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The Green Revolution's ghost:

Unruly subjects of participatory development in rural Indonesia

A B S T R A C T
After the Batu Hijau mine in Sumbawa, Indonesia, began operating in 2000, mine managers identified area farmers as a top security risk because they were threatening to shut down the mine unless they were given jobs there. Among various efforts to get local residents "back on the land," the mine began sponsoring participatory integrated pest management trainings that were supposed to turn residents into productive and self-reliant subjects. Instead, these trainings evoked subjects who claimed—through their resistance to certain aspects of the trainings—that they were dependent on and entitled to conventional forms of development aid from the mine. [*participatory development, subjectivity, Indonesia, mining, environment*]

In July 2002, 20 men from villages in the southwest corner of the Indonesian island of Sumbawa embarked on a training of trainers program sponsored by the Batu Hijau copper and gold mine, which is operated by a subsidiary of the Denver-based Newmont Mining Corporation.[1] The giant $1.9 billion open-pit mine, which began commercial production in 2000 and pipes as much as 160,000 tons of tailings into the ocean each day, stands in sharp contrast to the farmer trainings it sponsored. By day, under the simple bamboo and palm-frond structure that was part of a farmers' "laboratory" constructed by Batu Hijau's Community Development Department, facilitators led participants through a packed ten-day training program of games, role-plays, and icebreakers; social, historical, and biological analysis exercises; and tutorials on practical themes such as composting, making organic pesticides, and pH testing of soil. By night, the participants were supposed to sleep in simple huts in the rice fields surrounding the lab, which was located several kilometers from the nearest village. This immersion in an agricultural setting and isolation from regular village and family life was supposed to heighten the training's intensity and foster bonding among participants as they slept, ate, and performed Muslim prayers together. The training was supposed to remake participants, to alter their beliefs, capacities, desires, and identities such that they would become more exemplary farmers themselves and be inspired to recruit neighbors and encourage them to also become more environmentally conscious and productive agricultural subjects. In Foucauldian parlance, the training was supposed to create new subjectivities.

The training exhibited a logic similar to that which scholars have tracked in a range of liberal institutions that work to "transform structures of consciousness," "govern souls," produce "new subjectivities," and "create self-regulating" or "governable" subjects (e.g., Agrawal 2005; Cooke and Kothari 2001; Dean 1999; Leve 2001:119–120; Paley 2001:4; Rankin 2001; Rose 1999). This line of analysis is deeply indebted to Michel Foucault's (1978, 1979) insights into how power works in positive ways, rather than simply as a repressive force, to govern individuals and populations through technologies that foster the agency or capacity of human

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actors to autonomously make "free," rational, and calculated choices and take responsibility for the consequences of their actions (see also Foucault 1991, 1997; Lemke 2001). Foucault's governmentality analytic seems to offer a particularly powerful approach for exploring the effects of neoliberalism at the level of subjectivity, a project that complements political economy–inspired critiques of neoliberal agents, policies, and rhetoric that promote market mechanisms, roll back state welfare functions, and consolidate class power (Harvey 2005). Yet the linkage between the rationality, technics, and subjects of government (Inda 2005) has also been challenged by scholars who, while still operating within a Foucauldian framework, argue that the projects or rationales of rule that Foucault's concept of "governmentality" has done so much to illuminate should be carefully distinguished from, rather than conflated with, the messier practices of rule (Li 1999, 2007; Moore 1999; O'Malley et al. 1997). The practices of rule often lack coherence and always run up against limits (Ferguson and Gupta 2002; Hart 2004; Watts 2004). Rather than reconfirming that neoliberalism has, in essence, already won, conquering the hearts and minds of people everywhere, such critiques support an ethnographic exploration of subject-making practices that draws on Foucault's (1997) insights and methods, including an open-ended investigation into the nature of systems of power and subject formation as well as into the forms of agency, contestation, and unintended consequences to which subject-formation processes give rise.

Trainings and related pedagogical programs such as workshops, retreats, and fee-based self-improvement courses represent particularly fruitful sites for the investigation of subject-making endeavors (Cruikshank 1999; Elyachar 2005; Jones 2010; Kondo 1990; Martin 1994; Rudnyckyj 2010). They articulate, in distilled fashion, "before" and "after" qualities for their subjects (corporate employees, unemployed youth, state-welfare recipients, aspiring middle-class consumers, etc.) who are supposed to undergo a deep transformation (e.g., from dependent to enterprising, from low to high self-esteem) over the duration of the program. Even when they appear profoundly transformative as they are being performed, choreographed pedagogies of the self are vulnerable to slippage and subsequent redirection and critique (e.g., Kondo 1990; Rudnyckyj 2010) and may only generate an evanescent rather than lasting impact on participants. In this article, I take a more systematic look at moments of failure in farmer trainings to explore how pedagogic technologies can elicit the "wrong" ideas and behaviors and at times reinforce the very subjectivities and intersubjective relations they are supposed to replace. I make an argument that parallels Paul Willis's (1977) discussion of how working-class youth wind up in working-class jobs. Against the Marxist view that schools were simply succeeding in their aim of molding young subjects along class lines, Willis argued that, ironically, it was the lads' own resistance to school that prepared them for their role as laborers in the capitalist system. Similarly, Sumbawan program participants often misapprehended and critiqued the participatory and empowering rhetoric of Newmont's trainings, insisting instead that they were entitled to—and dependent on—conventional development assistance. In so doing, they produced two kinds of interdependent, nonliberal subjects: themselves as clients and Newmont as patron. My argument is rooted in research largely carried out in Sumbawa between November 2001 and May 2003 on Batu Hijau's corporate social responsibility programs,[2] focusing here on the mine-run farmer field schools, training of trainers, and participatory rural appraisals. Before discussing these programs, however, I first briefly situate the mine in its geographic and historical context and discuss the Green Revolution and integrated pest management (IPM), which are key to making social sense of the trainings.

New Order development legacies

In 1986, President Soeharto signed a contract of work with PT. Newmont Pacific Nusantara granting the company broad exploration rights across the islands of Lombok and Sumbawa. After a decade of exploration and feasibility studies, Newmont began purchasing land in southwest Sumbawa for the Batu Hijau mine facilities, eventually buying over 800 hectares of land from more than 400 landowners. Mine construction began in 1997, coinciding with a deepening of the Indonesian economic crisis that catalyzed social protest and eventually led to the 1998 toppling of Soeharto and his authoritarian New Order regime (1966–98). During the period of the mine's construction, which lasted until late 1999, southwest Sumbawa became a bustling hub of economic activity. While poverty and unemployment surged in the rest of the country, the economy was booming in west Sumbawa. Construction contractors employed up to 20,000 workers to build the $1.9 billion mine. Local residents worked for Newmont's contractors, opened small kiosks, and rented out rooms or built simple accommodations to rent to workers. Local elites set up construction businesses but found they had to compete with more experienced and well-capitalized newcomers, who also established bars and brothels.

Mine construction had important implications for local agriculture. First, it reduced the amount of land available for farming, as, in addition to the sale of land to Newmont, it unleashed a frenzy of landgrabbing, trading, and speculating. This has left an enduring legacy of unresolved disputes, overlapping land claims, and bitterness toward the village officials, particularly the village heads *(kepala desa)*, who presided during this era. Questions of land ownership in one village, Maluk, were further complicated by the fact that it had become part of the government's controversial transmigration program in 1983. Transmigration was meant

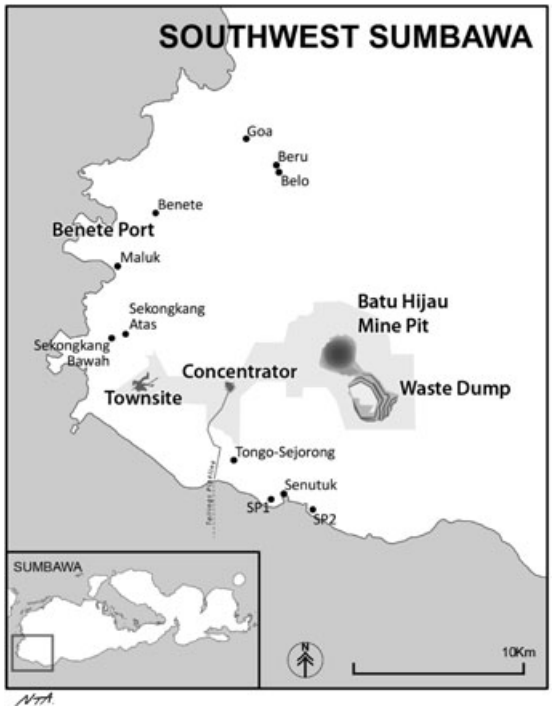

Figure 1. Map of southwest Sumbawa. Credit: Nij Tontisirin.

to resettle poor, landless, dispossessed, and displaced people from more to less densely populated islands, simultaneously developing Indonesia's hinterlands and containing the threat of a growing class of urban poor. Existing Maluk residents had to cede enough land to accommodate 240 families from Lombok, Java, and elsewhere in Sumbawa. Malaria and severe water shortages led many families to abandon the site, but once mine exploration and construction began, a number of settlers returned to reclaim title to their transmigrant plots.[3] In the mid-1990s, the Indonesian government also established SP1 and SP2, two new transmigrant villages east of Tongo-Sejorong village (whose residents were also forced to relinquish agricultural land) and directly adjacent to the coming mine site[4] (see Figure 1).

