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Bangladesh Rural Sanitation Supply Chain and Employment Impact

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Introduction

The Government of Bangladesh has laid down ambitious plans to achieve nationwide coverage of sanitation by 2010, well ahead of the time scale of the sanitation target of the Millennium Development Goals (namely to reduce by half the number of people without access to adequate sanitation by the year 2015). Recent estimates of sanitation coverage in Bangladesh are 39% for the rural and 75% for urban populations.¹ This implies accelerating the rate of progress from the present 1% to 8% each year.²

Until recently there has been relatively little work on the costs and benefits of sanitation; these are often quantified in terms of benefits to health and in time savings.³ For example it is estimated that in Bangladesh over US\$80 million (Taka 500 Crores) is spent on medicines, doctors fees and travel costs in relation to illness that can be associated with poor sanitation. What is rarely, if ever, mentioned are the potential wider benefits to the economy, particularly in relation to the employment that can be generated for small scale entrepreneurs. These typically include builders and masons, and suppliers of building materials.

This paper focuses on the Total Sanitation Campaign (TSC) that has been in operation in rural Bangladesh since the late 1990s. The approach was pioneered by the Bangladeshi NGO, the Village Education and Resource Centre (VERC),⁴ with the support of the International NGO WaterAid. It takes a community based approach to achieving 100% sanitation coverage, working on the principle that the community itself has the resources and ability to address sanitation (and associated water and hygiene) problems. Involvement of community members from the beginning, in awareness-raising and planning, through to implementation and monitoring, is a key supporting factor in the success of the approach. With appropriate external support from NGOs to identify the current sanitation situation and need for improvement, the community plans and implements solutions to meet that need.

VERC's approach is based on:

"The assumption that once the issues have been understood, communities themselves have the commitment and ability to overcome their water and sanitation problems themselves" 5

The following are the key features of the approach

- Strongly community-based
- · Identifies appropriate drivers for creating demand

¹ WHO/UNICEF JMP, (World Health Organization and United Nations Children's Fund Joint Monitoring Program) (2004), *Meeting the MDG Drinking Water and Sanitation Target: A Mid-Term Assessment of Progress*, Geneva and New York

² Water and Sanitation Programme South Asia, presentation on "Water Sanitation and Environmental Health" March 8 2005

³ Hutton G and Laurence H, (2004), *Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level*, Water, Sanitation and Health Protection of the Human Environment, WHO, Geneva

⁴ Village Education and Resource Centre (2002) "Shifting millions from open defecation to hygienic latrines", Dhaka, Bangladesh

⁵ Ahmad R (2005) "Shifting Millions from Open defecation to Hygienic Practices" WaterAid report prepared for the ADB, dated 15 August 2005

- Addresses the issues of the supply side through developing small entrepreneurs
- Overall outcomes are increased coverage associated with user satisfaction
- The approach has moved beyond Bangladesh and is being applied in the state of Mahrashtra India

TSC recognises that the behaviour of individuals affects the well being of others in their community. The key behaviour to be addressed in achieving 100% sanitation coverage is **no open defecation**. Other supporting behaviours include effective hand washing and hygienic rubbish disposal. What is different about TSC is that the target is literally "total", that is to completely remove the practice of open defecation (to become what is referred to as "100% defecation-free"). The definition of "adequate sanitation" is also innovative in that it refers to "no open defecation" rather than to the need to have a specified latrine type. In this way, the definition and focus of improving sanitation is behaviour-focussed, rather than infrastructure focused

With the main entry point for TSC being the community, baseline data is collected that will motivate the community as a whole to change their current situation in relation to open defecation and unhygienic latrine use. Motivational tools include calculating the volume of faeces and urine (known as "goo") indiscriminately dumped through open defecation within the community in a given period. The community considers the impact this has on the health, dignity and status of the whole community and plans what they can do to improve it.

In the TSC approach as developed by VERC there was no "blue print" technical solution offered; householders were encouraged to innovate to provide latrines that match what they could afford. This marks an important difference from the experience in predominantly supply-driven sanitation programmes from a number of countries, where it is typical to specify a standard latrine design on a "take it or leave it" basis.

