# Private Sector Participation (PSP) in Peri-Urban and Rural Sanitation

# A Case Study of "SanPlat Promotion in Tanzania"

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Keywords: private sector, SanPlat, peri-urban area, rural areas

**Abstract**
With 98 and 86% of the total population in urban and rural areas respectively in Tanzania served with sanitation facilities (WHO/AFRO, 2000, TWSSFS, 2003), coverage seems good. However, the suitability of those facilities is yet another issue. Many latrines are built without proper design, materials and technical assistance in high water table areas resulting into poor and collapsed structures, creating hygienic problems rather than sanitary solutions. Latrine slabs are often difficult to clean and unsafe to users. In the 1990s, Environmental Engineering and Pollution Control Organization (EEPCO) - supported by UNICEF - chose the Sanitation Platform (SanPlat) as one of the sustainable solutions for a latrine slab. The main aims of promoting the SanPlat were to improve the condition of the present and new latrines, and the hygienic conditions. Small and Medium Enterprises (SMEs) were involved in the production and sale of the SanPlat slabs for peri-urban and rural settings. They received theoretical training and on-the-job-training for slab production before starting their business. By 2002, 418 trainees had attended these workshops. Many of the trainees have left the job while they trained others who took over the job. Assessment revealed that in the period 1995-2003 SanPlat slabs improved the latrine conditions of some 23% of the rural and peri-urban study areas where the SanPlat promotion was done and artisans were trained. The municipal actions against the informal sector also affected the sales points of SanPlat slabs.

This paper describes the Private sector participation in the implementation of SanPlat promotion project in Tanzania, while the result of SanPlat on sanitation improvement yet requires a review to substantiate it.

**Introduction**
Worldwide, in many cities, towns and rural areas, people live and raise their children in environments heavily polluted by human excreta resulting from inadequate sanitation facilities and use, leading to high rates of disease, malnutrition and death (Kalbermatten *et al.* 1980, Esrey *et al.* 1998). Tanzania is among the countries facing such situations. In urban areas of Tanzania, while the population is growing exponentially, the provision of infrastructure is increasing arithmetically (Chaggu and John 2002). If this gap is not bridged, excreta will continue to end up in the wrong place, contributing to serious health hazards. Official data indicate that 98 and 86% total urban and rural population respectively has excreta disposal facilities (WHO/AFRO, 2000, TWSSFS, 2003). Still, these coverage levels are questionable from a sustainability and hygiene perspective. According to Lettinga *et al.* (2001) criteria for sustainable sanitation include (i) little if any dilutions of high strength domestic (and industrial) residues with clean water; (ii) maximisation of recovery and reuse of treated water and by-products; (iii) application of efficient, robust and reliable waste water collection and transport systems, and (iv) treatment technologies which require few resources and which have a long life time. Many of the existing latrines in Tanzania are not durable and hygienic enough to be termed as sustainable. In high water table areas pit walls often collapse during the rainy season. Floor slabs may be reinforced with natural timber, which over time react with the produced gases in the pit and therefore ends up as slab failure. Additionally floor slabs are habitually lacking floor finish and so difficult to clean and unhygienic. Figure 1a shows one of the worst

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cases of slabs which are difficult to be used by children, elderly people, scaring during the night, dangerous in rainy season and source of killer diseases like cholera, dysentery and diarrhoea. Despite of the reality that many residents (>90%) use pit latrines, there is a poor record keeping (Chaggu *et al.*, 2002) and obtained figures vary depending on source of information. For example, the Demographic Health Survey (DHS) (1996) showed that sanitation coverage figures for 1996 were 92.6 and 82.3% for urban and rural areas respectively, which is different from 97 and 86% respectively for 1990 also 98 and 86% respectively for 2000, mentioned by WHO/AFRO (2000). There is no updated data from DHS. Therefore adequate collection, storage and dissemination of data are necessary.

Figure 1a. Traditional pit latrine in Magugu Babati District Arusha (now Manyara) region. (Photo by EEPCO 2002)

Figure 1b. Same latrine improved by installation of SanPlat Slab. (Photo by EEPCO 2002)

To close the ever-increasing sanitation gap, private sector participation (PSP) is very important. PSP will assist in drawing the needed resources (financial and human) hopefully to reach the needy. Improved decentralised sanitation options are cheaper than sewerage. High density living in urban areas necessitates timely (upfront) and adequate planning for sanitation arrangements to minimize the risk of epidemics (Kironde, 2000). Tanzania has no adequate sanitation policy to guide the activities of this sector. However, at the moment a policy is under development. Currently, sanitation is fragmented in different sectors of different ministries. This causes the PSP to end up with conflicting accountability areas and ideas while implementing sanitation concepts and options.

