the circulation of climate forecasts in the state of Ceará, Northeast Brazil. In that part of the country, the work of meteorology is subject to public scrutiny in newspapers and other forms of public communication, and is also confronted with the work of the rain prophets of rural areas. This creates a social context in which other forms of knowledge other than the scientific one, and other forms of voices other than the scientifically authorized ones, constitute a public arena in which environmental issues and their economic, social and cultural impacts are publicly debated. The article uses the cases of the public participation in meteorology to discuss how environmental citizenship is constructed in local practices, and the challenges and difficulties found in the process.

How does one recognize *citizenship*, and *environmental* citizenship for that matter, as it exists in Latin America? As expressed by a number of the other contributions to this volume, the idea of citizenship becomes meaningful only when analyzed against specific historical and institutional backgrounds. The region has experienced a wide variety of political contexts for citizenship over the past century, ranging from centralized dictatorships to relatively decentralized liberal regimes, each context making way for different kinds of political subjectivity. It is a given that hegemonic political agents will attempt to exert influence over the symbolic terrain upon which subject formation occurs; at the same time, this control is never absolutely effective and subjects invariably find ways of contesting the hegemonic symbolic order (Bourdieu 1991; Scott 1985, 1990). The discursive framing of ideas, problems and identities is a particularly potent element of such

symbolic politics, restricting the limits of what is thinkable and legitimate in regards to different kinds of political action.

With respect to environmental politics, especially in rapidly modernizing countries such as Brazil, a particular framing of science and technology has been crucial to hegemonic discourses, but knowledge and technique have also constituted important sites of symbolic resistance. The question is whether such symbolic resistance has managed to congeal into a basis for substantive challenges to the existing socio-ecological order. In other words, has this resistance become the basis for alternate or “insurgent” forms of environmental citizenship? On balance, it would seem that dominant discourses around science and technology (as constitutive elements of “modernity”) have successfully prevented new forms of political-environmental consciousness from developing and transforming into radical political platforms. It is the aim of this chapter to delve into the dynamics by which emergent forms of symbolic resistance become neutralized or co-opted by hegemonic discourses of scientific knowledge and technocratic management.

This paper finds its argument in ethnographic data gathered in the state of Ceará, in the semi-arid Northeast region of Brazil, between 2003 and 2006. The field research focused on the use of scientific climate forecasts in public policy, local rural communities’ reactions against such forecasting, and the resulting competition between scientific and local traditional knowledge about the environment that lay at the heart of conflicts between communities and policy makers. Emerging from these conflicts, local “rain prophets” have become regional celebrities. Nevertheless, while media attention brought significant attention to local forms of traditional environmental knowledge during these conflicts, no organized political movement has sprung from this terrain of symbolic struggle. Instead, as holders of traditional climate knowledge became inserted into the field of power constituted by discourses of modernization, their power to make meaning became deflected and usurped by the media and other actors. As tradition was transmuted into folklore, the socio-ecological subjectivity of the rain prophets became a spectral vestige of its original manifestation.

Technocratic modernization and the political value of knowledge

As debates on global warming make evident, there has been a rapid increase in scientific understanding of the global climate during the past three decades. One outcome of this knowledge is that economic development programs sponsored by agencies like the World Bank have begun to include the production of scientific climate knowledge as part of their packages of economic development. Poverty and hunger are now to be tackled not only through improved physical infrastructure, market mechanisms, and re-engineered local governments, but also through the scientific capacity to forecast the climate, allowing governments and agricultural producers to adopt strategies to mitigate the impacts of extreme events and to make long term adaptations.

What appears to be novel in this panorama is the increasing relevance of climate knowledge for policy development. And yet, in places like rural Northeast Brazil, climate has been deeply linked to politics throughout history, even if the connections between climate events, climate knowledge and political relations have often been concealed by religious discourses around climate related misfortunes. Such connections can be seen in innumerable examples in popular culture, such as almanacs, booklets (*cordéis*), poetry, songs, and other literary genres. Moreover, at the level of more explicit power relations the submission of peasants to landlords who control land and water has often been presented as “protection” against the inclemency of climate, instead of as exploitation.