The key issues relate to the potential for the TSC approach to scale up to the required level to achieve the Government's ambitious targets. Total Sanitation as developed by VERC and WaterAid is currently being applied by a number of different groups within Bangladesh. The main implementor is the NGO forum which is an Apex organisation for 630 NGOs. They are attempting to operate at a far larger scale than other initiatives e.g. by the NGO Plan Bangladesh. Whilst there is no formal evaluation of the TSC, a review of rural sanitation in South Asia by the Water and Sanitation Programme (South Asia)⁶ presents valuable findings in relation to TSC.

Getting sanitation on the political agenda: involving government

National policy provides the framework for new initiatives to move forward.⁷ In Bangladesh, previous top-down, supply-driven approaches to sanitation had not been successful. The Government recognized that other development actors were innovating approaches that were very effective in the rural areas, even for the poor with limited access to resources and no land. Evidence of the successful experience of VERC has resulted in Government reviewing its policies and strategies. The National Policy for Water and Sanitation⁸ was developed in 1998 and has

⁶ Water and Sanitation Programme (2005) Scaling up rural sanitation in South Asia, WSP South Asia

⁷ WEDC "Comparing National Sanitation Policy Content: an initial review of nine countries" available at <u>http://wedc.lboro.ac.uk/projects/new projects3.php?id=142</u>

⁸ MLGRDC, (2005), *National Sanitation Strategy*, Local Government Division, Ministry of Local Government, Rural Development and Cooperatives, People's Republic of Bangladesh

provided the framework for developing a strategy that incorporates TSC. Key features of this original policy are noted in Box 1.

Box 1. Government of Bangladesh sanitation policy: key features

- The scope of the policy is comprehensive, considering urban and rural sanitation as separate problems. There is no specific approach suggested for urban areas other than the promotion of household latrines along with public and community toilets.
- The policy makes reference to specific outputs and targets including institutional targets
- The policy does not indicate a time-frame for the achievement of targets; however it has provided the basis for subsequent strategy development that has adopted specific time bound targets namely total coverage for rural sanitation by 2010
- The policy makes no reference to either programs or budgets for the targeted groups; neither does it specify minimum service levels
- Health is an explicit concern of the policy but it makes no reference to specific types of problems or diseases
- There is no mention of sources of finance, the costs of meeting targets, nor of subsidy
- The policy recognises both technical (hardware) and social (software) concerns and is reasonably balanced in this respect
- The policy defines some institutional roles relating to planning, financing, regulation, implementation, O&M, M&E and programme support, but only in fairly general terms; no lead agency is defined
- There is no mention of the wider benefits nor of the income generating potential of the supply side

The political status of sanitation was further encouraged by the commitment of the Government of Bangladesh expressed through the 2003 SACOSAN conference declaration signed by the Minister for Local Government, Rural Development and Cooperatives (MLGRDC) – subsequently identified as the lead agency for water and sanitation provision. The MLGRDC has endorsed the Total Sanitation approach and has integrated it into the National Sanitation Strategy.

The key advance here is the identification of a clear lead agency. This is important because lack of sound institutional frameworks is the root cause of many failures in service delivery – and a major cause of failed sanitation provision. Lack of a clear institutional "home" for sanitation planning and management, together with limited capacity within institutions to co-ordinate and manage activities hampers promising initiatives. The problem is illustrated by the not-atypical case of Guyana, a country with a relatively small population of less than 1 million which had at least seven Ministries and Departments with overlapping responsibilities for sanitation.⁹ By contrast, South African sanitation policy sets out a clear operational structure.¹⁰

⁹ WELL (2000) Further Definition of Environmental Health Opportunities within the Guyana Water Sector Programme (GUYWASP), WELL Task No 466, WEDC, Loughborough University

¹⁰ Elledge, M.F., Rosensweig, F. and Warner, D.B. (2002), *Guidelines for the assessment of national sanitation policies* (EHP strategic report; no. 2), Environmental Health Project, USAID, Arlington, USA,

The Government of Bangladesh's commitment to achieve full, national sanitation coverage by 2010 is supported by the establishment of a multi-sectoral strategy, involving CBOs, NGOs and private entrepreneurs working together under the coordination of the lead government agency. The high political profile gained for the Total Sanitation Campaign (TSC) approach, together with its integration into the latest National Sanitation Strategy will be instrumental to its success in achieving the targets. However, whilst local government bodies in Bangladesh are tasked with the huge responsibility of providing sanitation, the policy does not explicitly make provision for commensurate capacity building activities.

