ATTEMPTING THE PRODUCTION OF PUBLIC GOODS THROUGH MICROFINANCE: THE CASE OF WATER AND SANITATION[1]

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ABSTRACT

This paper evaluates the attempt to create public goods via microfinance loans. Microfinance loans in the production of goods with public goods characteristics signify an emergent micro-privatisation. As a case study, the production of water and sanitation resources via microfinance loans is examined in India and Vietnam. It is found that microfinance projects for water and sanitation, which are based on individualism and a cost-recovery paradigm, ignore important collective action aspects and underlying distributional problems. Given its questionable effectiveness in other areas, the public goods iteration of microfinance leads not only to insufficient provision for the poor, but also may alienate these citizens from publicly accountable modes of governance and their human right to water.

Key words: *microfinance, water, sanitation, public goods, development, cost-recovery, human right to water*

1. INTRODUCTION

The current economic crisis was preceded, like many before it, by a great overextension of credit. The unloading of credit onto poor borrowers traditionally regarded as uncreditworthy was organised through the "innovative" means of collateralised debt obligations (CDOs), which ultimately became one of the cornerstones of the crisis that sent the world into turmoil. Another financial tool, which in recent years has been heralded as an innovation in lending to the traditionally uncreditworthy, is microfinance. The microfinance sector is one in

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which state bodies and private investors play the role of creditor for poor people who are expected to better their lot by undertaking business ventures and repaying the money at profitable rates, following the neoliberal paradigm of full cost-recovery in a micro-application to development assistance.

In this contribution, we examine a relatively recent extension to that classic model (micro-entrepreneurship finance) in which microfinance lending is directed towards enhancing or replacing the public sector as provider of public goods. Microfinance's inroads into public goods provision are a natural extension of the original concept as espoused by the father figure of modern microfinance, Muhammad Yunus. Yunus has argued that "government, as we now know it, should pull out of most things except for law enforcement, the justice system, national defense, and foreign policy, and let the private sector, a "Grameenized private sector", a social-consciousness-driven private sector, take over its other functions." (Yunus 2003: 204) Microfinance for public goods represents a micro-privatisation of these goods; a post-capitalist privatisation drive which, far from any progressive trajectory, may be symptomatic of a "refeudalisation of the economy" (Neckel 2010) as the poor become dependent on their creditors for access to essential public goods.

We argue here first from theory, and then present empirical evidence, that microfinance is an insufficient and potentially ineffective tool for providing public goods. In the next section we proceed by explaining the concept of microfinance against its political economy background. In Section 3, we examine the settings and assumptions underlying proposals to use microfinance for the provision of public goods. We explain the theory that microfinance could represent a means for financing water and sanitation, and develop from theory a counter-argument that water and sanitation cannot effectively be governed and supplied using private credit and an individualistic approach, because they are resources with important public goods characteristics. In Section 4, we present empirical evidence from a field study in Vietnam and from own fieldwork in Andhra Pradesh, which points to collective action problems and larger regulatory and institutional failures not addressed by microfinance-funded approaches. Finally, we conclude with a statement on the human right to water, and ways forward beyond the cost-recovery paradigm.

2. BACKGROUND

The developmental state is "in turmoil" since the 1980s. Against the background of a political economy of development grounded in liberalisation, debt recovery, privatisation and declining international development assistance, microfinance has occupied an increasingly central position in transnational development efforts. With at least US$ 65.2 billion (Mixmarket), the global microfinance loan portfolio in 2009 exceeded the volume of the entire United States,

UK, German and French foreign aid budgets combined[2]. Microfinance institutions (MFIs)[3] have proven their capacity to earn substantial profits; the largest five MFIs in India, the world's biggest microfinance market, posted an *average* yearly return on equity from 2005 to 2009 of 36.9 percent[4]. However, it is becoming increasingly apparent from empirical studies that microfinance loans fail as a tool for economic development and social empowerment (for an in-depth discussion, see Bateman 2010).[5] The small loans are commonly understood as a means for fighting poverty by harnessing the entrepreneurial energy of the poor; they replace social policies and transfer programmes with small finance aimed at encouraging the poor to undertake entrepreneurial activities. In their sum, these activities are expected to create economic development through individual micro-entrepreneurship – a questionable expectation, as illustrated by the continued slow growth of countries like Bangladesh in three decades of extensive microfinance, and by the fact that in those successful developing countries of those same decades,