More recently, science has replaced religion as the predominant discourse of depoliticization, especially with the increasing penetration of modern media into rural settings. Scientific knowledge is a perplexing genre of discourse: it systematically decontextualizes what it talks about. Curiously, however, rural populations in Brazil have resisted the decontextualizing and depoliticizing influences of science perhaps more than their urban counterparts. There are three related ways to explain this resistance. First, as other authors have demonstrated (DaMatta 1997a, 1997b; Martins 1999), Brazilian society is strongly organized around vertical hierarchies –

especially in rural areas – and individuals develop their sense of identity from their positions inside the many hierarchical structures in which they are immersed. In this sense, the value and importance of everybody and everything is deeply contextual. For that reason, Roberto DaMatta called Brazil a “relational society” (1997a, 1997b). Second, as I explore further below, science-based policies have had tangible and often negative impacts on rural livelihoods and everyday experience. Finally, most rural populations have not been fully indoctrinated into scientific discourse because they often lack long-term exposure to formal schooling.

Scientifically inspired policies is appeal to an authoritative frame for political action that lies outside traditional hierarchy; they inform local populations that actions taken by the government are based on, and justified by, a *non-personal* form of authority – scientific authority. Not surprisingly, this new kind of authority has less purchase in marginal rural areas, where most individuals are familiar with the experience of having to accept policies because of the social position of their proponents. But scientifically motivated policies present the local holders of traditional knowledge with the message that the value of scientific knowledge is not based on the place that its purveyors occupy in the social hierarchy, but instead on its supposed independent ontological status, which derives from the scientific method. There are actually two potent political messages in this new claim to authority. The first is that social hierarchies are no longer relevant. The second is that knowledge does not inhere in experience, but rather belongs to the realm of technique.

It is not surprising that local leaders gravitate to the first of these political messages but reject the second. They are glad to hear that the authority of knowledge is no longer based on social status (even if they might be skeptical about such claims), but they refuse to accept the pre-eminence that science allots itself when it comes to describing reality. This disjuncture creates the potential for new forms of environmental citizenship of an epistemological sort: when policies are explicitly based on scientific knowledge (rather than traditional forms of authority), local communities may feel compelled to contest the status of that external knowledge next to the

veracity of their own experience. In this way, an emergent politics of knowledge offers a new space for citizen agency.

Yet, if the context of technocratic modernization in itself carries the potential for the development of new forms of environmental political consciousness and citizenship, this possibility is often neutralized by other forms of epistemological colonialism. Of these, the most prominent is the transformation of traditional knowledge into folklore, in which it is appropriated for external consumption in museums and festivals, and hence emptied of its political significance. The case of the annual meeting of the rain prophets of the state of Ceará, to which I turn further below, is an example of both popular agency in the symbolic construction of knowledge claims and the kind of epistemological colonization that neutralizes such agency. Before addressing that case, however, it is important to situate the contemporary politics of weather in Ceará within the historical practices around climate forecasting and control.

A local history of climate forecasting: From cloud seeding to rain prophets

Despite having become one of the preferred tourist destinations in Brazil in the last decade, Ceará is still one of the poorest states in the country. In rural areas, over 70% of the population lived below the poverty line in 2008 (IPECE 2008). Incrusted in a semi-arid region, Ceará has historically suffered droughts. In the Jaguaribe Valley, where this research was carried out, around one million people live in rural areas and depend on rain to sustain their agricultural fields of beans and corn. Restricted access to water for irrigation and the extreme concentration of land are factors that increase the vulnerability of the poorest segments of the rural population to climate variations. Severe drought years have taken place on an average rate of two per decade throughout the 20th century.

During the military regime of the 1970s there were official efforts to bring some degree of infrastructural modernization and economic development to the interior of Brazil. In 1972, the government of Ceará created the Ceará Meteorological Foundation (*Fundação Cearense de*

Meteorologia – FUNCEME), with the goal of increasing rain in the state through cloud seeding activities (Orlove and Tosteson 1999, p. 12). Cloud seeding technologies attempt to “produce” rain by sprinkling silver salt over clouds, with the use of airplanes. This method has been used in many parts of the world, including the U.S., during the 1970s and 1980s, and it is still used in places like Spain and Israel. Since it does not produce rains, but only accelerates the physical processes inside the clouds that result in rain, cloud seeding has always been a controversial technology. The total precipitation very often remains the same, and the cost of seeding clouds is very high. FUNCEME eventually abandoned cloud seeding in Brazil during the late 1980s, and instead started to further develop their technological capacity for weather and climate forecasting.