The TSC approach developed by VERC is based on a working partnership between small scale entrepreneurs and community groups, with appropriate support provided by national and local government institutions, national and international NGOs. It is perhaps the rate of take up of the programme that attracted the crucial attention of national and local government (See Box 2). Key changes at national government level include:

- · allocations of an agreed level of resources to local government
- increasing the proportion of resources assigned to promotion activities rather than hardware
- Government becoming a proactive partner in the development process and providing additional incentives

Box 2. Local government gets interested in total sanitation¹¹

"Due to the fast spread of the movement, the local elected people's representatives got involved. In at least five Unions leadership of the local government has been convinced and has formed task forces to monitor and support the people's action. The WATSAN groups at the Union level meet every month and have allocated funds to support the local action of the community. The Mayor and the District Magistrate of Rajshahi are extending support to such totally sanitised villages and are providing media coverage."

"...Their success has also drawn the local government closer. Members of the Union Parishad and Upozila are taking a keen interest in sustaining and scaling up the programme and are planning to declare totally sanitised Unions soon (2003). The subsidy money is being utilised to develop more facilitators for the ignition process as the demand for good quality facilitators is on the increase."

The involvement of local government institutions was an important innovation in the development by VERC of the Total Sanitation Campaign. An important motivator was the interest of government officials in associating with a large scale initiative that was obviously succeeding. This enables institutional linkages to be built, which are essential for both sustainability and widespread scaling up.

However, subsequent findings by WSP indicate that the TSC approach as delivered, for example, through the NGO forum proceeded largely without government engagement. The need to develop better links between partner NGOs and local government is recognised by NGO forum. The work on TSC being undertaken by PLAN Bangladesh is at a much smaller scale covering only a handful of villages and has strong links with local government. Nevertheless this still calls into

Available at http://www.ehproject.org/PDF/Strategic papers/SRSanPolFinal.pdf

¹¹ Kar K (2005) "Practical Guide to triggering community-led total sanitation" IDS University of Sussex, Brighton UK

question the issue of drawing in local government when programmes are trying to move to scale. Ultimately, workable partnerships with national and local government are a pre-requisite to scaling up.

Allocating adequate resources

National budgets for sanitation provision are currently limited to around 20% of national investments in the water and sanitation sector.¹² As the political focus towards sanitation grows, resources need to increase to enable demand to be satisfied. The resource requirements need to be set within the context that demand for sanitation is much less clearly expressed than for other services such as water and power - to the extent that the level of demand for the latter can be quantified. Peoples' awareness of the importance of sanitation can be very low. This leads to difficulties with target-driven approaches and the risk that financial allocations may be inappropriately spent or remain unspent unless they follow the rate at which latent demand is uncovered.

Nevertheless the following issues need to be addressed to help overcome the constraints around resource allocation:¹³

- Set clear rules for
 - allocating financial resources
 - targeting the poorest
 - levering maximum user contributions
- Rules for allocations and subsidy need to be consistent between different programmes and be appropriate and affordable to local circumstances
- National government provides specific allocation for sanitation in annual development programme for local administrations

In an expression of its commitment to sanitation provision, the Government of Bangladesh has committed 20% of its national Annual Development Programme Block allocations to fund local administrations (*Upazillas*) in improving sanitation to the poorest. From 2005, for rural sanitation 25% of the funds will be for promotional activities, the remaining 75% to support hardware to those defined as "hardcore poor" only.⁸ This compares with an earlier split in resource allocations of 10% to software and 90% to hardware elements and therefore represents an important shift which offers the potential to increase the funding to the TSC approach with its focus on facilitating behaviour change.

However, despite adopting the TSC approach within the national sanitation strategy, there remains a notable inconsistency between government policy which refers to subsidy for the "hardcore poor" and with TSC which advocates zero subsidy.