The Tanzanian Ministry of Health (MoH) in 1970s devoted full efforts to sanitation upgrading through latrine campaign. Each household was required to have a latrine. The campaign did not achieve much. Most of the people constructed the latrines so that they could show them to health officers/sanitary inspectors. However, using them was yet another aspect. The constructed latrines were not designed to hygienic standards and so, created hygienic problem rather than sanitary solutions. However, on this aspect, part of the blame should go to the authorities for inadequate technical assistance to communities. There is no “best” technical solution for all situations and hence, technical solutions must be adapted to the local environment, the financial resources, the skills and the traditional “latrine behaviour” of the user (Winblad and Kilama, 1985).

To improve sanitation in Tanzania, EEPCO, a Tanzanian NGO, has taken the initiative of devising appropriate measures and technology, that will be acceptable to the people, cost effective and have higher degree of environmental control. This pertains particularly to decentralized sanitation systems as many poor people have no adequate sanitation[3]. The **SanPlat technology** (Box 1) and the **SanPlat Promotion Approach** (Box 2) were chosen by

[3] about 70% of the population in Dar-es-Salaam (DSM) live in unplanned area, Mato *et al.*, 1997

EEPCO to contribute to the improvement of the sanitation situation in Tanzania; UNICEF supported this project.

**Box 1 SanPlat Overview**

SanPlat – or sanitation platform - is an improved latrine slab innovated by Bjorn Brandberg. Moulds are used to give correct dimension and distinct shapes. Fine concrete is used to produce a long lasting smooth slab easy to clean. Smooth finishing is also appealing to the eye. The SanPlat is an economic solution because it has low production cost (one bag of cement of 50kgs can produce 10 slabs), it is hygienic (washable floor with tight lid to keep flies and obnoxious smell away), it can easily moved (to other places of use-Figure 1b) and it is safe for children use (Figure 1a) The SanPlat is a good solution when combined with a sub-structure suitable for the local conditions.

**Box 2 Requirements for an Effective SanPlat Promotion Approach**

- **Political will** is crucial and hence **advocacy for decision-makers** is necessary;
- **Social mobilization** of government and non-governmental institutions and influential personalities as partners are very important in the promotional work
- **Promotion delivery to reach the client households** is necessary for positive impact

## Capacity Building of Private Sector involved in slab production

The Tanzanian SMEs, including private sector artisans, involved in the production of latrine slabs needed capacity building. Therefore, training workshops (see Box 3) for production of SanPlat latrine slabs and installation were organised. The first training workshop was held in 1995, in Kisarawe District (Coast Region). It was agreed in the workshop that the SanPlat technology should be promoted in the participants' respective areas. SanPlat moulds were therefore distributed to the trained local artisans so that they could start producing the slabs to be sold. By 2002, fifteen workshops trained 418 participants (75% from small-scale enterprises) on SanPlat technology through the SanPlat Promotion Project in UNICEF-supported areas (see Table 1). The project, its approach and results have drawn a lot of attention of Tanzanian government line ministries, international organizations, individuals and other stakeholders. Actually, the Project ended in 1999 and from 2000 onwards the MoH has taken over the promotion activity in other areas of the country replicating EEPCO's approach, and involving also other Tanzanian NGOs[4]. No special skills are required, and any layman can learn to make excellent SanPlat within a few days of practice.

The long-term objective of the SanPlat promotion is to make the initiative self-supporting and to let the private operators gradually take over. After training workshops (see Table 1) plastic moulds and promotion materials (posters, fliers, T shirts, flags and stickers) were distributed to artisans, Health Workers (HWs) and Community Development Officers (CDOs). Artisans got the responsibilities to produce, sell and install SanPlat slabs in latrines and train other people on these skills. HWs and CDOs at ward and village levels assume the responsibilities of advocacy, social mobilization and promotion delivery. Moreover, HWs have been in charge of the latrine building and improvement programmes. Or they support these programmes by giving health talks, inspecting household latrines and advising households on latrine improvement. To date the number of SanPlat slabs sellers has increased. In Dar es Salaam out of 27 SanPlat producers included in the survey, 81% were new producers who learnt the technology and skills from other artisans between 1997-2003. In Kisarawe district the new producers make 46% out of 78 surveyed. Recorded sale of SanPlat slabs in Kisarawe by SMEs revealed that sales have met 23% of all households in the target areas (see table 2). Record keeping is necessary for accurate assessment.