> the microfinance model has played no role whatsoever. To the contrary, these countries have very successfully reduced poverty and have grown rich(er) overwhelmingly by using a range of state coordinated policy interventions, financial institutions and investment strategies that are not only the complete opposite of today's 'new wave' microfinance model, but also – and this is the rub for those in the microfinance industry that might argue for 'policy co-existence' – very likely to be undermined by the proliferation of microfinance and its prior claim over savings and other important financial resources. (Bateman/Chang 2009: 5)

The concept of microfinance as a tool for development is fraught with difficulties arising from reasons as diverse as the fungibility of loans, high interest rates, the limited entrepreneurial opportunities for poor people (Karnani 2009), predatory lending practices, a lack of essential public goods, and the anti-developmental macro- and micro-economic environments of poor communities defined by a highly unequal control of factors of production and quasi-feudal social relations. The achievements claimed on the part of microfinance look particularly questionable against the background of the microfinance crisis that began in September 2010 in Andhra Pradesh, triggered by a spate of client suicides which exposed predatory lending, market oversaturation, dishonest interest rates, and coercive recovery practices (Dharker 2010; MacRae 2010; Kinetz 2010). Given the high interest rates which ensure accumulation by the financier, and the incapacity of

[2] These four largest donors posted a development assistance budget of 63,230 Million USD in 2009, contributing more than half of all DAC-registered foreign aid (OECD 2010). Some state-directed microfinance investments count towards this aid total.

[3] The word institution is not used in the sociological sense. The common terminology of referring to those organisations which deal in microfinance as "institutions", which is something of a misnomer as they are actually organisations, is adhered to for simplicity.

[4] Mixmarket (2009a). Own calculation using mixmarket data to determine a 5-year weighted average for the 2009 five largest MFIs in India: SKS, Spandana, Share, Bandhan and AML.

[5] See also Karlan and Zinman (2009), Bannerjee et. al. (2009), both in their original 2009 versions; or more recently Strauss (2010).

microfinance as a concept to achieve a more equitable distribution of factors of production, it is not the "modern Robin Hood" which some[6] have claimed, but rather it upholds an unjust status quo and exploitative relationships. As Servet (2010: 12) elucidates,

> The neo-liberal accumulation system led to a deterioration of labour compensation in favour of capital, and for large sections of the population in several countries, the need to compensate this loss in purchasing power by resorting more and more to credit. In the case of micro-credit, there does not seem to be a monetary relationship of the type employer/employee type, and this could suggest that there is no exploitation of workers. [...] But all in all, the interest payments for the loans which enable production or exchange activities to be carried out, correspond to a levy on the income obtained through these activities. There is no capital/labour relation at interpersonal level. But as a whole, there is transfer from one sector to another.

Despite its questionability as a replacement for social policies, microfinance is increasingly also explored as a tool providing public goods. Underlying this notion is a paradigm shift noted by Reis and Mollinga (2009: 3): "Due to the finance gap in the RWSS[7] sector and the paradigm of cost-recovery, microcredit schemes have globally become a popular element of RWSS policies in recent years." We may understand this paradigm as favouring a micro-privatisation of public goods. Developing countries, and especially their poorer sections, crucially suffer from an underprovision of the public goods necessary for economic and social development; this underprovision ranges from roads and public infrastructure like water and sanitation, electricity provision and irrigation, to education and health services. With the exception only of roads, microfinance has been proposed as a means of achieving or improving the provision of all of the above.[8]

3. THEORY

Microfinance and water have been linked for some time. For example, political fault lines over water and microfinance ran parallel in the Bolivian crisis of 2000 (Rhyne 2001; Greeley 2006). But beyond the apparent policy symbiosis of microfinance and public sector restructuring, the case for providing water and sanitation *via* microfinance has been made since the mid-1990s. It is based on a set of rather bold assumptions: "Municipal or state-owned utilities are often inefficient, overregulated, and unable to supply even the formal sector with adequate services.

[6] Byström (2006)
[7] RWSS = Rural water supply and sanitation
[8] Electricity: Kabir et. al. (2010); irrigation: Muhammad (2005); health: Parker/Singh (2000), Pronyk et. al. (2007), Dohn et. al. (2004); education: Khumawala (2009), Leatherman/Dunford (2010); water and sanitation are dealt with further below.