Cloud seeding activities represented a historical period of tension in the relationship between government, the population and the state’s environment. The rural population was accustomed to seeing local elites and governments construct dams for accumulating water during the region’s short rainy season. But with airplanes flying through the skies and official propaganda about the “miracle” made possible by means of science – the production of rain – the government was using science to change nature in a radically new way. Popular reactions towards cloud seeding were strongly negative. One of the most important popular poets of Ceará, Patativa do Assaré, composed a piece of verse that criticized cloud seeding, portraying it as arrogance, imprudence, and stupidity. In parts of the poem, titled “Ao dotô do avião” (To the doctor of the airplane; in Assaré 1997), we read:

No Nordeste do país,	In the Northeast of the country
O dotô propaga e diz	The <i>doctor</i> ^f says and announces
Que o avião faz chuvê. (...)	That the airplane makes rain. (...)
Com a chuva de artifício,	With artificial rains,
Pru que não fez benefício	Why didn’t (you) assist
Do povo do Ceará? (...)	The people of Ceará? (...)

Se Jesus não protegesse,	If Jesus didn't protect (us),
E o povo daqui vivesse	And our people lived
Esperando a solução	Waiting for the solution
Eu sei que tudo morria,	We would all die,
Sem vê um pé de feijão. (...)	Without seeing a bean sprout. (...)
Seu dotô, tome um conselho,	Dear doctor, hear my counsel,
E aquete seu aparêio,	And leave your equipment to rest,
Não pode inverno mandá.	It can't send us rain.
Empregue em outro trabalho,	Use it for another task,
Arranje outro quebra-gáio,	Find yourself another occupation,
Que desse jeito não dá.	Cause it's no good as it is.
Chuve quero praque quero,	"Rain because I want it to"
É coisa que eu não tolero,	Is something I can't tolerate,
E é fato que eu nunca vi.	It is a reality I have never seen.
Vivo muito encabulado,	I live very embarrassed,
Pru que no ano passado,	Because last year,
A minha roça eu perdi.	I lost my fields.
Seu avião, seu besouro,	Your airplane, your bug,
Ta fazendo um grande agouro	Is bringing a lot of foreboding,
Contra as coisas naturá.	Against natural things.
Respeite o Deus verdadeiro,	Respect the true God,
Não mexa no nevoeiro, seu dotô	Don't mess with the fog, doctor,
Vá se aquetá.	Quiet down.

The poem questions the real possibility of using technology for changing rains, not because the technology available was capable of doing so or not, but because it involved acting upon things existing beyond the human domain, and instead in the realm of the divine. Cloud seeding was therefore understood as a dangerous form of arrogance against God, which could bring bad luck or some form of divine punishment, such as drought (Taddei 2005, 2009b).

Another local common attitude towards cloud seeding questioned the political use of such a technological marvel, without challenging the efficacy of the method. If science can produce rains, why do people still suffer through droughts? A general interpretation was that the elites in power profited from keeping resources, the most valuable of which being water, concentrated in the hands of a few, maintaining the population dependent and miserable, and reproducing local clientelistic relations. According to this interpretation, cloud seeding was strategically carried out only over the lands of the powerful, in order to fill their reservoirs.

What the cloud seeding project did, in fact, was to create a discursive context in which different interpretations of nature (and its relation to politics and to transcendental spheres) clashed publicly, with the rural population on one side and the government's experts on the other. In doing so, it gave shape to a political field in which new forms of environmental citizenship could emerge in the future.

In the early 1990s, FUNCEME changed its mission from climate control to climate forecasting, and soon became one of the most technically sophisticated regional climate agencies in Brazil. The 1990s were also when the climate sciences leaped forward dramatically in their understanding of the global climate, especially after the El Niño phenomenon was finally modeled, and later predicted. In Ceará, in the first free democratic elections [1986] after Brazil's period of military rule [1964-1985], a new group of young businessmen came into power and huge investments were made to improve the infrastructure of the state. In this context, the government brought FUNCEME into greater proximity with many state secretariats – especially agriculture, water management, and civil defense – and scientific knowledge started being used integrally in a range of public policies.