[4]These include Red Cross in refugee camps and currently CHAMAVITA (Chama cha Maendeleo Vijijini Tanga) in Lushoto district Tanga Region, AMREF (African Medical Research Foundation) in its Mkuranga Water, Sanitation & Hygiene Project in Mkuranga district coast region and Ingenieria sin Fronteras in Karatu Arusha region.

**Box 3 SanPlat Promotion Project**

The SanPlat system makes toilet slabs affordable. They are easy to construct, flexible and can be adapted according to environmental and geographical circumstances. The SanPlat technology is a practical solution building on people's capabilities (local materials and traditional skills) and maximizing these with innovative approaches and new materials, which stimulate the people involved (Brandberg, 1997). In collaboration with UNICEF, EEPCO started the SanPlat Promotion project in Tanzania in 1995 aiming at contributing to a solution of sanitation problems in peri–urban and rural areas. Project activities included training of extension workers and private artisans on sanitation, health and hygiene by applying participatory methodologies including the Participatory Hygiene and Sanitation Transformation (PHAST); and practical training on sanitary latrines constructions with SanPlat slabs. The slabs improved the traditional latrines. Production centers were established at ward and village levels. However, the SanPlat does not prevent the possibility of groundwater pollution, especially a problem in high water table areas, and does not address latrine pit walls' stability. Further exploration is needed to improve the existing design by considering ecological sanitation where all human waste products are collected and infiltration into the soil is prevented and so groundwater pollution. EEPCO has integrated some environmental measures to pit latrine construction problems in the SanPlat promotion project including low cost pit lining options suiting specific environmental, soil and economic conditions of the area.

**Table 1: SanPlat Promotion Workshops In Tanzania**

| Place[5] | Date | No. Of Participants | | | | | |
|---|---|---|---|---|---|---|---|
| | | Health workers, Community Development Officers | | Businessmen (small contractors and brick markers) | | Artisans | |
| | | Men | Women | Men | Women | Men | Women |
| Kisarawe District Coast region. | 13 – 22 Nov 1995 | 2 | 6 | 0 | 0 | 20 | 2 |
| Kisarawe District coast region | 6 – 15 - May 1996 | 2 | 5 | 0 | 0 | 18 | 2 |
| Chakechake Pemba | 25June - 4 July 1996 | 3 | 0 | 0 | 0 | 10 | 5 |
| Rufiji District coast region | 19 –28 Aug 1996 | 4 | 3 | 2 | 0 | 11 | 0 |
| Mtwara | 20 – 26 Nov 1996 | 5 | 6 | 3 | 0 | 9 | 0 |
| Mwanza | 15 – 21 Dec 1997 | 5 | 5 | 0 | 0 | 19 | 1 |
| Mufindi Iringa | 1 – 7 Dec 1997 | 2 | 5 | 0 | 0 | 23 | 0 |
| Ilala District Dar Es Salaam | 1997 | 2 | 4 | 0 | 0 | 18 | 6 |
| Unguja - Zanzibar | 22nd to 24th June 98 | 4 | 6 | 10 | 0 | 10 | 0 |
| Masasi District Mtwara Region | 13 – 15 July 1998 | 0 | 3 | 0 | 0 | 21 | 6 |
| Ifakara District Morogoro region | 10 – 13th Aug 1998 | 1 | 3 | 0 | 0 | 23 | 3 |
| Ileje District Mbeya Region | 2nd - 5th Sept 1998 | 3 | 5 | 1 | 0 | 14 | 7 |
| Vingunguti Ilala Dar Es Salaam with WHO | February 1999 | 0 | 1 | 0 | 0 | 13 | 2 |
| Mzenga Ward Kisarawe district Coast region – 3 trainings in 3 villages with CARE Imara | 12th to 16th Sept 2000 | 2 | 13 | 2 | 0 | 40 | 0 |
| Babati District Manyara region MoH/WHO | 3rd to 12th January, 2002 | 1 | 1 | 0 | 0 | 12 | 0 |
| Total | 15 workshops | 36 | 66 | 18 | 0 | 261 | 34 |
| % Men, Women | | 35.3 | 64.7 | 100.0 | 0.0 | 88.5 | 11.5 |
| (%) Careers | | 25 | | 4 | | 71 | |