Subsidies through tax transfers and foreign aid/borrowing are becoming more difficult to secure." (Varley 1995: 5) The public sector is understood here as by definition incapable, and aid and tax transfers will naturally decline over time.

The central premise held by advocates of microfinance solutions is that small loans from private MFIs can and will, given the appropriate programme design, act as a substitute for the commitment of the public sector. MFIs are expected to realise the profit opportunities presented by specialised loans for education, health or water and sanitation, and the borrowers, on the other hand, are to grasp these loans as an entrepreneurial opportunity for the betterment of their livelihoods. Given the tangibility and immediate observability of the resources involved, water and sanitation can be understood as a crucial case for testing the assertion that, in developing countries, tiny loans to households can be a means for providing and governing public goods – goods which in richer country contexts are provided and/or strongly regulated by the public sector. The research presented in this contribution examines that assertion in relation to specific projects, and presents some of the first empirical evidence challenging the notion that microfinance could lead to an adequate provision.

Microfinance-based approaches to the provision of water and sanitation postulate a "win-win" situation of financial benefits accruing to households, and internalisable profits for suppliers of water and credit. They are understood as "leveraging market-based resources" (Mehta/Knapp 2004: 13). The central implicit premise is that a private credit system – privately provided through MFIs, privately used by households – offers poor people a welcome opportunity to self-finance their own access to water and sanitation, and enables service providers (of water, sanitation, and credit) to recover their full costs. "Experience in microenterprise lending has demonstrated that cost recovery should be central rather than peripheral to the design of sustainable financing mechanisms." (Varley 1995: 3)

Households' investments in latrines and water connections in this story are premised upon the household decision-makers recognising the private benefits from clean water and sanitation, which would incentivise the household to take on debt now in order to accrue future returns. Among the commonly assumed motivators for households are savings in medical bills, extra earnings due to better health, and time saved by female household members which could be invested in productive activities, raising household income. Any risk is borne entrepreneurially by the household. Supporters of microfinance models warn against public subsidies for household water and sanitation, for fear of "crowding out potential private sector resources" (Mehta/Knapp 2004: 12). An enabling environment for private investment is therefore identified as a prerequisite (Agbenorheri/Fonseca 2005: 13; Mehta et. al. 2007), since water projects are supposed to learn from the private enterprise successes of MFIs (Intellecap 2009).

As we show here, the non-private characteristics of the resources involved confound a simple market-oriented approach as is usually taken by advocates of

microfinance for household water and sanitation. Some arguments using economic theory are to be made for an understanding of these as *non*-private goods.

Economics traditionally distinguishes between four types of goods – private goods, public goods, club goods and common-pool resources – and treats the existence of public goods as an instance of market failure. Market-oriented rational behaviour of individual gain-seeking will not produce "efficient" (desired) quantities of public goods, since all positive externalities cannot be priced into the goods by market participants. A decentralised system of decision-making cannot optimally determine the levels of collective consumption (Samuelson, 1954: 388). Resources with public goods characteristics therefore will be underprovided, unless collective-action means for their provision are found.

Complicating an economic analysis of public goods is the rarity of pure public or private goods. Outside of parsimonious theory, most goods actually lie on a continuum between public and private, and as to where exactly the line between public and private goods runs, economic theory offers only deceptively precise boundaries. The categories of non-excludability and non-rivality rarely provide for a clean categorisation, and furthermore, these categories themselves can conflict with societal institutions defining what is a commonly-managed resource (and *how* it is to be managed) versus what is a private good. The exclusion of some members of society from the use of a resource may be normatively regarded as repulsive, especially when the governance of natural resources has traditionally been organised in a collective manner. This applies particularly to goods which constitute essentials of a 'decent life' or which have an intrinsic value and yield public benefits (Kaul/Mendoza 2003).

Many, if not most goods, could technically be made excludable with technological advancement, just as most goods, when pushed to the extreme, become rivalrous – even air. But in making the distinction between excludable and non-excludable, rivalrous and non-rivalrous, economics follows a mistaken distinction between public and private along the "inherent properties" of a good. Rather, as Malkin and Wildavsky (1991: 355) argue, the true distinction is in practice socially constructed: public goods "are public because and only because society chooses to put the goods in the public sector instead of the private sector." For this reason, Kaul and Mendoza differentiate between "basic" (non-rival or non-excludable) and "actual" properties of goods: "those that society has assigned to them".