Besides "freeing" a number of farmers from their land, mine construction altered local residents' perceptions of labor and their broader desires and expectations for the future. Before mine construction began, agriculture was the undisputed economic mainstay. Jobs in the civil service, police, or army represented alluring and prestigious alternatives to farming, but such careers were out of reach for most because of limited schooling and the high cost of bribes necessary to secure government positions. Although a growing number of women had been traveling to the Middle East on two-year contracts to work as domestic laborers, they typically used their earnings to construct a new home or purchase paddy fields rather than as capital for some new enterprise. With the construction of Batu Hijau, however, Sumbawans began to act, and envision themselves, as wage-laborers and the owners of small business enterprises. For younger men, in particular, the farmer's hoe lacked the prestige of the miner's vest, boots, and helmet or the businessman's sport utility vehicle. Agricultural land was left fallow or leased out to migrants from Java or Lombok. Once Batu Hijau began commercial production in early 2000, however, things changed dramatically again.

For its regular operations, the mine required only 4,000 workers, most of them highly trained. Many local residents who had been employed during the mine's construction found themselves out of work, and a bitter struggle for jobs and contracts ensued. Local residents organized demonstrations to demand mine jobs and threatened to shut down the mine with roadblocks. A one-day shutdown alone, Batu Hijau managers estimated, would cost the mine $1 million. Financial costs aside, the threat of demonstrations created a climate of fear, a sense of living under siege for people who worked for the mine as employees or contractors and for their family members who resided within mine facilities or close by. Some became afraid to drive around, never knowing when they might suddenly be halted by a stack of burning tires in the middle of the road and angry demonstrators who seized vehicle keys and threatened mine-related personnel with machetes. Batu Hijau's External Relations Department identified disaffected local farmers as the mine's top security risk; getting local people "back on the land" became a far more pressing and challenging problem than assembling a workforce.[5] Newmont managers wanted to turn would-be mine workers, whom they saw as a threat, into a different kind of subject: farmers who knew their place (on the land). Yet Batu Hijau pursued its goal of making farmers in several ways that were deeply inconsistent with one another. In doing so, it was, in some ways, reproducing the inconsistencies and contradictions that already existed in state-led development programs.

Newmont's first model for agricultural development was the Green Revolution. Indonesia's Green Revolution programs were initially developed in the 1960s. Facing domestic Indonesian rice shortages, the left-wing administration of President Sukarno, Soeharto's predecessor, created Bimas, a "mass guidance" *(bimbingan massal)* program to modernize agriculture by improving rural infrastructure, supporting agricultural extension, and providing farmers with high-yielding rice varieties, pesticides, fertilizers, and credit (De Koninck 1979; Winarto 2004). Also a subject-making endeavor, Bimas was meant to transform "the mentality of the farmer" from "traditional" and "instinctive" to "rational" (McVey 1990; Rieffel 1969:105, 113). On September 30, 1965, just as agricultural students were preparing to introduce Bimas in rural villages, six Indonesian army generals were killed in an alleged communist coup attempt. A wave of army-backed massacres against alleged communists swept Indonesian cities and the countryside, and

then general Soeharto used the alleged coup to consolidate control and oust Sukarno from power. Bimas went forward despite the massacres (Rieffel 1969:115), and over the ensuing decades the New Order expanded the Green Revolution through a series of mass guidance and mass intensification (*intensifikasi massal,* or Inmas) programs. Shorn of Sukarno-era land reform goals and revolutionary passion (Rieffel 1969:113),[6] Bimas was carried out in partnership with the International Rice Research Institute in the Philippines and "foreign chemical companies [that] conducted aerial spraying and fertilizer distribution for entire blocks of farmland, whose farmers were frequently coerced into planting high-yielding rice varieties and charged automatically with a debt for the inputs" (Bowen 1986:553; see also Rieffel 1969).

In Indonesia, as elsewhere in Southeast Asia, the Green Revolution disproportionately benefited wealthier rural residents, who used the new technologies to increase production and shed traditional obligations to women and poorer neighbors, who were pushed onto more marginal land or off the land entirely (Franke 1974; Scott 1985; Stoler 1977; Winarto 2004:14). The resulting agrarian class differentiation, Gillian Hart et al. (1989) argue, reflected the state's assiduous cultivation of patron–client networks rather than neutral interactions between technology, land, and capital. Ruling national parties supplied rural elites with agricultural subsidies; rural elites, in turn, acted as the state's "agents in the countryside": policing villages, distributing development goods to loyal followers, and preserving the preternatural rural stability over decades of authoritarian rule (Antlöv 1995; see also Gupta 1998; Scott 1985).[7]

The Green Revolution, and conventional top-down New Order approaches to agricultural development more broadly, provided a ready-made template for mine managers to adopt with local residents whom they wanted to convince to farm. Starting in 2000, Newmont's Community Development Department set about clearing fallow land with bulldozers so farmers could resume cultivation, going on to also construct dams, weirs, and irrigation channels for agriculture. Newmont's nominally independent development foundation, Yayasan Olat Parigi (YOP), began dispensing chemical pesticides and fertilizers along with microcredit, water pumps, fish and livestock (water buffalo, chickens, goats, cows), and seeds and seedlings. Although YOP ostensibly provided these goods to farmers through loans, more often than not, local residents, following longstanding patterns of interaction with state authorities, interpreted credit and supplies as gifts and failed to repay the foundation. The tangible technologies and "can-do" approach appealed to Batu Hijau managers with backgrounds in engineering. For other managers and employees, it also made sense that agricultural inputs could be used to build alliances or, to put it in a different idiom, cement patron–client relations. Mine managers refashioned the state practice of cultivating rural elites through development inputs as a corporate strategy for addressing mine security risks and needs (Welker 2009).

But the Green Revolution was not the only model of development to which Newmont officials turned. In 2001, Batu Hijau's newly hired community development manager began trying to steer the mine's programs on a more participatory course. The only female manager under the division of External Relations (which included the Government Relations, Community Relations, and Security Departments), and in charge of an all-male field staff, she drew on her background at USAID to find consultants and NGOs who could train local residents in participatory approaches and alternative development models. From her perspective, local people were holding the company hostage with their roadblocks and demonstrations. If their actions were governed by rational thought rather than emotional reaction, she believed, they would start to meet the company halfway in generating local progress and development. Over the course of a year in the company, she said she had observed progress in villagers' attitudes as they realized that they were "only hurting themselves by demonstrating" and preventing fellow villagers from getting to work in the mine. Increasingly, she added, villagers had begun to sanction their own "troublemakers." Even though the participatory IPM programs to which she turned had been developed in explicit opposition to many of the technologies of the Green Revolution and the ideology that undergirded it, they too had their origins in Soeharto's New Order.

Although the Green Revolution produced spectacular increases in rice production, growing pesticide resistance left farmers vulnerable to pest epidemics.[8] In 1986, with brown planthopper outbreaks devastating rice crops, President Soeharto signed a presidential decree that banned 57 insecticide varieties from use in rice cultivation, eliminated pesticide subsidies, and pledged to train 2.5 million farmers in IPM with support from the United Nations' Food and Agriculture Organization (FAO; see Fox 1991:75–76). Rather than relying on synthetic pesticides, the IPM framework promotes "natural" biological, physical, and chemical pest controls, including weather, habitat modification, and the protection of "natural enemies" (predators and parasites; see Winarto 2004:20–21).[9] To train farmers in IPM, FAO created its first farmer field schools in 1989, drawing heavily on participatory development models discussed in greater detail below. These "schools without walls" run for one morning a week over 12 weeks, in parallel with the cycle of paddy planting, transplanting, and harvesting.[10] IPM temporally succeeded but by no means eclipsed the Green Revolution model that was in place, reaching only a small portion of the farmers who had already adopted Green Revolution techniques. The partial and inconsistent shift in Indonesian agriculture toward IPM makes sense if one approaches the

state not as a monolithic entity but, rather, as a complex set of processes and actors whose actions are not well coordinated and are even at times at cross-purposes with one another. Much as conventional Green Revolution and IPM models coexist in state policies, they also coexist in Batu Hijau's approaches to farmers, a point I return to below.