In TSC as developed by VERC, households are responsible for financing the infrastructure component and are offered an extensive range of latrine models, based on affordability within the

 $^{^{\}rm 12}$ WHO / UNICEF (2000), Global Water Supply and Sanitation Assessment 2000 Report, WHO and UNICEF, USA

¹³ WELL (2005) "Achieving Sanitation at Scale" available at http://www.lboro.ac.uk/well//resources/Publications/Briefing%20Notes/BN18%20Sanitation%20at%20scale.htm

community. In addition to this, many local innovations for latrine designs that satisfy the basic criteria emerged, often at extremely low cost, so that user-safe and hygienic latrines are affordable to almost everyone in the community.³ However, WSP reports that in one of the Districts covered by their review there was in practice very little choice of alternative latrine designs – which is one of the characteristics of a supply driven approach.

Nature and scale of the demand that is generated

Total Sanitation uses a participatory approach to generate demand for sanitation through raising the awareness of potential users. The driver for awareness raising is the stimulation of a collective feeling of disgust and shame amongst village communities around their lack of adequate sanitation; the aim is to assist the community to carry out its own analysis of the situation. The rate at which demand then arises has important consequences for construction of affordable latrines at the necessary scale.

It is difficult to establish precisely the rate of growth in sanitation coverage. In April 2003 it was reported that

"more than 100 villages have totally cleaned themselves up, covering more than 15,000 families in at least six districts.... Very soon a few Unions¹⁴ will be declared as totally sanitised where no one practices open defecation"^{15.}

By the end of December 2004 WaterAid reported an additional 10% of the population of Bangladesh had gained access to sanitation; it is not absolutely clear over what period this applies, but it can be reasonably assumed to be 3 years. The Government declared 94 Unions (each of around 5600 households) and four Upazila (each of around 50,400 households) to be free of the practice of open defecation.¹⁶

However, the pace of change achieved by the NGO forum as a key implementer through its network of NGOs is also an important indicator. WSP South Asia report that NGO forum implemented the TSC approach in 1200 villages over a three year period to mid 2005. This in itself is a real achievement, but in the context of the ambitious government targets (100% coverage by 2010 compared with 39% in 2002) it represents only about a one percent increase in rural sanitation coverage.

Taking WaterAid's figures (which attribute the open-defecation-free Unions and Upazila mentioned above to TSC) and the typical cost range for the latrine designs developed through the Total Sanitation Campaign of US\$2-6⁴, this suggests that between US\$1.5 and US\$4.4 million could have been injected into the local economies over approximately 3 years. Whilst this is a somewhat crude and unsubstantiated estimate, it does indicate the potential scale of a benefit that is rarely considered in the appraisal of sanitation policies, strategies and programmes. However, it is important to note that the number of latrines is less than the number of households, as in some circumstances latrines were shared.

Further "ball park" estimates by WaterAid-Bangladesh suggest that over ten years to 2005, investment in sanitation country-wide has been of the order of US\$3 million.¹⁷ When combined

¹⁴ There are 11-15 villages in a union

¹⁵ Kar, K (2004) *Subsidy or self-respect? Participatory total community sanitation in Bangladesh*, IDS Working Paper 184, September 2004, Institute of Development Studies, Brighton, UK

¹⁶ WaterAid (2006) "What we do where" available at http://www.wateraid.org.uk/site/wtat we do/case studies/858.asp

¹⁷ WaterAid (2006) Personal Communication to Steven Hunt, Practical Action, Rugby UK

with the larger private investments in domestic water supply of US\$24 million annually, the total private investment in water and sanitation represents approximately 50% of that made through the public sector and is 5-6 times higher than the investment through the NGO sector.

The significance of this to the local economy is supported by similar findings from community contracting approaches in the urban sector in South Asia. Analysis of small contracts for local neighbourhood infrastructure improvements in a typical slum (having a contract value of US\$5000) shows a typical cash benefit to the local economy of US\$2800 for local skilled and unskilled labour and local materials supply.¹⁸¹⁹

Supplying the demand

Much of the literature on community based approaches around Total Sanitation focuses on community mobilisation to raise awareness and create demand. Whilst this is clearly of great interest, it is not matched by critiques and evaluations of the supply side; that is, once this large scale demand is created, what are the mechanisms for supplying the latrines and associated services to households and communities?