In lieu of a clean categorisation, we should recognise that household water and sanitation display important "basic" and "actual" *characteristics* qualifying them for an evaluation as non-private goods, especially at a level of basic provision. The provision of water and sanitation depends on and affects underlying common-pool resources, which require collective-action solutions for their management. Unregulated, un-coordinated private use will tend to deplete the resources. One household's consumption, for instance through a private borewell, drains the common groundwater resource, and similarly one household's lack of access to

adequate sanitation (going instead for open defecation) pollutes that common resource. Supplying clean (potable) water and sanitation to unsupplied or undersupplied households also represents a merit good, in that there are significant benefits for the general public from each additional household's access. For instance, health gains are larger when they are well spread. A household with access to clean drinking water and sanitary facilities is less likely to contract and spread water-borne diseases, which regularly create high costs, unnecessary suffering and foregone opportunities for communities.

Given the network characteristics of water and sanitation systems, significant economies of scale in provision are attainable only by inclusive rather than private access. Drilling borewells or laying water pipes to supply a single household is highly inefficient when compared to supplying an entire street or neighbourhood. As a result, neither should it be desirable to exclude households from the resource, nor is use of the resource strictly rivalrous, since one user's access depends substantially on the other's access.[9] Davis et. al. (2008: 5, my emphasis) only barely touch this point when they note that "preliminary results suggest that microlending may be an effective means of helping households in communities *with existing trunk infrastructure* to access improved water supply and sanitation services in their homes". The question of where the trunk infrastructure comes from is left aside.

Microfinance as a means for water and sanitation provision neglects such collective-action aspects, and ignores the social embeddedness of water and sanitation finance. Importantly, the social embeddedness of sanitary and water-related *practices* is also all but ignored, at best noted in statements about the need for "demand creation" (i.e. marketing against entrenched practices). While the onus to take a loan for the purpose of investing in water and sanitation falls squarely on the individual household, which on its own is expected to realise a financial incentive to water and sanitation upgrading, that household actually has no means of overcoming the above-described collective action dilemmas or initiating the required social change. Sanitary and water-related practices are grounded in social norms of propriety, socially embedded through peer emulation and collective rituals (even fetching water is a social event), and are path-dependent through habituation.

4. EVIDENCE FROM THE FIELD

In this section, we present empirical evidence; first, we discuss the findings made by Reis and Mollinga in Vietnam, and follow with our own findings from fieldwork conducted in Andhra Pradesh in southern India between January and July

[9] For *basic sanitation*, due to the use of simple (and only partly hygienic) systems such as pit latrines, there are fewer economies to scale in supply; however, for advanced sanitary systems involving piping and centralised sewage treatment, the same applies as to water.

2010. At present, these are the only known empirical social science investigations of cases in which microfinance was used for water and sanitation.

4.1 Vietnam

In the southern Vietnamese Can Tho District, Reis and Mollinga (2009) found catastrophic sanitary conditions, as most rural and peri-urban households used the same rivers and canals for sewage disposal on which they traditionally depended for drinking and domestic water. Pesticides and industrial waste additionally contaminated the watercourses. They especially depended on these water sources during the dry season, but households usually used a mix of piped water (where available), rapidly depleting wells, rainwater, river water and other minor sources. Many households within pipe-supplied areas could not afford the administrative and technical costs of a connection, especially since the rural setting incurred a high cost for piping from the mains to the house, which the water board would not fund.

In a programme begun in 2004, microloans of up to ~320 Euros supplied with a low nominal (negative real) interest rate were channelled from the Vietnam Bank for Social Policies (VBSP) via local credit groups to households seeking to upgrade their water and/or sanitation facilities. The predicted full cost of the various latrine options was between 40 and 160 Euros (though households complained that the costs were really far higher), in an area where the monthly per capita poverty line is 8 Euros. Originally, the programme ran into a lack of demand from its intended beneficiaries, as a local Women's Union representative reported:

> At the beginning, it was very difficult to persuade them (the households) to build the latrines. But once one household started, the others saw the good example and it encouraged them to do the same. (ibid. 12)

Local perceptions of modernity and progress played an important role in this copy-cat outcome. In practice, the programme managed to somewhat increase rural sanitation access, though only the most expensive (160+ Euro) type of latrine which included a septic tank, was ever constructed. Cheaper options were not perceived by the people as an improvement over their traditional systems (especially the "fish pond" toilet), which ultimately polluted common waterways.