Participatory technologies, IPM, and the culture of facilitation

The participatory turn initiated by Newmont's community development manager was neither surprising nor unprecedented. Participation was very much in the air, having become "the new orthodoxy of development" by the early 1990s, with every major bilateral development agency emphasizing participatory policies (Henkel and Stirrat 2001:168). By the late 1990s, extractive industry operations increasingly saw participatory technologies as part of the best practices toolkit for community interactions and development programming. Over the course of my research, I observed and gathered materials from multiple Newmont-supported farmer field schools, "trainings of trainers" for farmers, and participatory rural appraisals. Batu Hijau's Community Development Department also carried out participatory wealth rankings, participatory school assessments, and participatory health assessments. When a conflict brewed in one village over who should be village head, Batu Hijau managers even discussed running a participatory political assessment to resolve the crisis. The Indonesian state was hardly immune to this trend. As one Indonesian government official wistfully remarked during a meeting with Newmont, the horseback-riding, pistol-toting days of "commando government" were over; Indonesia had entered an era of "participatory government."

If conventional approaches to development treated people as objects, "abstract concepts," or "statistical figures to be moved up and down in the chart of 'progress'" (Escobar 1995:44), participatory technologies were supposed to restore agency to people as the subjects of their own development.[11] Further, by incorporating anthropologists and ethnographic methods, development planners hoped to make their programs more cost-effective and culturally appropriate.[12] Participatory technologies derive an appealing "patina of radical politics" (Francis 2001:75; Hailey 2001:99) from the work of Ivan Illich (1971) and Paulo Freire (1970), thinkers who sought to create a model of education that valorized and worked inductively from the knowledge and insights of the oppressed and countered the conventional hierarchical relationship between teachers and students. In keeping with participatory principles, the Newmont staff and consultants who led agricultural trainings were called "facilitators," signaling that they facilitated participants' acquisition of knowledge and consciousness rather than teaching participants from a position of hierarchical authority.

Most of the consultants, NGOs, and field staff from Newmont's Community Development Department who led trainings hailed from outside the mining region: Five were from the regency branch of the Indonesian Integrated Pest Management Farmers' Association (Ikatan Petani Pengendalian Hama Terpadu Indonesia, or IPPHTI), several were from the neighboring island of Lombok, and the most senior were two Javanese men with backgrounds at FAO. One exception was a village resident, Pak Nur, who had recently graduated from a university in east Java, where he also had been briefly imprisoned for his political activities and affiliation with the leftist People's Democratic Party (Partai Rakyat Indonesia). Although he formed an NGO that partnered with Batu Hijau on various programs, such as the trainings, he was ambivalent about Newmont's presence in southwest Sumbawa and acutely aware of the irony involved in teaching lessons in political empowerment and IPM with mine support. Other facilitators sometimes felt this irony too. When Pak Amir, one of the FAO-trained facilitators, went on a tour of the mine and saw its vast expanse, he was reduced to tears. The environmental benefits of crafting appropriate technologies like bamboo drip-irrigation systems and reducing pesticide use suddenly seemed trivial in comparison with the environmental impacts of the mine itself.

In the FAO model that Newmont's facilitators adopted, IPM is conjoined with participatory technologies to extend beyond a concern with the environment narrowly construed. Facilitators were concerned with analyzing structural violence (Farmer 2004); principles of social justice and collective rights; the democratization of economic and scientific tools and analysis; and a natural, informal, and simple aesthetic. Facilitators believed in, and performed, a "hybrid agronomy" of scientific and economic rationalization, romantic nostalgia, and radical pedagogy.[13] During trainings, IPM facilitators used exercises and discussions to stimulate recollections of the past and to shape and classify farmers' memories. Much of this "memory work" (Delcore 2003) centered on the participants' experiences in adopting and using the pesticides, fertilizers, and high-yield rice varieties of the Green Revolution.

Facilitators sought to cast violence, dispossession, and disempowerment as central to the farmers' Green Revolution experience while framing the pre–Green Revolution era in a positive and nostalgic light. In one activity, for example, facilitators asked participants to catalogue—using the markers and flipcharts that are the obligatory accoutrements of such trainings—the rice varieties, pesticides, and fertilizers they had used since the 1970s. Facilitators could anticipate the participants' lists of rice acronyms and foreign-sounding commercial compounds because the same succession of seed, pesticide, and fertilizer "input

packets" had been distributed across, and beyond, Indonesia.[14] Imbuing rice with agency (similarly, see Gupta 1998), participants described the acronymed varieties as "spoiled" *(manja)* and "greedy" *(rakus)* because they demanded large quantities of expensive inputs and water. Asked what kinds of paddy they had planted before the Green Revolution, participants recalled varieties with colorful names like hairy rice and copper rice, each of which had its distinctive characteristics and growth cycle.[15] Facilitators asked participants to plot this type of data on a historical analysis chart showing the numbers of human illnesses, rice varieties, pesticides, fertilizers, and pest species over the past four decades. The facilitators sought to show that the shrinking number of rice varieties alongside growing use of pesticides and fertilizers was related to outbreaks of pests and new human illnesses, but they had to intervene to rework the tables the farmers drew up to reflect worsening conditions. The facilitators thus cast the era before the Green Revolution as a golden age of abundant rice varieties, low fertilizer and pesticide use, and limited human diseases and pest afflictions.

Facilitators used these data to open up discussion of the numerous environmental impacts of Green Revolution technologies. They screened a documentary on the devastating potential consequences of pesticides, which they insisted should be called "poison" *(racun)* rather than "medicine" *(obat)* to be routinely applied to rice (as to a body) as a form of preventive care (Hansen 1971:71; Winarto 2004). The participants were horrified by the footage of Javanese farmers severely and permanently debilitated by pesticide exposure and by the eerie sense of familiarity the film provoked. They too had been approached in their paddy fields by corporate-sponsored "formulators" peddling pesticides. They too had opened, used, and disposed of pesticides without safety precautions. Several recalled instances of nausea and headaches associated with pesticide use. One remembered a time when he sprayed his fields then staggered home, told his wife not to bother him, and passed out for several hours. Sumbawan farmers were thereby able to link what might have seemed like individual and isolated experiences to larger processes.

Facilitators also focused on questions of agency. They asked participants, "What happened to the Sumbawan process of seed selection and breeding *(sanklek)*?" "Where did all your paddy go? Is it in a bank in the Philippines?" After suggesting that the rice varieties did not simply disappear but were appropriated, Pak Amir appealed to nationalist sentiment with the query, "Why doesn't Indonesia have a bank like that?" Linking the historical analysis of environmental impacts to a structural analysis, IPM facilitators sought to demonstrate that farmers had been disempowered in a systematic fashion and not merely as an accidental side effect of politically innocent scientific attempts to increase food supplies. Pak Nur darkly warned the farmers,

> Everything in our environment is moving, while we just stay quietly, awaiting our fate. Everything is in motion, we too must move. We are the objects of a conspiracy between the Agriculture Ministry and the seed corporations. We have been humiliated. In the past we had such variety, then the Koramil [military commander] came and said, "You must plant this and that."

Elaborating on the actors involved in the conspiracy, Pak Amir explained that universities and other research institutions, the government, credit institutions, the World Bank and the Asian Development Bank, the International Rice Research Institute, and European and Japanese corporations created input packets with no regard for local ecological variation, the maintenance of long-term ecological integrity, and the economics of small-scale farming.[16]

> We must pray *(zikir)*, reflect deeply *(tafakkur)*. For example, BRI [Bank Rakyat Indonesia, the People's Bank of Indonesia], we see only its hands and feet in the village, it comes also from Jakarta, from the World Bank. Bayer, Monsanto, these are giants, they have monthly meetings, and they enter the village systematically, in a fashion that is hardly felt by us, and they have computers where they keep data on villages. They feel it when Pak Nur appears. Now if farmers are busy, each just thinking about himself, we can't fight them. Pak Nur said that we must police the traffic in information. Newmont has interests too, so we cannot have too much faith in them.

Using rousing words, facilitators cautioned farmers against being immersed in their own problems, encouraging them to see, instead, that they suffered shared predicaments created by larger forces. The participants often showed that they found this conspiracy narrative compelling by nodding, murmuring agreement, and uttering exclamations of disapproval over state and corporate actions.