During the development of the TSC approach by VERC, households developed affordable solutions to meet three these basic criteria.

- It prevents faeces contaminating other things people and the local environment,
- It is free from odour; and
- It is free from smells.

With the advent of genuine user choice in the type of latrine constructed, there arises a need for affordable structures; this means departing radically from conventional ideas about latrine design and this is a key feature of the Total Sanitation approach. It is reported by VERC that over 20 different models of toilet were innovated by communities with the cheapest costing only US\$1.27.⁴ These are all based on variations of the simple pit latrine and are extremely low cost . Whilst no direct cost comparison for "conventional" latrines are available, regional figures for Asia suggest initial investment costs in the range US\$26-50.²⁰

No independent evaluation of the performance or sustainability of such low cost latrines is available; the cheapest latrine designs outlined by VERC doubtlessly have drawbacks, for example in terms of durability. That however is not the point; they provide an affordable way for families to start on the "sanitation ladder" and for communities to move towards "no open defecation". Nevertheless there is a need to revisit villages covered by TSC not only to review the performance of these very low cost latrines, but, more importantly, to look at the sustainability of hygiene and sanitation behaviour changes brought about through the TSC approach.

Hardware was provided by small-scale independent providers of low-cost latrine components who were trained in providing a range of products. An important driver for this was the lack of subsidy, which encouraged people to identify existing sources of supply.²¹ This contrasts strongly with

¹⁸ Cotton A P & Sohail M (1998) "Community initiatives in urban infrastructure" WEDC Loughborough University UK (also available in Urdu and sinhala)

¹⁹ Sohail M & Cotton A P (2000) "Performance monitoring of micro-contracts for urban infrastructure procurement" WEDC, Loughborough University UK

²⁰ WHO / UNICEF (2000), Global Water Supply and Sanitation Assessment 2000 Report, WHO and UNICEF, US

traditional centrally driven approaches where a new source of (subsidised) supply associated with a programme would appear.

Cost has clearly been a major constraint to increasing rural sanitation coverage in Bangladesh. For example, well before the advent of Total Sanitation in 1992, it was found that 80% of the rural population in Bangladesh could not afford even the subsidised conventional water seal latrines promoted by Village Sanitation Centres (set up through a centrally-driven government programme).²² The existence of subsidised products (in this case waterseal latrines and pit lining rings) creates market difficulties for the local private sector. It was found that the profit on latrines was very marginal and enterprises had to sell other products to survive. They provided a range of services to their customers, including: pit digging; superstructure construction; transportation of components, all at a quality to suit the customers. Latrine pit cleaners also reported increased business. Some NGOs, noticeably the Grameen Bank, stopped their own programmes of manufacture of latrine components and instead assisted member to buy from local producers. It was observed that private producers of latrines tended to spring up near to Village Sanitation Centres.⁹ This legacy may well be relevant to the important role adopted by the local private sector in the Total Sanitation approach, and equally, the need to diversify from selling only latrine components.²³

Unfortunately there is no audit of the extent of enterprise development triggered by the Total Sanitation Campaign. The number of private latrine production centres was reported to be 3000^{24} in the year 2000 and 4200 at the end of $2004.^{22}$ Out of that total, the work of NGO forum has resulted in the establishment of 900 toilet production centres of which 390 (43%) are run by private producers and the rest by partner NGOs.²³

Boxes 3 and 4 (quoting directly from Kar (2004)) provide examples of the range in local private sector developments that have taken place. Kar also reports a number of relevant wider impacts on the local economy which do not necessarily relate to the local private sector.