> It has further been observed that the factor 'modernity' is a major incentive for rural households regarding the construction of a new latrine. [...] Having a septic tank latrine plays the role of a status symbol, which a simple latrine model cannot fulfil. This is also illustrated by the term 'beautiful latrine', which was often used by interviewees to describe their new toilets, and by the pride with which households presented them. (ibid.: 13)

The question of long-term sustainability was however avoided, as it was found that households and officials were unaware of, or indifferent to, the fact that septic tanks would have to be emptied within around 10 to 20 years, which at present was

technically impossible (except by hand) due to the narrow roads in the area. It also appeared that the implementation only of more expensive schemes excluded poor households, and thereby the project did not attain the intended impact. Poorer households were often also precluded from access to credit, through exclusion and self-exclusion, and excluded through the technology.

> As demonstrated earlier, the largest share of the budget is used by households which construct septic tank latrines. These households usually have access to tap or well water, because the latrine requires "plenty of water for flushing" (according to MoH decision 08/2005). It was not observed that any of these households did not have access to tap or well water. This also indicates that the programme mainly reaches medium-income and better-off households, for which clean water supply is mostly not problematic. (ibid.: 18)

On the water side, Reis and Mollinga were presented with a mystery. Despite the project's aim to increase piped water access through microfinance loans, no new water connections were to be found; only some wells had been dug, despite a condition prohibiting this in order to prevent further groundwater depletion. An effective and relatively affordable (~100 Euro) household water filtration system for contaminated water, which was locally developed and intended for roll-out through the project, was never implemented. Local officials and project authorities explained the lop-sided emphasis on sanitation as resulting from greater demand for latrines, claiming that access to clean water was already widespread; Reis and Mollinga found this not to be true. Instead, they found the redirection of water loans toward sanitation aligned with the business interests of local construction firms grown since the liberalisation of the Vietnamese economy; key figures in the water supply companies were simultaneously owners of construction companies for centralised purification systems, and they affected the flow of funds in the project. The authors note, "it is to be seen in this context that the interest of government agencies, as well as officials as private persons, are highly interwoven with the business interest of private enterprises that are contracted to carry out public tasks." (ibid.: 17)

4.2 Andhra Pradesh

The findings presented below from own fieldwork on a project[10] in Andhra Pradesh are of a different kind, but paint a similarly problematic picture. This research was performed immediately before the advent of the latest microfinance crisis, and therefore only marginally connects with the recent events, but the water and sanitation project should be considered against the background of the overindebtedness and predatory lending now known.

The project began in 2009 as a pilot project in three sites: two medium-sized rural municipalities of approximately 150,000 inhabitants, and one large municipality

[10] Names and identity markers of the actors and people involved have been left out since some of the involved parties have stated their preference to remain anonymous.

of nearly 900,000 inhabitants on the outskirts of Hyderabad, the state capital. The project targeted poorer underserved areas within the municipalities. Groundwater in Andhra Pradesh is rapidly depleting, and Hyderabad has had to enhance its own supply with a massive inter-basin transfer scheme over more than 120 kilometres, lifted by 400 metres. One of the two smaller towns studied lies in a coastal floodplain, where groundwater is contaminated with a high fluoride concentration which causes bone and joint disease (Interview, 25.05.2010), while the other lies in the driest region of South India, which has been additionally highly rainfall-deficient in recent years. Especially in the smaller towns, people regularly suffer from throat infections, jaundice and diarrhoea as a result of unsafe tap water (Interview, 17.02.2010). In Hyderabad, in 2009, fourteen people died from an E-coli infection spread through the municipal water supply (Times of India 2010). All three municipalities had experienced rapid growth in recent decades; the Hyderabad suburb even more than doubling its population in the past ten census years. The municipalities are still trying to catch up with the sanitation needs projected in the 1990s, as a Municipal Commissioner explained (Interview: 02.07.2010). All three municipalities do not manage to supply poor areas reliably with water; many areas only receive water for half an hour, or one hour, every other day, through private and public taps (on-street public taps are relatively widespread). Some parts are only supplied by water tanker.