One policy, called “Planting Time” (*Hora de Plantar*), is exemplary of the rising status of science in policy, and the problems it has generated (Finan and Nelson 2001; Taddei 2005, 2009a; Pennesi 2007). In the mid-1990s, the state government decided to buy drought resistant seeds from national agricultural research companies, and to distribute them to small producers in the state's

rural areas. Yet because these seeds were expensive, the government decided to distribute them only after meteorology signaled that the rainy season had finally started and the soil had reached the required levels of humidity for optimal planting. The government feared that the farmers would use the seeds at the wrong time and lose their crops as a result. The plan required farmers to wait for a “green light” provided by the climate scientists.

The attitude of the government infuriated local agricultural leaders. According to local planting practices, farmers plant on each and every rain occurrence that humidifies the soil to the depth of one palm. The rationale for this is that seeds can be bought on the market, but rains cannot. In general, the first rains of the season don't last long, and the sprouts soon die. But during some years, the first rains are intense and last long enough to sustain the crops, and during such years farmers enjoy two harvests of green beans and corn, greatly improving their annual income. Farmers know they will lose some seeds in the process, but expect that the total gain during good years will compensate for the seeds lost during others. Meteorology can predict, with high rates of success, the total amount of rain to be expected during a rainy season, but cannot predict when the first rains of the season will fall, or if dry periods will occur during the middle of the rainy season. As a result, seeds distributed by the government very often reached the communities too late, when farmers had already used regular seeds.

For many years a large number of local leaders complained, during meetings with agricultural extension officers and in the media, about this misplaced use of the meteorological forecasts. Meteorologists also complained about the program, although less vocally, particularly once they perceived it as seriously damaging the public image of meteorology. In the early 2000s, the government finally decided to abandon the program and to transfer the decision of when to distribute the seeds to local leaders and local managers of agricultural extension services.

Apart from local economic reasoning about the different values attributed to rain and seeds, the government's attitude was taken as a tacit and offensive lack of recognition for local climate knowledge. The most relevant form of local knowledge associated with climate is the elaboration of

forecasts for the rainy season through the use of traditional forecasting methods (for details see Pennesi 2007 and Taddei 2005). The *rain prophets of the Sertão* are individuals who read the signs of nature in order to produce and disseminate seasonal forecasts. The practice of reading nature's signs, especially in regards to the approaching rains, is common in the rural areas of the Brazilian Northeast.

Gilton de Araújo is a widely recognized rain prophet. At the end of 2003, Gilton observed that the red ants he usually finds on his lands close to a riverbed were abandoning their nests on low-lying ground, and migrating to higher ground. According to Gilton, this was a sign that rain was on the approach, because when it rains, the river stream flow increases, and washes away any nests located in the riverbed. In this same year, he also observed that some of these ants were migrating to the top of local palm trees. However, he did not give this too much thought until the rains arrived, as he had predicted, in mid-January. There had never been, in recorded history, a January with such intense rains. In Ceará alone, forty-three municipalities declared a state of emergency; over thirty thousand people had to leave their flooded homes; and at least fifteen people died due to the heavy rains. Gilton retrospectively interprets the abnormal behavior of the ants as a sign that the approaching rains were to be considerably above their usual level.

The existence of such traditional forecasts was not taken seriously by the urban population and politicians until, in 1997, local shop owners in the municipality of Quixadá started organizing, an annual meeting of the rain prophets. The meeting was created by Helder Cortez, an engineer working for the water agency of the town of Quixadá, and a member of the local chapter of the Rotary Club. In an interview (Taddei 2005), Helder declared that the meeting was organized with three different goals: first, to provide local shop owners, most of whom were Rotarians, with forecasts that would enable them to better anticipate the demand that typically revolves around the rhythms of agricultural production; second, to create an institutional context in which the ability to forecast the climate could be preserved and transmitted to younger community members; and third, to raise the profile of local climate knowledge amongst government decision makers..