Box 3. Supplying components⁹

"....a large number of private entrepreneurs and fabricators have emerged in the nearby local markets in Rajshahi and other districts, who are now importing coloured and low cost plastic pans and fittings from Burma and Thailand to the rural areas of Bangladesh. This natural growth in entrepreneurial activity is directly related to the rise and spread of the demand for toilets in rural areas. As more private sector entrepreneurs are coming in with toilet spare parts that match local needs, VERC's role is changing from that of a manufacturer of concrete rings and slabs to that of simply a facilitator. They are handing over the supply role to the private sector......there is growing competition amongst the private entrepreneurs to supply commodities at lower cost in order to get more customers. "

Box 4. Supplying services⁹

²² Ikin D (1994) "Demand creation and affordable sanitation and water" 20th WEDC Conference, Colombo Sri Lanka

²³ Quazi A and Pramanik A (2004) *The sanitation movement in Bangladesh and the role of the private sector*, NGO Forum and IRC, Report of the NGO Forum, Dhaka, Bangladesh

²⁴ Water and Sanitation Programme (2000) *The growth of private sector participation in rural water supply and sanitation in Bangladesh*, Case Study, WSP South Asia

" In Chittagong district.. it used to be very difficult to find sweepers for cleaning toilets. The few who were available charged very high prices. Tk.200 (USD 3.64) used to be charged for cleaning one clogged or overflowing toilet earlier. Now the demand has gone up and sweepers have become community cleaners. Liton Chandra Das of Bansberia union is now charging only Tk.100 and is cleaning many more toilets than he used to clean before. He carries his toilet cleaning kits with his bicycle and is covering 3-4 villages... More people are asking for his service and Das is earning more, almost Tk.14,500 (USD 263.63) per month from his neighbouring villages... Das is even thinking of purchasing a mobile phone to allow clients to reach him more easily. "

Box 5. Wider economic impacts of Total Sanitation⁹

- · Using stipend money received from training to purchase latrine slab
- Formation of PG (small groups) to save money for latrine slab purchase
- · Land donation to poor by the land owner for latrine construction
- Bamboo, wood and straw contribution by the better-off for latrine construction to the poor
- Better-off families constructing latrines for the use of others (farm labourers) in their own land and in orchards
- The wholesale price of mango, bamboo, sugarcane and other crops has gone up because the purchasers can walk in to the orchards and fields to assess the crop value which they couldn't do before because of filth. An average price used to be offered to the farmers by assessing crop value from a distance.

Concluding remarks

The Total Sanitation approach addresses a number of the key constraints around scaling up sanitation programmes.

- Political commitment
 - National government endorses the approach of the Total Sanitation Campaign
 - Ministry of Local Government, Rural Development and Cooperatives integrates TSC into the National Sanitation Strategy
- Resource allocation
 - Phased switch of government and donor resources from subsidising latrine construction to supporting community sanitation promotion
 - Narrow the targeting for hardware support to "hardcore poor";
 - Under TSC, households are responsible for financing operation and maintenance without subsidy; this is not consistent with the national policy of some (if limited) hardware subsidy
- Impact on the local economy

- Whilst this cannot yet be verifiably quantified, at least 730,000 families have been reached, implying US\$1.5-4.4 million could have been injected into local economies
- Approach to partnerships
 - Focus is on community-wide behaviour change.
 - Partnership between NGOs, households, CBOs and local government agencies to create demand through awareness raising.
 - In rolling out the TSC approach, there may in practice be much less involvement of government than was envisaged
 - Local private sector works with households for construction of latrines
- Capacity to deliver: matching supply and demand
 - Demand creation is community-wide, focused around stark messages about poor hygienic behaviours.
 - Households develop affordable solutions, to meet basic criteria. Hardware is provided by small-scale independent providers of low-cost latrine components who are trained in providing a range of products.
 - There are indications that the extent of householder choice in technology may in practice turn out to be very limited
- Whilst the NGO forum have achieved remarkable feats in increasing access to rural sanitation, this rate of progress falls far short of that required to meet ambitious government targets. This raises concerns about emphasising sanitation coverage targets through rapid latrine construction programmes, rather than a behaviour-driven approach to hygiene improvements in pursuit of sustainable hygiene and sanitation practices. Target-focused implementation must ensure approaches incorporate both behaviour change and appropriate development processes
- The TSC approach remains valid, if correctly applied. Strategies to ensure the long-term sustainability of programmes need to be continually reviewed, such that TSC is applied in its most appropriate form as pioneered by VERC and WaterAid.
- There exists an important knowledge gap around quantifying the impact of sanitation on the local economy in terms of the generation skilled and unskilled labour days and on local materials supply. A formal study of the Total Sanitation Campaign looking at this aspect would provide an excellent opportunity to uncover these additional benefits.