The project consisted of three distinct elements: (1) household water tap connections; (2) household sanitary latrines (pit latrines, or with sewer connection); (3) construction and operation of communal drinking water plants (Reverse Osmosis/RO plants). Funding came via a grant from a large American foundation, which gave a 50 percent subsidy (approx. 80 Euros) towards the estimated construction cost of a latrine or water connection. The other 50 percent came from sundry microfinance providers: formal (MFIs) and informal (moneylenders).

The subsidies were disbursed through a regional NGO working with women's Self-Help Groups (SHGs). SHG membership was a criterion for household participation, since SHG Federations, consisting of the elected representatives of 20 to 40 SHGs each, were to act as financial intermediaries as well as the organisational nexus. Officially, the role of the NGO was "capacity-building", though in practice its employees' functions would be best described as a mixture project co-ordinator, training provider, financial auditor and, whenever necessary, discipliner – in around 25 percent of SHG Federation meetings attended, the (male) NGO workers spent some time publicly scolding the (all-female) SHG representatives for various laxities and oversights in credit provision and project supervision, and sometimes withheld funds. The project was furthermore given some infrastructural and financial support by the state government's urban development programme, MEPMA[11].

Averaged over the three sites, 44 percent of eligible non-served households enrolled for the project's latrine subsidy, and 33 percent for the water tap subsidy. As

[11] MEPMA = Mission for the Elimination of Poverty in Urban Areas

the project's director explained, the improvements were premised on people's self-identification of their need.

> So we asked the community: if you need it, and you also recognise the importance, then you pay 50 percent, it is an asset for you. Otherwise you can also build fully through your funds. So now, this is the opportunity to build your own asset at 50 percent, the remaining 50 percent come from other sources. (Interview, 16.02.2010)

At the time of research – which consisted of participant observation and semi-structured interviews with SHG members, NGO workers, municipal officials and academic experts – the project was far behind its own schedule. Of at least 8 communal RO plants planned, only 3 had been built and were operational; the foundations for 2 others existed, but were abandoned. The RO plants were funded 50 percent by the American foundation and 50 percent by the state development agency, MEPMA. Two of those that were operational were located in the dry, fluoride-affected region, and had attracted a growing number of several hundred households who regularly purchased 12L cans of drinking water at approximately 0.04 Euros. The RO plants represented something of a communal enterprise offering employment opportunities for several SHG ladies as attendants earning a monthly wage between 32 and 48 Euros under the direct supervision of the SHG Federation.

For the purposes of this paper, it can be concluded that these RO plants provided an apparently valuable service to the community, albeit without any involvement of microfinance. Even so, the majority of RO plants was not en route to completion; two were stopped due to local political contentions. Elected leaders of other backward castes (OBCs), who were not included in the project, had blocked the construction of one plant. As one NGO worker explained: "They prefer to be famous for preventing something good than not to be involved in it." (Interview, 24.06.2010) Evidently, the local leadership had been by-passed. In another town, a political party was blocking the construction of an RO plant in one of "its" neighbourhoods for as long as the rival party ruled the municipality. Infrastructure projects in India are invested with high prestige for political figures, and it appears from this case that the political realm is a key for success or failure.

As for the household water and sanitation improvements, a year after demand appraisal, merely 11.7 percent of the approved 2925 household water connections and 9.7 percent of the 2688 sanitary facilities had been provided. It is important to note here that "provision" refers not to delivery of a complete product, but to full disbursement of the 50 percent subsidy – the household must complete part of the construction before half of the subsidy is disbursed, and finish the roof before the other half is disbursed. During site visits, only a relatively small number of constructions were found actively in progress, and some completed toilets were not being used; household members were not comfortable using them yet. It was explained, mystifyingly, that they were not perceived as "completed" before a plaque with the name of the NGO and the funders had been attached. A number of other

facilities were being used as storage space, and many toilets had been integrated into new extensions or additions to the house, in line with the idea of "assisted incremental housing" espoused by John Turner (1976), but the aspect of modern sanitation often seemed of secondary importance.