The annual meeting of the rain prophets is carefully choreographed. First, all attendees pray to the Holy Father. Then local politicians speak, followed by academics and meteorologists, if present. After that, each prophet comes to the microphone and announces his or her forecast, usually followed by questions from Helder on the methods they use. In total there are usually around twenty prophets, and they are allocated no more than five minutes each. Before and after the meeting, the many media crews that attend the event interview the rain prophets. The media coverage is key to Helder's third goal, of raising the public profile of local climate knowledge. The local, state and national media quickly realized the potential of the meeting for "making news", and eventually an article on the rain prophets and their meeting was even published on the front page of The Wall Street Journal (see Moffett 2006). From the outset, the media framed the event as a battle between "science" and "tradition", and this is how the meeting has been presented ever since.



Antonio Lima announces his forecast during the rain prophet meeting of 2004. Photo by the author.

The science-tradition dichotomy, including a significant antagonism towards science, already existed in the regional climatological imagination, at least since the times of cloud seeding. One can see this reflected in many of Patativa do Assaré's poems. It is also visible in jokes widely told in the rural areas, which make fun of meteorologists by playing up the science-tradition schism. There are also cases in which meteorologists suffer verbal attacks. In interviews, local

meteorologists have affirmed that sometimes they limit their visits to public places like supermarkets because they feel there is a general perception that their forecasts have failed, and are fearful of being verbally attacked or at least ridiculed. One meteorologist who travels frequently to the state's interior in order to fix broken pluviometers said that he prefers to travel in a car without the FUNCEME logo, in order to avoid facing the negative attitudes held towards FUNCEME that he constantly encounters in the rural areas. As I discuss elsewhere, this kind of experience is not restricted to the meteorologists of Ceará, but is also found in many other parts of the globe (Taddei 2009b).

In sum, rural populations in Ceará have achieved an important level of agency vis-à-vis climate-related politics over the past decade. First, they managed to convince the government not to use meteorological information as the basis for timing the distribution of drought resistant seeds, but instead to transfer this responsibility to local leaders. Second, in founding the annual meeting of the rain prophets they managed to draw a significant amount of media attention, to the point that most newspaper articles covering rainy season forecasts in local and state-wide media present rain prophets' knowledge as a complement or alternative to official meteorological information. Finally, through humor and verbal hostility, rural individuals and communities have delimited the spaces that science and its representatives can occupy, both in the local imaginaries and in geographical space. Nonetheless, despite this resistance to the state's claims to authority via the epistemological credentials of climate science, a more fulsome and enduring local environmental citizenship – in terms of meaningful agency to shape agricultural policy – has failed to emerge. I turn now to an examination of the reasons why.

What kind of voice creates citizenship?

One could interpret the clashes over climate related policies and climate knowledge in Ceará as an example in which “disobedient knowledge” (Igoe, Sullivan and Brockington 2010), or “insurgent knowledge” (Holston 2008, Latta and Wittman this volume) constitutes alternative forms of

citizenship. Yet, none of the achievements mentioned above represent a permanent or stable political transformation. This raises the question of what turns resistance into citizenship.

One possible way to conceptualize citizenship is to understand it as a form of insertion inside a political field, where actors recognize each other as effective players, as subjectivities that “count”, to use Sundberg’s formulation (see chapter X). For instance, since its foundation in 1984 the activities of the Landless Rural Workers Movement (MST) – to cite the example of “insurgent citizenship” used by Holston (2008) – have been a thorn in the side of successive Brazilian governments. None of them have been able to ignore its existence, given the effectiveness of its political strategies and the legitimacy of its cause. Political elites have systematically attempted to criminalize the actions of MST and many of its leaders have been incarcerated; this, nevertheless, has not erased the general perception that land distribution in Brazil is one of the country’s most acute social problems.

When we return to the case of traditional knowledge about climate and its political relevance, we are faced with a different situation. Here there is a disconnection between localized modes of resistance, such as the ones described above, and the larger narratives that frame the way these local actions are perceived by the broader Brazilian polity. It is important, therefore, to understand how local actions gain new meaning when taken up into larger political arenas. It could be argued that new forms of citizenship are only established when they become capable of interacting with the discourses and narratives that organize the larger political field, while still retaining their own unique coherence (Taddei and Gamboggi 2009).