Facilitators encouraged participants to reproduce this conspiracy narrative through social analysis exercises in which participants diagrammed their relations with state and private actors. Facilitators asked participants to index the significance of designated actors with the size of the circle they drew to represent them, and the thickness of arrows linking the peasant to those external actors indicated the quantity of give and take in their relations of exchange. Constructing these diagrams, participants engaged in animated discussion. They criticized Newmont's foundation YOP for "using the community's name to enrich itself" and the national electricity company for "not being social," as it was quick to cut people off and assign fines but only offered sporadic and expensive service. Through this exercise, facilitators sought to impart to participants the understanding that, in their objective conditions, they are exploited by most, if not all, of the institutional actors with whom they deal. The single figure labeled "farmer" at the center of these

structural analysis diagrams suggests that farmers belong to a homogeneous class that experiences relations of exploitation in the same way (Kearney 1996), obscuring relations of exploitation or class, gender, and ethnic differences among farmers and the fact that farmers may occupy multiple subject positions (e.g., civil servant, village head, or merchant).

The facilitators implied that farmers adopted Green Revolution technologies because they were either duped or forced into doing so. One farmer confirmed this view when he admitted that, as a young government agricultural officer in the 1970s, "I had to chase farmers down and force them to use the new rice. It was like forcing people into family planning at first." His analogy was not uncommon; one Green Revolution rice variety was even dubbed "family planning rice" (*padi KB, keluarga berencana*; see Fox 1991:68). The two were also linked insofar as rapid population growth had made increasing the food supply to the point of self-sufficiency—which Sukarno had failed to do—an increasingly urgent goal of the Soeharto administration (Hansen 1971:74–75). Although coercion and fear figure into social memories of state interventions into agricultural production and human reproduction, Sumbawans had, in fact, viewed these programs with a good deal of ambivalence. Agricultural inputs and contraceptives had, indeed, at times been forced on people, but, often enough, local demand for these government-subsidized products had actually outstripped supply, allowing local authorities to consolidate their power by regulating access to them (see also Tsing 1993:108–109; Winarto 2004:25–26). Many Indonesian farmers had been interested in trying new Green Revolution technologies but had wanted pesticides without fertilizers, or vice versa, and had disliked being forced to accept a whole package of inputs on credit. Indeed, throughout the Green Revolution period, credit repayment rates had been extremely low; farmers had taken the program as a (not necessarily desirable) government handout rather than loan (Hansen 1971:65; Rieffel 1969:119). Newmont's IPM facilitators, however, ignored such complexities in their efforts to create a narrative of farmer disempowerment at the hands of the state.

The facilitators then sought to reveal a path through which farmers' agency—and the environment—might be restored. They exhorted participants to seize their rights to improve their fields; access government services; play a role in determining prices; receive correct information; work in a healthy environment; develop seeds; manage water; market products; create formal organizations; and enjoy linguistic, cultural, and artistic expression (IPPHTI n.d.). Although facilitators cultivated nostalgia for the past, they did not encourage participants to simply scratch out a minimal subsistence or to return to barter relations. Instead, they proposed that participants become enterprising farmers (rather than static traditional peasants) even as they criticized contemporary "free" market conditions that allowed developed countries to heavily subsidize agriculture at the same time that international institutions such as the IMF, WTO, and World Bank forced Indonesia to dismantle its own agricultural protections. Further, facilitators reminded participants that their produce could be turned away from developed countries for excess levels of toxic pesticide residues. If farmers could not produce chickens in Indonesia more cheaply than they could be imported from New Zealand or Thailand, facilitators encouraged them to focus their energies elsewhere, for instance, tapping into distant European markets for organic tropical medicinals or cultivating information networks and infrastructure so that they might store their produce rather than sell it off when prices bottomed out after the harvest.[17]

In addition to encouraging participants to be savvy market players, facilitators sought to impart to local agriculture a scientific idiom. With bought and donated land, they created "laboratories" where field schools were held and where farmers could conduct "experiments" in accordance with scientific principles, using test and control plots to measure the productivity and insect density that would result from different techniques (e.g., timing, spacing, watering), seeds, and other inputs (Winarto 2004).[18] Through practical experiments in laboratories, facilitators sought to convey to participants the merits of creating and controlling their own knowledge rather than relying on external authorities.[19] For example, after the results had been measured from harvesting test plots planted with IR-64 and several organic varieties from Java, this conversation ensued:

> Pak Amir: Should we buy rice with a label or without a label? Who makes the label?
>
> Participants: A company!
>
> Pak A: If a company makes a label do we believe what they say? What they are interested in is making a profit. Of course the PPL [government agricultural extension officer] recommends that you buy the labeled rice, but from our research the ones that don't have a label are better. Companies like to use farmers too. It is better if we use our minds . . . We eat rice, not brand names.

The facilitators also appealed to an economic logic to urge participants to consider alternatives to industry-produced pesticides and fertilizers, comparing the cost of pesticides to the amount a farmer might expect to earn selling rice and how much rice they might lose by not spraying. After facilitators applied a similar economic logic to fertilizers, one Sumbawan farmer spoke of how he still made his own fertilizers but, because he feared that others would take his homemade fertilizer as a sign of poverty (commercial fertilizer, conversely, being associated with wealth and prestige), he usually spread it on his fields at dusk when no one was

around. Over the course of the workshop, however, he reframed his homemade fertilizer in positive terms.

More generally, the facilitators sought to revalorize farming in comparison to higher-status activities, such as joining the civil service or joining Newmont. Several local men and women had told me they were ashamed *(malu)* to be seen going into their fields and farming and that they disliked planting and harvesting in the hot sun. One training participant explained he wanted to do well in farming so that his children could be raised for something greater than just holding a hoe *(pegang cangkul)*. Against these negative perspectives, facilitators emphasized the foundational role of farming in feeding the nation. If not the farmers, they asked, then who would feed (then president) Megawati? They described farming as the purest *(paling murni)* form of work. Facilitators noted how myriad details of the training setting—many of which were otherwise unremarked parts of everyday life for farmers—indexed the aesthetic and pleasures of peasant simplicity, informality, earthiness, and intimacy. For example, they called explicit attention to how the farmers and facilitators sat on leaves spread on the ground under bamboo structures, used their hands to eat, wore torn clothing, took their shoes off, and prayed together. Further, a local facilitator noted, farming was inextricably linked to Sumbawan culture: "If we reopen our history we find that all of our culture is connected to our farming ... If *basiru* (mutual aid) disappears in farming, how much more in other aspects of our culture? The destruction of farming represents the destruction of our culture."

The limits of trainings

It often struck me as ironic that a mining corporation was sponsoring programs in which participants were being radicalized, taught to value their knowledge and use it to think critically about their relations with corporations and government authorities. Yet, before long, it became apparent to me that the trainings were not taking hold among participants in the ways they were supposed to. This might be attributed to the dilution and deradicalization of Paulo Freire's ideas and those of other radical thinkers, first, by a development industry seeking, in a neoliberal era, to put the onus for development on citizens rather than states or international institutions and, second, by a mining corporation. Indeed, Batu Hijau's community development manager had cautioned one facilitator to not be too inflammatory in exhorting participants to transform their structural conditions. Yet this fear of radicalized subjects may have been unwarranted for reasons that I explore in the pages that follow, focusing first on the mundane limits of the trainings and then showing how participants criticized normative training assumptions and cast themselves as subjects entitled to material forms of development assistance from Newmont.

To begin with, the selection processes that produced participant rosters curtailed the reach of Newmont's participatory programs. Newmont facilitators and members of the village governing apparatus were responsible for selecting participants, and their selection criteria were often inconsistent with broader participatory goals for social, political, and environmental transformation. One Javanese sharecropper taking part in the training of trainers, for example, suspected he had been selected as a political favor by a village head, on whose land he lived and worked. Because he resided well outside the village and interacted little with other village residents, he was unlikely to motivate other villagers to adopt IPM. Two other participants, Pak Jamal and Pak Saleh, speculated that the village head had selected them as participants because they had been publicly organizing former workers from the mine's exploration era to demand compensation from Newmont on the grounds that the mine had paid them low wages as day laborers (many had served as porters carrying heavy loads of rock samples through the forest) and had not hired them on as permanent workers once production began. They considered the training an effort to distract them from their political goals.

The participants in the trainings were also overwhelmingly male, despite the emphasis in participatory development materials on the significance and benefits of women's involvement. Indeed, Newmont terminated the contract of the one female facilitator from the regency capital early on, leaving exclusively male facilitators. I suspect this gender bias may be widespread in participatory programs, rather than simply reflecting the particular conditions of West Sumbawa.[20] As among other Newmont programs, I found that the absence of women tended to go along with other exclusions. The poorest village residents, landless farmers, and non-Sumbawan transmigrants were largely absent. The trainings only reached a limited number of participants and tended to exclude villagers marginalized by virtue of their social or economic positions and identities. In this way, the trainings followed rather than subverted the ruling order.