[5] All places under UNICEF-supported areas except the last three

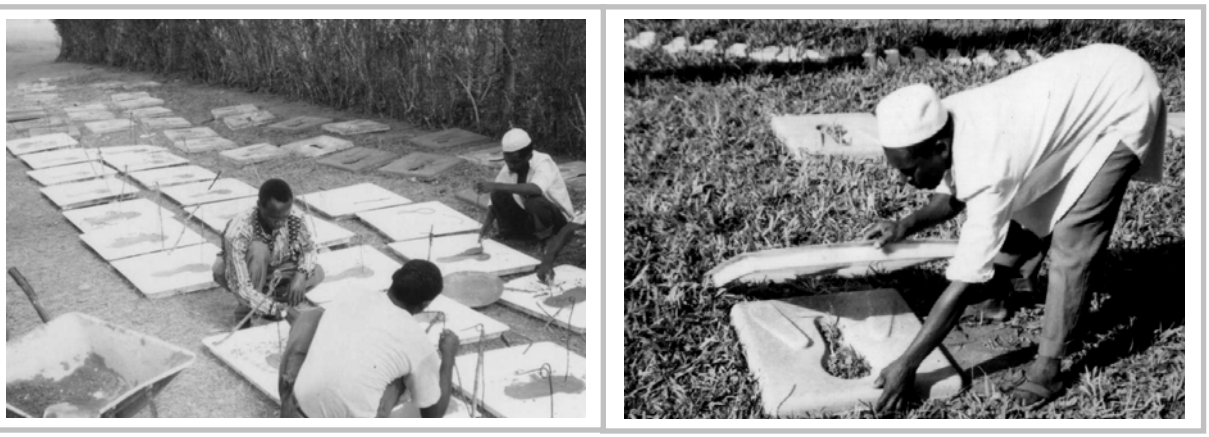

Figure 2. SanPlat slabs making exercise during Sanitation Promotion Training – Rufiji District (Photos by EEPCO 1996)

**Replicability of Initial and Adjusted SanPlat Promotion Project Approach**

Initially some SanPlat slabs produced in training workshops were provided free of charge for demonstration purposes to primary schools, health centres and a few households. These households (selected among the poorer households by the training workshop participants) contributed with materials and labour for the new latrine in which the SanPlat would be installed. In most cases the traditional latrine type can be built by the households themselves using local freely available materials at little cost (when labour and time are not costed).

As a second step the project introduced a symbolic price for the SanPlat slab, which would now become a more prestigious product. Increasing the price eventually creates a market for non-subsidized sanitation products. However, given the poverty situation of the households needing sanitation facility improvements and the unavailability of moulds, the Local Government Authorities (LGAs) provided moulds free-of-charge to new producers and to earlier producers for replacement of worn-out moulds. UNICEF and MoH gave the subsidy. LGAs monitor the effective use of moulds by the artisans. Local authorities are also involved in advocacy (to motivate the decision makers), promotion (to reach the clients/households), networking (to get everybody involved) and enforcement (to correct the defaulters). Since 2000 the Ministry of Health (MoH) is promoting SanPlat in areas not covered by EEPCO/UNICEF initiative. The MoH distributes the SanPlat moulds free of charge. Efforts to manufacture the moulds locally have been planned by EEPCO. Eventually, when the opportunities allow production of the SanPlat moulds locally, the subsidies on the moulds can be withdrawn. The role of the private sector will become also to sell moulds at a market price to an increasing number of SanPlat producers on competitive basis.

**Commercial Production and Sale of SanPlat Slabs**

In principle, SanPlat slabs should be made available to everybody at a commercial price including all production costs, overheads, and reasonable profit margin for the producer to make him a good partner in the promotion work (EEPCO and Brandberg 1995). But, in the Tanzanian practice, it does not work out as anticipated. Unless the economic capacity of the people is enhanced, the actual price of the SanPlat slab will continue to be a problem.

Cost estimate sessions were included in the workshop training enabling participants to estimate the cost of SanPlat slabs production and its installation. The production cost including labour for a SanPlat slab is around Tanzanian Shillings 2,500/= (equivalent to US$2.5, year 2003 exchange rates). This is an affordable price for some urban dwellers but may be too high in rural and urban poor settings; exactly being the locations where the sanitation situation is not good.