The most prominent discourse concerning knowledge and science that organizes political interactions between governments and local communities in Brazil is that of *modernization*. Modernity has been a classic fixation of the Brazilian national project (as for several other national projects in Latin America) since the late 19th century, and is now a pervasive feature of the country’s urban imaginaries. The military regime that ruled the country from 1964 to 1985 invested in a wide array of programs of technocratic modernization. After the 1985 return to democracy, the

national political landscape was flooded with the discourse of democratic order and national economic reconstruction, also encapsulated within the rubric of modernization.

In terms of the organization of meaning, modernization discourses reify and oppose *backwardness* and *underdevelopment*, on one side, with *modernity* and *progress*, on the other. These terms are fuzzy in meaning, but powerful in the feelings they invoke, and are thus valuable resources for political manipulation (Taddei 2010). As with any discourse that becomes dominant and pervasive, the modernization discourse in Brazil imposes a specific symbolic reorganization upon the social and cultural processes with which it establishes relations. Modernization puts social relations in a particular temporal frame, presenting certain elements of social life as representing the past, being therefore of little value, while other elements are presented as representing the future, and hence progress. This temporal ordering has a corollary in spatial relations, where the urban is progressive and the rural regressive (Lipton 1977; Tacoli 1998). Because modernity constitutes such a pervasive set of assumptions, it is often linguistically unmarked, made evident simply by its juxtaposition with the negatively marked categories of “traditional”, “rural”, and “underdeveloped”.

In the case of Ceará, political voices and actions that were effective in the local sphere became subject to symbolic reorganization along these dualistic lines when they moved into visibility at regional and national scales. This occurred both because of the way that local knowledge was performed in during the rain prophets meetings, and due to the framing that occurred in the media coverage. Clearly, in the relationship between action and meaning that constitutes citizenship as a social practice, citizen agency is mediated by both institutional configurations and communicational processes.

The annual meeting of rain prophets is an example of institutional mediation that can dramatically transform the nature of local knowledge. The structure of the meeting makes for a radical decontextualization of the prophets’ activities as they are normally carried out in their respective communities. Ethnographic evidence demonstrates that most of these individuals don’t understand their forecasting activities as strictly related to climate or having solely economic

purposes (Taddei 2005). In general, the rain prophets are elders of rural villages who besides predicting rain also produce herbal medicine, perform healing rituals (*benzeção*), mediate local conflicts, provide astrological analyses, and carry out other types of forecasts. João Ferreira de Lima, for instance, besides concocting medicine from local roots (*garrafadas*) and forecasting rains, forecasted the days in which one should avoid leaving home or travelling in order not to meet with enemies or wrong doers. As local leaders of diverse communities, these elders may have very little in common. The meeting, by gathering many of them in one place and giving them only a few minutes to talk about their climate forecasts, erases most of the diverse and unique contextual elements that give social significance to their forecasting activities for the communities in which they dwell (see Pennesi 2007, Taddei 2005, 2009a, 2009c).

The media coverage has a similar but more pronounced perverse effect. Since all newspapers and TV channels come from the capital city of Fortaleza or other urban centers like São Paulo and Rio de Janeiro, where the urban middle class is the main audience, the theme is generally approached through a heavily orientaling perspective. Most urban individuals don't have any personal experience of rural life, and are therefore incapable of understanding the phenomenological relations coded into the forecasts. More often than not, there is a tendency to associate the rain prophets' phenomenon with another class of discourse, where rural life is understood as quaint or backward, and yet simultaneously iconic of a past that is supposedly more authentic than the contemporary urban experience. Local individuals, both rain prophets and farmers, are referred to as "simple" people, with a "direct" connection to nature, having learnt their methods from oral traditions. The message is organized according to a polarization between rural and urban, simple and complex, immediate and technologically mediated perception, oral traditions and textual learning, past and future. One of the largest Brazilian newspapers, Folha de São Paulo, for instance, referred to the 2004 annual meeting of rain prophets as something that was "*quase inverossímil*" (almost implausible)