The trainings also entailed activities that could be viewed as culturally inappropriate for mixed-gender groups, further reinforcing the gender bias. The very structure of the training of trainers, which entailed an eight- to ten-day commitment during which time participants were supposed to sleep away from their homes, made it unfeasible for most women. Further, in southwest Sumbawan villages, there is a sufficient degree of gender segregation in social life that many of the games—which involved physical contact, dancing, and one-on-one partner activities—would have been uncomfortable or even unseemly for a mixed-gender group. Part of my own experience during these trainings involved learning when to step out of such games to avoid provoking the discomfort of my fellow male participants; sometimes when I was not quick enough to excuse myself, older men would instruct me to do so.

Beyond being culturally inappropriate at times, the trainings were not always culturally intelligible. A discourse must be recognizable to be persuasive (Keane 2005:721), and participants clearly were not always able to grasp what the facilitators were talking about (Winarto 2004). Participants were not always equipped with the tacit, class-based cultural knowledge and behavior that would have enabled facilitators to pull off various activities successfully. I was frequently struck by the fact that I seemed to find the trainings and the implicit narratives that ran through them more compelling than did my fellow village participants. Although participatory pedagogy is supposed to work inductively from the knowledge of farmers, IPM is embedded with scripts (e.g., about the Green Revolution's negative impacts) and norms (e.g., respect for nature) that were already instilled in or obvious to me (someone with an undergraduate degree in environmental biology who worries about pesticide residues in food and the larger political economy of agribusiness) but eluded many of my fellow participants. For example, when the facilitators set up the historical analysis discussed above, it was immediately apparent to me that the objective was to show a set of related trends: more synthetic pesticides, fewer rice varieties, more human diseases. This was not evident to the other participants, however, who produced lists with the number of human diseases declining over time. The facilitators obtained the results they wanted only by adding diseases such as colds to the list (likely experienced before the Green Revolution) and cancer (rates may well have gone up but so has diagnosis). I already believed in the scientific correlation between these trends, but, for the participants who were making up these charts, it was not obvious what the facilitators were trying to get them to show, ostensibly from their own experience. Similarly, Daromir Rudnyckyj found that emotional and spiritual quotient (ESQ) trainings at Indonesia's Krakatau Steel held profound appeal for "an educated audience of middle- and upper-middle-class participants" but met with "less success" (2009:111) among employees at lower levels of the company, such as foremen and operators.[21]

When facilitators had to force fit what participants said into the dominant IPM narrative, the gap between facilitators' pedagogical model and their conviction that they (rather than the participants) knew the real story of the Green Revolution became painfully apparent. Today, most farmers plant IR-64 rice, one of the high-yield varieties developed in the Philippines. Some have retained stocks of older varieties, which they have grown on the side for their families and consider more nutritious than IR-64. While this view accords with the IPM narrative, other farmers saw things differently. Some, for example, proclaimed that they had abandoned varieties that took five to six months to grow and, although strong enough to outcompete weeds, tasted terrible. Despite several pest outbreaks over the 1990s, many southwest Sumbawans saw an overall advantage in planting varieties that grow in three months and allow for two crops per year. Living in Indonesia's driest region, Nusa Tenggara, Sumbawan farmers could vividly recall past periods of drought-induced famine and intense hunger when their rice stores ran out and they were reduced to eating sago, boiled bananas, and corn as starch (similarly, see Delcore 2003:72–73; Ellen 2007:4, 24–28; Monk et al. 1997:69, 494).

The facilitators' attempts to manage games and icebreakers were also vulnerable to breakdown as they moved between the phases of set-up, execution, and exegesis. Uma Kothari has noted that participatory development involves very contrived performances,

> where the . . . facilitators act as stage managers or directors who guide, and attempt to delimit, [the participants'] performance . . . The development practitioner initiating a PRA [participatory rural appraisal] is asking participants to adopt and play a role using certain techniques and tools, thus shaping and, in some instances, confining the way in which performers may have chosen to represent themselves. The stage and the props for the performance may be alien to the performer. The tools provided can limit the performance so that the performers are unable to convey what they want to; the stage has been set by others and the form of the performance similarly guided by them. The resulting communication or dialogue are then fraught with confusion and ambiguity. [2001:148–149]

Whereas Kothari emphasizes the control of facilitators, I would, instead, underscore the "confusion and ambiguity" that emerge when they fail to fully control the performance. When facilitators had participants do the trust fall (in which one participant is supposed to fall backward from a standing position into the arms of a waiting partner), for example, they did not get the results that this familiar exercise typically elicits among groups undergoing training in the United States (e.g., the unnerving moment of letting go and the relief upon being caught; see also Martin 1994:ch. 11). Several spotters allowed their partners to fall to the ground, occasioning laughter among the participants and a little bruising, shock, and embarrassment for those who fell. Similarly, when we played a game that was designed to build understandings of trust in which one participant steered around a blindfolded partner, some participants used this as an opportunity to slam their vulnerable, dependent partners into the poles holding up the palm roof or into other pairs of participants. As a result, these activities ended up conveying a message quite different than that intended. Instead of teaching farmers to trust one another, these activities suggested that such trust can be misplaced, foolish, and even dangerous.

Role-play games also misfired when participants brought evaluative criteria to the games that were incommensurate with the simple moral lessons or "take home messages" we were supposed to derive. In one activity meant to demonstrate that better guidance produced better results, for example, we were divided into groups of six, assigned leaders, and asked to construct towers and boats out of straws. The facilitators took the leaders aside and told them to role-play a certain kind of leader: either a good, supportive leader or a bad leader who was overly aggressive and demanding or lazy and apathetic. One group with a "bad leader" produced a large tower creatively festooned with origami cranes (which we had made earlier as a lesson in the value of learning by doing). My group's tower, by contrast, looked rather pathetic, small, and lopsided, like the handiwork of a Newmont subcontractor rather than of Newmont itself, as one participant joked. This was the expected result for a "bad leader" group. I was the one role-playing a "bad leader," a task I carried out with some gusto, disparaging my group's efforts as they worked. In the exegesis section following the game, however, my group, not wanting to compare unfavorably to other groups, insisted that, as a leader, I had made them feel safe, good, and proud.

Trainings also fell short of their mark when, as one of Newmont's community development workers wryly observed, they put participants into a state of *asbun*. *Asbun* is short for *asal bunyi,* denoting the production of noise simply for the sake of noise, without real interest, effort, or regard for content and meaning. John M. Echols and Hassan Shadily (1989:31) translate this as "speech without forethought." The mental disengagement of asbun can be a consequence of overly routinized participation. For example, the facilitators frequently employed a didactic technique that involved asking questions such as "What is an ecosystem?" "What did we learn from playing that game?" or "What is a motivator?" making a brainstorming list, and then arriving at a sound conclusion from the suggestions. But once the facilitator had affirmed the correct tenor of the response, by noting one approvingly on the flipchart, for example, participants would continue with responses that largely reiterated the same theme, often gaining momentum as they went. It often took an effort on the part of facilitators to staunch the flow of resulting platitudes (e.g., an ecosystem would be described as depending on one another, loving one another, etc.). If some of the confusion that resulted from games described above derived from a lack of cultural relevance, asbun emerges instead from participants being overly practiced and only marginally engaged. Their hyperobedience—whether it was rooted in deliberate parody or support combined with incomplete engagement and understanding—could have a subversive effect on the training's objectives (Boyer and Yurchak 2010; Heryanto 2006).

Material micropolitics

Many critics of participatory development have viewed it as an insidious process for remaking subjects, a process that is ultimately embedded in relations of power that go largely unremarked and unseen by facilitators and participants.[22] The analytic burden of such critiques then becomes the revelation of insidious relations of power that are supposedly concealed from those who take part in participatory development. Several critics have lauded resistance on the part of participants but portrayed it as intermittent, unconnected, unsystematic, fugitive, deviant interruptions.[23] In my research, by contrast, I found resistance to the training and the lessons it was supposed to impart to be quite widespread and systematic. I devote this section to analyzing this resistance, attending to how it often appears in a material register that may be neglected in studies that focus on interiorized transformations of subjectivity. I do not attach an a priori positive valence to expressions of resistance and critique. As feminist scholars have noted, in resisting one form of authority (e.g., traditional patriarchal power), subjects often assume subordinate roles within other forms of power (e.g., state or capitalist authority; see Abu-Lughod 1991; Brown 1995; Ong 1987). In this case, I show that resistance toward participatory programs was not necessarily politically progressive and could be rooted in a desire to foster closer relations with Newmont or to defend ideologies central to the Green Revolution and legacies of Soeharto's New Order rule.