**Commercial Production and Sale of SanPlat Slabs in Rural Areas**

Many rural households have realized the importance of SanPlat slab but they complained on the price of buying the slabs from the producers. SanPlat prices varied with the income level of the

area in question. Where income level is high the demand is high, hence price shoots up for high profit purposes to the producers. Where income level is low the demand is low, so the producers reduce the price and gain small profit. In the low-income level areas people said that a price of US$ 2.5/slab is not expensive, but due to their bad economic situation, they cannot afford to pay that amount at one time. Many people indicated that they could pay that amount after the harvest period when they have sold their farm products meaning getting the slabs by loan from the producers. In such circumstances, the EEPCO team brings slab producers and their clients together to discuss the matter in participatory method and come up with agreed conclusions and solution like reducing the prices by involving the households in labour and contribution of materials to produce the slabs (Box 4).

**Box 4 Ten cell initiative for improved sanitation**

This initiative has first started in three villages in Mzenga ward in Kisarawe district in 2001, in which some ten-cell leaders organized their 10 households to contribute materials, labour and small cash to pay the production center sufficient to produce 10 SanPlat slabs for the households. This is because buying the slabs by cash was found to be difficult for most of the households in the ward. This initiative has been successful in Mzenga (see reported sale in table 2), and has been adopted by the wards Manerumango and Msanga in Kisarawe district. This option is more feasible in remote areas of the district and may not be applicable in Kisarawe District town headquarter. However, this move is not restricting other neighbouring people, so there are also some groups of ten people from different cells and even from neighbouring villages requesting the same service from the production centres. Cash buyers, although few in number, are still buying slabs.

The 2003 survey conducted in Kisarawe District (Table 2) indicates a good performance in production (Figure 3 right) and selling by CBO groups (Boxes 5 and 6) of SanPlat slabs in rural areas. The reported sale of 1,710 SanPlat slabs among a total number of 7,388 households in four wards of Kisarawe may not seem very high, but taking into account the year of establishment of the production centres, the poverty problem in the areas, and community attitude and behavioural change, the sale is promising.

**Box 5 Formation of SanPlat-producing CBOs in rural areas**

Artisans trained in Kisarawe on SanPlat got themselves organized, formed CBOs in their respective villages and established a SanPlat production centre. The CBOs are composed of 5-12 artisans. Due to the nature of the work, no restrictions are set for gender participation, but women who are interested in masonry works were encouraged to join. The organizational structure includes a Chairperson, Secretary, Treasurer and members. The village governments recognize the CBOs as village working groups, and legal articles like constitution, registration certificates etc. are not important for their existence. To start running the centres, each CBO was granted 10 SanPlat moulds, and some slabs (minimum of 10 slabs depending on the size of the group) made during the workshops. Normally 10 households contributed materials, labour and negotiable small cash (around 0.25 US$ per household) to pay the masons.

The members of the CBOs realized the importance of joint effort to produce and selling SanPlat slabs. Granting them materials to run the centres was an incentive. The advantages of these CBOs include; (i) planning together and reach more people in the rural areas e.g. through the ten cell initiative (box 4), (ii) price control of the slabs to make them affordable for the majority of the poor, (iii) quality control of the products (slabs), (iv) places in the villages where SanPlat slabs can be found are known,(v) good record keeping for produced and sold slabs, (vi) proper use and control of tools (moulds) granted for high production, and (vii) proper management and revolving of the granted materials. However, the CBOs are lacking enough capital to run the centres; they fully depend on the granted materials from the project.

## Table 2: Survey on Production and sale of SanPlat Slabs in Kisarawe District, and Kinondoni and Ilala Municipal Districts (Dar es Salaam)