It is possible to identify several reasons for the slow progress and low uptake, which include the limited financial capacities of the intended beneficiaries to undertake such investments (even with a subsidy and a loan), as well as occasionally lack of space, space use restricted due to *vastu shastra*[12] principles, and lack of secure land use rights since land was formally squatted. Tenants of rented houses naturally declined to invest in their landlord's house. However, most importantly, households were expected to obtain loans for the other 50 percent of the cost from external providers; and it was found that most had no trouble whatsoever accessing finance. Most had microfinance loans, and many had several loans both from formal and informal sources (a finding which, in hindsight, against the background of the now-evolving microfinance crisis, should have been explored in greater depth). But given this pre-existing access to finance evidently without the 50 percent subsidy few would have undertaken a water or sanitation construction; deductively, a full cost recovery approach would not have been viable.

The key weakness appeared to be a failure to engage with the existing structural constraints on household water and sanitation, which lay at a higher level than a project could address through individual household finance. In this sense, the "blame" for a possible non-completion of the projected improvements would lie with none of the project's implementing agents – the foundation, the NGO, the municipality, the SHGs or their Federations – but with the premise itself that household access to finance was the key constraint. Water taps depend crucially on the capacity of the municipal water board to deliver, which in these municipalities, it could not. NGO workers regularly and positively interacted with municipal employees, who were receptive to their suggestions and needs, but the underlying problems could not be tackled by the project; at best they were moderated for those who happened to be in reach of existing supply systems. Where taps were being provided, they were only demanded by 38 percent of households, of which 17 percent had completed their work within the year. Many households apparently saw no improvement in having to pay ~1.60 Euros per month for the same irregular and insufficient water service as was available from public taps on the street; those who did were building storage tanks on their property at additional cost, to collect water from their tap whenever it would run, for later use. In one town (dry region), no tap connections had been provided at all; this town was faced with a severe water shortage and was in the process of constructing a large new storage reservoir, after which taps may also be provided.

[12] For instance, water should not be placed in a certain corner of the house according to these ancient Indian laws.

These weaknesses are symptoms of a long-term underinvestment in water and sanitation in India, exacerbated by liberalisation, as well as of an inequitable distribution of the available resources (Interview with former Hyderabad town planner, 19.02.2010). The effects are perhaps most starkly illustrated in Hyderabad, where upscale neighbourhoods benefit from sufficient and sufficiently reliable water provision (and so does a Hindustan Beverages/Coca-Cola bottling plant in nearby Ameenpur), but entire peripheral districts have no piped supply and must be supplied with tankers[13].

The smaller two towns both have no sewer system, so any sewage must be deposited in private septic tanks. Municipal officials considered a sewage system an important investment for their town, but found it far beyond their financial means (multiple interviews). In greater Hyderabad, the sewerage system does not extend to most poor neighbourhoods, and therefore here too usually septic tanks must be constructed (though in a few target neighbourhoods, toilets will be connected to existing mains). As in Vietnam, no plans had been made from within the project for the emptying of septic tanks. NGO workers did not know how long it would take until tanks would have to be emptied, nor did how it would be organised when the time came. “They [the beneficiaries] will take care of it then and maybe they will take a loan.” (Interview with NGO officer, 20.06.2010)

It is interesting to note the motivations of the households who applied for the sanitation subsidy, which were at odds with the theory that households will undertake sanitation upgrading as an investment in their health. Instead of pointing to diseases, which was rarely the case, the interviewed SHG members repeatedly named three (unexpected) concerns about their present sanitary situation (two of which were linked with local social codes compelling women to go for open defecation at night only). They were: fear of wild animals (especially snakes), fear of rape (circumscribed as “drunken men” or ”dangerous fellows”), and increasing pressures of urbanisation. The latter was especially marked in the Hyderabad suburb, where open areas and brushland previously used for defecation were rapidly being developed. Given these immediate pressures, it is surprising that only 44 percent of households planned to construct a latrine; especially since sharing a facility is very uncommon (interview with municipal official, 17.02.2010).