Critics have correctly pointed out that participatory development models tend to suppress and deny hierarchies and relations of power within trainings and among community members. I found that participants themselves were acutely attuned to how the trainings were related to, and enacted, broader relations of power. At a basic level, participants expressed this concern by publicly estimating how much the trainings must cost and how the budget was allocated, factoring in the wages of facilitators, honoraria for participants, supplies, and daily meals and snacks. Some speculated that the facilitators inflated participant rosters to extract more money from the company. The participants also complained about the quality of the food, and some voiced their suspicion that there might be some foul play on the part of the (usually Javanese) caterers, perhaps in collusion with the training's organizing committee. This kind of conflict was not limited to corporate-sponsored events. In post-Soeharto Indonesia, suspicions about corruption (and phenomena like faked and inflated participant rosters and even billings for facilities rentals and refreshments for nonexistent trainings) were rampant. A teacher who attended a government-sponsored training on the neighboring island of Lombok told me that he and others had banded together to expose the training committee's misappropriation of snack funds, leading to a physical fight

that left one committee member with a bleeding head wound.

During one of the trainings, a participant asked, on behalf of his fellow participants, how much they might expect to earn in honoraria (*uang duduk,* lit. sitting money) for their participation. A Newmont facilitator responded by joking mockingly over their "cash obsession." At this, a typically mild-mannered Sumbawan farmer sharply retorted, "Don't always oppress us!" Another facilitator attempted to defuse the situation by suggesting that they carry on with the training, promising that later he would whisper the honorarium sum into the farmer's ear. I suspect the facilitator wanted to resort to a private whisper because, in light of the shared interests, goals, and altruistic motivations that were supposed to characterize participation, the participants' interest in their honorarium payments seemed vulgar and embarrassing. Yet, for participants, these payments represented the only material benefit they could truly count on from over a week spent away from their normal life. Further, they wanted to assure the local kiosk owners that they would be able to pay them back for the cigarettes they were purchasing on credit during the training.

Participants found other ways to underscore the hierarchies internal to the training and what some perceived as an undercurrent of oppression running through it. They were keenly aware that the facilitators, like other agents of development they had encountered, owed their conditions of material privilege to their claim to be assisting villagers. They did not take facilitators' simple dress and demeanor as a sign of their poverty or equal status with farmers.[24] During a break, Pak Jamal, one of the farmers who suspected he had been selected to participate in the training as a means to distract him from his grievances over Newmont's handling of exploration workers, complained about the infantilizing nature of the games and pointed out that the facilitators were all younger than he. Tugging at his hair, he added, "Look, I'm already going grey and they're making me play like a child, mocking me."

Participants also grew annoyed when facilitators did not translate their ideas into plain speech. At one training, a participant irately insisted that facilitators stop using words like *productivity, commitment, management, monev* (monitoring and evaluation), and *lab* because farmers do not understand what these words mean. When a facilitator responded by trying to explain what *paddy management* meant, he was immediately silenced by a chorus of calls for him to "sit down." Another farmer explained, "We don't go to the office, and in the paddy fields there is no such term as *management*. It has no meaning or place." Facilitators themselves were sometimes rather uncertain of the meanings of the words they used and called on me to explicate terms like *demplot* (demonstration plot) or *gender,* noting that these words originated in "Marina language" (i.e., English). Yunita T. Winarto (2004) meticulously documents the failures (as well as successes) in processes of IPM knowledge production. Such knowledge failures—which scholars have noted are often understated in Foucauldian approaches (Graeber 2006; Mathews 2005)—are related in turn to failures in the production of new subjectivities.

Participants' critiques of the facilitators and their modes of learning and teaching went deeper than a simple hostility toward jargon. After an overly technical discussion of random sampling during a training, Pak Hajji Razak, a soft-spoken but authoritative participant, criticized the random sampling discussion and the ways in which the training aimed to turn farmers into something called "guides" as opposed to conventional "leaders":

> I am a farmer. Perhaps not by the measure of a guide *(pemandu),* but what is really important is that one is capable of doing everything. If you start looking at papers, then there are grades, and then we have to go to school like Pak Nur . . . I, personally, am a farmer. Perhaps with this training you could say I've become a guide. But I am a farmer. I—as a farmer—was invited to join this training. It's not that we don't respect important people *(yang tinggi)* like Pak Nur. I am just a lowly person *(orang rendah)*. But as a farmer my success is beyond doubt.

All of the facilitators and participants knew that through his farming success this man had become a haji, with the means to undertake the pilgrimage to Mecca. With his statement, he questioned the entire exercise, asking what utility it would hold for him, a successful farmer, to be taught by facilitators who were younger than he and whose skills rested on formal education.

Other participants questioned the abilities of some of Newmont's facilitators. One farmer told a facilitator that he and his neighbors did not want any more guidance, that the facilitators should leave because they just eat and drink and ride around on nice motorbikes, not teaching farmers anything useful. On another occasion he suggested to me, "Perhaps we should expel our friends from Sumbawa [Sumbawa Besar, regency capital] who get lots of money even though they can't farm as well as I can . . . They sell the people's heads, writing their little reports." Another training participant told me that, although the farming techniques of facilitators might be impressive on paper, many facilitators did not appear to know much in the fields. Several farmers also insisted during our conversations that they too could be successful if they only had access to the seemingly unlimited supply of Newmont capital used to furnish its experimental field labs with generators, concrete-lined fish ponds, seedlings, and the like.

A story told by another senior male villager during a training further illustrates a critical take on participatory technologies. He spoke out after sitting down while the rest

of us engaged in one of our more undignified icebreakers (the theme was "Titanic," and we danced around the room in a circle, singing "Hallo-Hallo Bandung" and clapping until a facilitator called out a number, upon which we would rush to assemble the right number of friends in a lifeboat). The storyteller was a somewhat imposing former village head and stalwart of Golkar, the government party that supported Soeharto's 32 years of authoritarian rule. He stood up, unsolicited, to share this story:

> A youth from Jereweh went to Lombok [the neighboring island] for six years, where he obtained a religious education. When he returned to the village, he was wearing the clothes of one who had gone on the hajj. No one recognized him anymore, but he explained who he was, and he was well received. He offered to deliver a sermon at the mosque. On the appointed day the mosque was packed with listeners. He stood up, opened al Qur'an, and proceeded to read. He read his sermon from start to finish. As he read, much of his audience disappeared, walking out of the mosque, while those who were left behind were lulled into a deep sleep. At the end of the reading the young man said, "Thank you, all you gentlemen." An old man stirred awake from his slumber and responded, "Thank you for your reading."

After listening attentively, the audience, including the facilitators, erupted in hearty laughter at the man's story. In contrast to facilitator-led activities, however, we did not pause for any exegesis. Instead, the facilitators nervously steered us toward the next activity on the program agenda. Yet the man's story, alongside his refusal to participate in the song and dance of the training, represented a profound commentary on participatory methodologies. Like the learned religious scholar, facilitators at times regurgitated participatory development dogma and methods without reflection and without a process of translation that would make the development ideas relevant or useful to Sumbawan villagers. They read their scripts from start to finish. Just as the young man who wore the trappings of a haji could not make a meaningful contribution to villagers' religious understanding, facilitators' inability to make themselves understood called into question the superiority they were often accorded by virtue of their formal education credentials or position as facilitators.

At times, participants also explicitly rejected the roles that the trainings marked out for them as village motivators and guides who would altruistically adopt the charismatic facilitator role and propagate participatory values and IPM technologies. We engaged in games and role-plays to grapple with the supposed difference between the conventional leader *(pemimpin)* and the village motivator *(penggerak desa):* Whereas a leader is formally elected and motivated by a desire for prestige, for example, a motivator is informally selected and works voluntarily for the people, motivated by shared interests; whereas a leader barks out orders and is obedient to higher authorities, a motivator asks questions, works with people, and sets an example; whereas a leader is stiff, formal, and clad in a government-issue uniform, a motivator is informal, approachable, and indistinguishable from fellow farmers in appearance. As examples of leaders, facilitators cited a regent, a village head, or tribal leader (*kepala suku,* a formal administrative position since the Dutch era), and they cited the Prophet Mohammed as an example of a motivator. The motivator resembles Antonio Gramsci's (1971) "organic intellectual," who is part of a community of fate, developing consciousness from practical labor.[25]

Participants, however, questioned the notion that they should work uncompensated for the community's benefit. At one training, Pak Saleh, another of the critics of Newmont who had been demanding more compensation for former exploration workers, raised the compensation issue several times, asking whether participants were truly capable of voluntarily working for the community. One of the facilitators converted his question into a slogan that the participants yelled in unison at the end of the day, punching the air with their fists and crying out, "We can become voluntary motivators!" [*Kita sanggup menjadi penggerak sukarela*]. Pak Saleh went through the motions of taking part in the rallying call but complained afterward that his question had been pushed around "like a billiard ball." Other participants believed that Newmont was actually training them to create a pool of replacements for the company's expensive Javanese facilitators. In a conversation with me and another participant one evening, one man confided that he was already fantasizing about how he would go around telling farmers what crops to plant in their fields after he was hired by Newmont; his words invoked the pleasures of conventional leadership, of telling others what to do. According to his calculations, Newmont would be able to pay the wages of 12 Sumbawan agriculture officers with the sum that it was paying each month to a single Javanese consultant. Thus, instead of embracing the role of motivator championed by the facilitators, he embraced that of the leader.