This romanticized view of the rural world is what sustains the rural tourism industry, which extends from the nation-wide celebrations of the *Festas Juninas* (June Festivals) – where urban individuals dress and dance like “country bumpkins” – to the multiplication of “regional” restaurants in cities like Fortaleza, Recife, São Paulo and Rio de Janeiro, with adobe walls and waiters dressed as peasants, producing what Portis-Winner has called “fakelore” (2002). The annual meeting of rain prophets is therefore transformed into a rural life spectacle for urban audiences, and the rain prophets are converted into icons of a folkloric rural world, subjected to a process of museumification by urban societies that can’t identify any other legitimate socio-cultural space for this kind of practice. The result is that rural knowledge becoming devoid of all political significance.

Beyond the conversion of knowledge to folklore, the media coverage also created a realignment both in the social identities of the rain prophets and in the mechanisms through which their authority is constructed. While most individuals in the *Sertão* know how to practice the methods used for forecasting, very few would feel comfortable sharing their forecasts in front of TV cameras. Indeed, the whole idea of the meeting as a media event scared away most of the rain prophets of the Quixadá region. So the event in itself became a mechanism of distinction. A true rain prophet is increasingly seen as a person who can forecast the climate *and* perform it in front of the cameras. And since the size of state newspapers’ and TV news programs’ audiences are much larger than the social networks of each rain prophet, the aggregate result is that their authority now comes in proportion with their appearance in the media. For most of the state’s population, rain prophets have become folkloric media celebrities rather than local leaders. And, it must be said, very few of the prophets who participate in the meeting express discomfort with their celebrity. In 2006, when Antonio Lima found out that he had his face stamped on the front page of the Wall Street Journal, he became visibly happy. He has brought copies of the newspaper article to every meeting since its publication.



Antonio Lima in the Wall Street Journal. Photo by the author.

Conclusion: citizenship as spectrality

It could be said that the epistemological citizenship represented in local resistance to climate science in Ceará has taken on a kind of *spectrality* (Derrida 1994), which makes its presence felt but never materializes into concrete political space for marginal groups. If the construction of citizen-subjects is related to the mobilization and contestation of knowledge, then we must be cognizant of the way knowledge performs at different scales and within different fields of power. As mentioned, treating citizenship as dependant on control over contested forms of knowledge that are themselves inserted into in a field of power helps us understand that. The metaphor of ‘field’ gives centrality to the idea of strategic political action and to the need to deal with larger discursive configurations and meaning-making practices. In the case of climate forecasting in Ceará, individuals were able to strategically act upon their immediate contexts, negotiating with the government over specific agricultural policies, shooing away undesired meteorologists, and even organizing a widely publicized meeting of prophets. Yet in the higher-level field of discursive configurations and meaning-making practices, such local practices could not escape the neutralizing impacts of their insertion into the meta-discourse of modernization. Instead of opening spaces of

further agency, practices of local knowledge became subject to folkloric frames that hollow-out their political content.

The case of Ceará also calls attention to normative questions of reciprocity and accountability as fundamental elements of political relations, and therefore of citizenship practice. Science in general, and meteorology in particular, operate according to the premise that they are not responsible or accountable for the social implications or impacts of what they produce. But for the general population – especially in rural areas – no one occupies a place of non-accountability. A more balanced relationship between local communities, central political powers and meteorology requires that both scientists and the government address the issues of reciprocity, accountability and legitimacy when it comes to constructing and sharing climate knowledge.

In the case of the prophets, although the evidence points to the fact that they do not have the power to effectively manipulate the larger discursive configurations and meaning-making practices in which they have become embedded, some individuals do find ways of unbalancing this configuration of forces, even if temporarily. In 2004, for instance, the meteorologist slated to present in the meeting of rain prophets frustrated the audience when he affirmed that, because scientific data was still being processed, he did not have a forecast to announce. A few moments later, Chico Mariano, a prophet famous for being vocal and provocative, pointed to the meteorologist and said that he would forecast the forecast of science, and that it would announce good rains. Implied in his words was the message that if science was not yet prepared to forecast the climate, he was able to forecast the climate as well as the results of the meteorologist's scientific work. The next day, Ceará's newspapers reproduced his words, with a mixed tone of scandal and amusement. And this was exactly what he had intended.

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