Overall, it was apparent that relatively better-off households (e.g. with brick houses) were most likely to undertake the investment. The higher-rank women in the SHG Federations, who were tasked with educating SHG members about the health benefits of sanitary latrines, repeatedly expressed their concern that the poorer members were excluded by the cost of constructing a latrine; as a result the neighbourhood would remain filthy, and one household’s non-participation created a cost to the entire community. The NGO’s employees repeatedly made it clear that

[13] In one neighbourhood on the outskirts of Hyderabad, the tanker arrived while I was touring the neighbourhood. Women came running from houses in all directions with containers in order to secure their share of this water, as it was unclear when the next tanker would arrive.

they did not expect the project to reach very poor households. It appears that a more collective, inclusive solution must be found in order to solve this problem.

5. CONCLUSION

The empirical cases from Vietnam and Andhra Pradesh call into question some presumptions made by advocates of microfinance for water and sanitation. On the whole, it appears that microfinance for water and sanitation tackles symptoms, not causes, of the underprovision of water and sanitation to the poor. These causes would have to be located in larger collective failures (such as public sector capacity) and unequal access rights ultimately stemming from inequitable social relations and an increasingly unequal ownership of the means of production. It can be seen that, much like the theory section of this paper has argued, some important collective action problems and larger institutional failings exist which the microfinance loans themselves cannot tackle. These include population pressure (Andhra Pradesh), contamination of water (naturally and by industry and agriculture – Vietnam and Andhra Pradesh), climate (and perhaps climate change – Andhra Pradesh), perceptions of modernity and propriety (Vietnam and Andhra Pradesh), local corruption and adverse business interests (Vietnam), opposition from local politicians (Andhra Pradesh), land rights insecurity (Andhra Pradesh), the incapacity of public providers to reach the poor (Vietnam and Andhra Pradesh), caste dynamics (Andhra Pradesh), and the inequitable distribution of available resources (Andhra Pradesh). It almost appears as if the one element *not* missing was household access to loans.

Economically, we should beware of an emergent micro-privatisation of public goods through microfinance, which would move their governance from the public realm into the sphere of private capital markets based on the cost-recovery paradigm. Given the insight from economic theory that resources with public goods characteristics will be underprovided unless collective-action methods for their provision are found, the lack of safe water and sanitation in poor communities can be understood as resulting from too *much* market, or at least too little public activity. We may also learn from the recent financial crisis about the potential risks of financial "innovations"; and question the innovation of microfinance against that background. Credit to the previously uncreditworthy is hardly the key to economic and social development.

From a political viewpoint, the fact that local political institutions (which in India are democratic) were in some cases bypassed and alienated, rather than strengthened, is a concern. While SHGs and their Federations apparently can act as viable institutions for the governance of social projects, it is important to prevent an inefficient and rivalrous process of parallel institution-building (whether by MFIs, SHGs or others) which alienates existing local political institutions. More research

will be needed to deepen an understanding of the institutional environment, and to determine whether such interactions are unique to these cases, or likely to be systematic.

On a broader level, this contribution has left aside the normative implications of requiring the poor to pay for their access to water and sanitation, or indeed any of the public goods with which they are currently underserved. As briefly discussed in the "Theory" section, the line between public and private goods is a socially constructed one, so that even if it were possible to extend water and sanitation using microfinance loans, society may still wish to do otherwise – as Vandana Shiva (2006) has stated: "Rights cannot be substituted by credit." Perhaps the present time of economic turmoil is the right time to question the equitability of a social order which denies many their access to essential resources, and to abandon approaches based on debt. The loan costs of microfinance – in Andhra Pradesh up to 60 percent effective interest per annum (Shridhar 2010) – would raise the price for water and sanitation improvements for the poor by the factor of interest.

Since 2002 there exists an internationally codified Human Right to Water under the ICESCR (ECOSOC 2003), which includes sanitation. "Categorizing a right to water as a human right means that: fresh water is an entitlement, rather than a commodity or service provided on a charitable basis; achieving basic and improved levels of access should be accelerated; the "least served" are better targeted and therefore inequalities decreased; communities and vulnerable groups will be empowered to take part in decision-making processes." (Bluemel 2004) It should be clear that projects premised on the responsibility of their intended beneficiaries to take on debt detract from that fundamental right instead of fulfilling it. As Rosemann (2005) has argued, an approach based *not* on cost recovery from those least-suited to bear the costs stands a good chance. To conclude with an illustration: the Millennium Development Goal of halving the number of people without access to water and sanitation in sub-Saharan Africa could be reached with a financial transfer from every person in the 15 countries of Western Europe of only 4.80 US Dollars per year.

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