The facilitators attempted to make the motivator's voluntarism appealing by explaining it as behaving unselfishly *(dengan ikhlas)* or being like an *ustadz* (religious teacher) without selfish interests *(tanpa pamrih)*. Several of the participants were in fact ustadz, teaching children in the villages, with no direct remuneration, how to recite the Qur'an. Yet this did not mean that they were eager to apply the same logic to farming, especially when the facilitators promoting this altruism were being paid by Newmont. One participant challenged a disconcerted facilitator on this point, asking whether the man would be doing his facilitating work without the security of a generous paycheck.

The ideas with which participants entered into the trainings shed light on the ways in which they challenged and rejected various aspects of them. At the beginning of the training of trainers, facilitators elicited from participants a list of their hopes and fears for the training. Many were very specific and material in nature. For example, the hope lists included water bores; water pumps; vegetable seeds and an explanation of how to market vegetables globally; knowledge of how to raise grapes, seedless watermelons, and *karper* and *nila* fish; and seeds for long-term crops like cocoa, mango, durian, coconut, cashew, and various sorts of teak (e.g., *jati super, jati mas*). More generally, the participants listed goals such as increasing their knowledge about agriculture and integrated farming, controlling pests, reducing unemployment, improving marketing of crops, strengthening relations between farmers, dealing with the strong winds near the shore, and irrigation. Several expressed concerns of a personal nature, such as the risks they incurred by leaving their wives and children for an extended period to join trainings, their need to return home for village duties, the possibility of falling ill, unexpected calamities, their meals not arriving on time, and compromising their health by sitting down too much.

One recurrent theme on the hope list was that the training would lead to follow-up *(tindak lanjut)* and sustained guidance *(bimbingan yang kesinambungan)*. The corollary fear was that there would be no follow-up at all. One participant declared that if there were no follow-up activities, then this would be the last training he attended. He said he was developing an allergy to trainings, which had begun making him nauseated. This was, he estimated, the sixth or seventh that he had attended. All were expensive and some were even held in fancy hotels, but none had yielded any real benefits. Like other participants, this man looked to trainings with the expectation that they should lead to longer-term material transfers from the host institutions to the participants rather than serve as stand-alone opportunities for self-improvement. Participants could pursue their interpretations because the Batu Hijau mine retained mechanisms for providing conventional development inputs, from dam infrastructure to fertilizers, IR-64 rice, and synthetic pesticides. Coming out of Newmont's IPM trainings, I was at first surprised to see staff from Batu Hijau's foundation, YOP, unloading large sacks of fertilizer and IR-64 rice to distribute in villages. I gradually realized that both IPM and conventional development were parts of the complex and contradictory processes through which Batu Hijau's managers and workers and local residents understood and constituted one another.

Conclusion

Experienced facilitators were under no illusions that their efforts would convert all of the participants into a cadre of true believers. I talked with Pak Amir at the end of a training, asking him if he ever felt disappointed when IPM did not seem to take root among participants. His face sagged in exhaustion as the adrenaline that sustained the charismatic stage performance of the facilitator ran out of him. He recalled that his own mentor had told him that a facilitator should only expect to really reach one out of every 15 farmers he trains but that the one farmer who is transformed is crucial.

This candid assessment of the fragility of participatory projects calls into question narratives about how easily or completely neoliberal development and conservation programs transform their targets into autonomous, responsibilized neoliberal subjects (see also Cepek 2011; Li 1999, 2007; Moore 1999; Mosse 2005; Shever 2008). According to such narratives, the surplus population that Newmont cannot employ would—once suitably "trained"—stop making demands on the mine and "acting out" with demonstrations for jobs. No more burning tires in the road, no more holding machetes up to the throats of mine personnel and suppliers. Instead, much like the Javanese peasants of *Agricultural Involution* (Geertz 1963), local residents not employed at the mine would lavish ever more toil on their shrunken plots of land with "sustainable" and "appropriate" practices (e.g., planting neem trees and distilling organic pest repellents from them, making manure from the droppings of chickens and horses, plowing their fields with water buffalos, etc.). Not only would farmers displaying the proper subjectivity refuse shortcuts like synthetic pesticides, fertilizers, and mechanical tractors that belch out exhaust but they would also abandon as misguided and excessive their expectations of modernity and material progress (Ferguson 1999) and adapt instead to living modestly, "in ways that are neither environmentally nor politically disruptive" (Kearney 1996:107).

Whereas others have illuminated how technologies of government work to elicit new kinds of environmental, entrepreneurial, and spiritual subjects (Agrawal 2005; Cruikshank 1999; Dean 1999), I have argued for a more systematic exploration of failure in the fashioning of subjects. If the trainings failed, over the time period I observed, to turn farmers into neoliberal subjects, they also failed in their potential to turn farmers into radicalized subjects who might turn IPM discourses against Newmont. Much as Willis's study found working-class youth produced themselves as future workers through their own resistance to education, I found that training participants—through their incomplete comprehension of, as well as resistance to, participatory pedagogy—produced themselves as subjects who were entitled to and dependent on increased support from Newmont. Participants misapprehended the content and criticized the structure of trainings, which preached less Green Revolution. Some farmers headed over to other units in Newmont's community development apparatus to demand

more Green Revolution: more dams, credit, high-yield seeds, and fertilizers. Batu Hijau's hybrid approach accommodated these desires and demands, even as its trainings tried to foster independent and enterprising subjects. To the extent that farmers were successful in making Newmont accountable to their demands, they produced themselves as dependent and entitled subjects and the mine as the classic paternalistic provider. Such subject positions are the products of constant negotiation rather than total, fixed, or final. In this sense, even though the trainings certainly sowed new ideas and left marks on the beliefs and practices of their participants, to speak of "a new subjectivity" emerging as a consequence is misleading. As Ken George notes, "The who and what of subjectivity are precarious and improvised standpoints, and always vulnerable to the circumstances into which we are thrown" (2010:115). Participants who entered trainings were neither "fully preconstituted" (Sharma 2008:xxv) nor tabulae rasae that would exit trainings as enterprising and autonomous liberal subjects. As they brushed against opposing corporate logics of who they should be, training participants affirmed that they were dependent on the mine and that it owed them more than just a sense of enterprise, empowerment, and autonomy.

Notes

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1. Batu Hijau is owned by several partners under the company PT. Newmont Nusa Tenggara (PT. NNT). At the time of my research, the Denver-based Newmont Mining Corporation owned 45 percent through its subsidiary PT. Newmont Pacific Nusantara; the Japanese Sumitomo Corporation owned 35 percent through its affiliate Nusa Tenggara Mining Corporation; and the remaining 20 percent was held by PT. Pukuafu Indah, which was controlled by an Indonesian businessman who had been a high-ranking politician during the Soeharto era. Although Newmont Mining Corporation retains operational control over the mine, shares of PT. NNT have been transferred to domestic control, in keeping with the divestiture provisions of the contract of work signed with the Indonesian government.

2. By *corporate social responsibility,* or *CSR,* I refer to efforts that emerged in the mid- to late 1990s to change corporate behavior and public perceptions of corporations. CSR is supported by numerous consultants, NGOs, international organizations, business school programs and curricula, and executive positions and departments within corporations themselves. The movement is largely oriented around changing corporate behavior and public perceptions of corporations through the establishment of voluntary codes, standards, and self-disclosure practices as opposed to state regulation. It has different central foci in different industries; for example, in textile manufacturing, labor is a central issue, whereas in large-scale mining, the environment, relations with near-mine communities, and government relations generally take precedence. Beyond the agricultural programs that form the focus of this article, other CSR programs that Batu Hijau carried out near the mine focused on physical infrastructure and public works (e.g., construction of roads, schools, health outposts, village and subdistrict government offices), local business programs (e.g., microfinance, a division devoted to overseeing small contracts for local businesses), education (e.g., teacher trainings, participatory school programs involving parents, women's literacy programs), and health (e.g., doctor and nurse trainings, maternal health programs).

3. Indonesian transmigration projects have been beset by inequitable distributions of resources (due to corruption but also to the impossibility of allocating two-hectare plots of equivalent land to each family), lack of public infrastructure, rapid environmental degradation, and forced displacements of local people, which have sometimes led to ethnic and religious conflicts and violence (Aragon 2005; Li 2007).

4. SP1 was settled in 1995 with roughly one thousand settlers (217 households), and SP2 was established in June 1996 with a population of around eight hundred (162 households) (Ingratubun n.d.:2). Approximately 20 percent of the settlers were Sumbawan, including some from Tongo who had been displaced from their farmland; 25 percent came from Bali; and 55 percent came from Lombok. Balinese transmigrants at times encounter discrimination over their Hindu religious traditions. As fellow Muslims, the majority of transmigrants from Lombok have gained greater acceptance among Sumbawans but are nonetheless subject to discrimination.

5. This predicament reflects a broader trend in corporate mining toward capital-intensive projects that depend on small, skilled crews rather than vast proletarian armies. Due to changes in the mining industry as well as transforming disciplinary concerns and approaches, the anthropology of mining has built upon a longstanding focus on labor dynamics—including cultural practices, capitalist critiques, labor recruitment and migration, ethnic relations, and the political agency of mine workers and their families (Godoy 1985; Nash 1979; Powdermaker 1962; Taussig 1980; Wilson 1941)—to encompass the study of mine closures and layoffs, privatization, labor subcontracting and restructuring, and capital-intensive mine demands for a small, stable, and trained workforce (Donham 2011; Ferguson 1999; Ferry 2005; Finn 1998; Gill 2000; Godoy 1985; Rajak 2010; Ribeiro 1995; Robinson 1986; Smith 2008; Smith and Helfgott 2010). Recent anthropological work has also focused on the social and environmental consequences of mining megaprojects and the ethical dilemmas faced by anthropologists engaged with states, corporations, communities, and activists in supporting or opposing mining (Ballard and Banks 2003; Biersack 1999; Harper 2005; Jacka 2005; Kirsch 2006).

6. The1960 Basic Agrarian Law had limited private ownership to two hectares of land. The Indonesian Communist Party sought to

implement the law, sparking land disputes that were implicated in some of the later killings of alleged communists.

7. Indonesia maintained high levels of agricultural subsidies for rural elites through oil revenues and Western support. Western donor programs, in turn, were often inspired by neo-Malthusian, Cold War fears of a Red Revolution by hungry peasants (Escobar 1995; Finnemore 1997; Kearney 1996; Perkins 1997) and were designed to benefit agribusiness corporations in the global North (Mitchell 2002).

8. Other Green Revolution environmental impacts catalogued by scholars include a loss of genetic diversity and a decline in local knowledge, persistent toxic residue in the food chain, contamination of water systems, algal blooms and coral reef damage, soil exhaustion and erosion, and water shortages (Ellen 2007; Fox 1991; Gupta 1998; Hefner 1990; Lansing 1991; Winarto 2004).

9. IPM arose as a new paradigm for entomologists in the 1960s and 1970s (Winarto 2004), ironically, at the same time that the Green Revolution was spreading uniform high-yield rice varieties and pesticides.

10. Even though Indonesia did not train 2.5 million farmers (the goal set forth in the presidential decree), FAO considered the field schools a successful model and exported them across China, South Asia, and Southeast Asia, ultimately graduating some two million farmers from such trainings. In 2002, FAO terminated its Asian field school program because, according to former FAO staff with whom I spoke, pesticide producers were putting pressure on their governments to cut funding to the UN agency after FAO's IPM staff produced several documentaries lambasting multinational corporations such as Bayer for marketing pesticides that poisoned farmers and caused environmental damage (e.g., *Toxic Trail* [TVE 2001], which aired on BBC in April 2001). The decision to close the program was officially represented as a result of recommendations by an independent review team (Field Alliance 2001).

11. Even in the early years of Bimas, Alexis Rieffel (1969) notes, the notion that the farmer "should be the 'subject' rather than the 'object' of the program" already sounded clichéd.

12. For various perspectives and critiques of collaborations between anthropologists and the development industry, see Cernea 1991, Kottak 1990, Escobar 1991, and Ferguson 1997.

13. With *hybrid agronomy,* I am employing, in a rather different fashion, a term that Akhil Gupta (1998) used to capture how farmers in north India fluidly shift between discursive modes that academic literature might ascribe to discrete epistemological systems (i.e., "indigenous" or "traditional ecological knowledge" vs. rational–scientific knowledge).

14. For example, farmers recalled the rice varieties PB5, PB8, PB34, and IR36 that were precursors to IR64, which remains the dominant variety planted today. Pesticides farmers used included Dizaion, Sumithion, Sevin, and Dieldrin, and fertilizers included urea, TSP, KCL, Sampurna B, Sampurna D, and Alami. The combinations were often shifted as agronomists created new weapons in the biological arms race against increasingly resistant pests.

15. The rice varieties the farmers listed included *padi tembaga, padi bulaing, padi numpu kunyit, padi minyak, padi gamal putih, padi gamal merah, padi roket, padi rowat,* and *padi sose*.

16. The corporations involved included the Swiss company CIBA (Chemical Industries of Basel, Switzerland), the West German companies Hoeschst and A.H.T., Japan's Mitsubishi, and an Indonesian company named Coopa, which Richard W. Franke (1974) notes became embroiled in scandal because it was apparently owned by generals and siphoned off development monies without providing contracted services (also see Lansing 1991:112).

17. Farmers had repeatedly experienced this problem with mung beans. After harvest, they had no place to store the beans and needed cash from selling their crops but were paid exceedingly low prices. Nestlé, one of the large buyers, uses the mung beans in some of its toddler formulas.

18. Facilitators were, perhaps unwittingly, reviving a village farming laboratory model the Sukarno administration had experimented with in the 1950s (Franke 1974:16).

19. Joanna Davidson (2010) beautifully illustrates how the knowledge practices of Diola rice cultivators in Guinea-Bissau stand at odds with the assumptions of development practitioners that knowledge is an extractable resource that can and should be democratically shared.

20. The participatory rural appraisal handbook for Nusa Tenggara Barat, for example, has many drawings of women, but very few women appear in the book's photographs.

21. Rudnyckyj (2010) explains that class-based differences in ESQ training uptake are not simply a matter of cultural intelligibility; middle- and upper-class participants were more complicit in the corruption and bribery that characterized the Soeharto era than workers and foremen had been and, therefore, were more interested in the promise ESQ held as a path for processing and expiating their sins.

22. Heiko Henkel and Roderick Stirrat (2001) argue that participants absorb the new responsibilities, in a process tantamount to what Foucault called "subjection"; that is, they come to "freely" see themselves through the lens of participatory discourse. David Mosse writes, "This shift from an open, exploratory system towards a closed one is not to be understood as intentional. It is the side-effect of institutional factors that are unlikely to be perceived by project actors themselves, by their supporting bureaucracies, or even by external observers" (2001:25). Similarly, Kothari claims,

> Participatory practitioners may interpret the actions and expressions of participants as "local culture" when they are also the product of these processes of normalization, but are not seen to embody power relations since they appear to be articulated and believed in by all. People absorb these cultural tropes, which are then recursively practised almost ritualistically, and it is the widespread acceptance of, and conformity to, these practices that make it difficult to interpret them as expressions of power or demonstrations of inequalities. [2001:145]

23. The Foucault-inspired contributors to Cooke and Kothari's volume on participatory development as tyranny, many of whom had been development practitioners and thus had considerable experience facilitating participatory development, fall into this camp. The editors extend special gratitude toward "those awkward participants who have made our role as 'facilitators' uncomfortable, by asking difficult questions, by challenging the process, by refusing to go along with consensus, by questioning our legitimacy as facilitators, or just by remaining silent" (Cooke and Kothari 2001:x). Although the authors thus attach a positive valence to resistance, the volume contains little substantive engagement with this resistance. Kothari notes, "Subversive participants can also choose to opt out of the participatory process completely, although they are often characterized as uncooperative or even social deviants" (2001:151). Henkel and Stirrat claim that those who resist participatory dogma are treated by facilitators to the "damning of the heretic" (2001:178).

24. James C. Scott (1985) noted that, in rural Malaysia, some of the wealthiest villagers wore old clothes and would call attention to this fact when faced with questions about their wealth.

25. The village motivator (penggerak desa) is also similar to the figure of the "native demonstrator," trained by missionaries in African colonial settings to follow an exemplary lifestyle and propagate it within his or her community (Burke 1996:46–52).

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