| SanPlat Production center | Year of Establishment | No of masons involved in SanPlat production | No of masons trained by EEPCO | No of Masons trained by their fellow masons | Other Selling Point(s) If any. | No of SanPlat slabs sold | Price per slab US$ |
|---|---|---|---|---|---|---|---|
| **Kisarawe District Pwani Region** | | | | | | | |
| **Ward: Kisarawe Type: Mixed (Peri-Urban & Rural) Population: 11,844 No of hh: 2,760** | | | | | | | |
| Kisarawe | 1995 | 8 | 4 | 4 | Kibaha | 206 | 3.2 |
| Vijana Building | 1995 | 4 | 2 | 2 | | 150 | 3.6 |
| Alex Nyalusi | 1998 | 10 | 6 | 4 | Pugu | 250 | 3.2 |
| Total | | 22 | 12 | 10 | - | 606 | |
| % hh with SanPlat | | | | | | 22% | |
| **Ward: Msanga Type: Mixed (Peri-Urban & Rural) Population:** 5,234 **No of hh:** 1,231 | | | | | | | |
| Msanga | 1995 | 10 | 5 | 5 | Pugu | 165 | 2.7 |
| Vigama Village | 1999 | 16 | 1 | 15 | - | 143 | 3.2 |
| Total | | 26 | 6 | 20 | - | 306 | |
| % hh with SanPlat | | | | | | 25% | |
| **Ward: Manerumango Type: Mixed (Peri-Urban & Rural) Population:** 8,904 **No of hh:** 2,135 | | | | | | | |
| Maneromango village | 1995 | 2 | 2 | - | - | 130 | 2.3 |
| Kimani Village | 2002 | 1 | 1 | - | - | 10 | 2.3 |
| Total | | 3 | 3 | - | - | 140 | |
| % hh with SanPlat | | | | | | 6.56 | |
| **Ward: Mzenga Type: Rural Population:** 5,059 **No of hh:** 1,262 | | | | | | | |
| Mzenga Village | 2001 | 12 | 10 | 2 | Mzenga B | 280 | 2.3 |
| Vilabwa Village | 2000 | 6 | 5 | 1 | - | 206 | 2.3 |
| Mitengwe Village | 2000 | 9 | 6 | 3 | - | 170 | 2.3 |
| Total | | 27 | 21 | 6 | | 656 | |
| % hh with SanPlat | | | | | | 51% | |
| **Total Kisarawe District** | | **78** | **42** | **36** | | **1710** | |
| % hh with SanPlat | | | | | | 23% | |
| $3^6$ wards in Kinondoni District - Dar Es Salaam **Type: Mixed Population: 113,641 No of hh: 25,774** (assumed that the project target lives in informal settlements= 35%, i.e. some 39,774 people or 9,021 households) | | | | | | | |
| Mbezi Africana | 2002 | 2 | 0 | 2 | - | 40 | 5.45 |
| Mwananyamala | 1999 | 4 | 1 | 3 | - | No data | 5.3 |
| Sinza Kijiweni | 2001 | 2 | 0 | 2 | - | No data | 5.45 |
| Total | | 8 | 1 | 7 | - | 40 | |
| $5^7$ wards in Ilala District* - Dar Es Salaam **Type: Mixed Population: 257,860No of hh: 54,899** (assumed that lives in informal settlements = 35%, i.e. some 90,251 people or 19,214 households) | | | | | | | |
| Pugu Kigogo | 2003 | 2 | 1 | 1 | - | 50 | 4.1 |
| Chanika Msumbiji | 2002 | 3 | 0 | 3 | Chanika Msumbiji | 75 | 5.1 |
| Tabata Barracuda | 2003 | 3 | 0 | 3 | - | 10 | 5.45 |
| Ukonga | 1998 | 4 | 1 | 3 | Majumbasita | 130 | 5.45 |
| Pugu | 2000 | 2 | 1 | 1 | - | No record | 5.45 |
| Vingunguti Chadema | 2000 | 2 | 1 | 1 | Buguruni Rozana | 145 | 4.55 |
| Yombo | 2000 | 3 | 0 | 3 | Shaurimoyo | 104 | 5.3 |
| Total | | 19 | 4 | 15 | | 474 | |
| **Total DSM[8]** | | **27** | **5** | **22** | | **514** | |

[6] Sinza, Mbezi and Mwananyamala wards in Kinondoni District
[7] Pugu, Chanika, Segerea, Ukonga and Vingunguti wards in Ilala District

## Commercial Production and Sale of SanPlat Slabs in peri-urban Areas

Commercial production and sale of SanPlat slabs in districts towns and in peri-urban areas of major towns have proved to be more successful than in rural areas; one reason may be that the production and selling places are keeping on increasing in those areas. Selling arguments are used (see Box 6) for promotion purposes.

**Box 6 Selling Arguments**

Other than logic health arguments, the SanPlat production centres have been using emotional messages in marketing the SanPlat. The strong selling argument is **"modern"**, with a slogan **"a modern person has a latrine with a SanPlat".**
Another very common argument, which is also the local identifier of SanPlat, is **"hare"** (shape of the drop hole and footplates resembles a hare). A slogan **"Hare! Clever is to have it" (**in local language Swahili **"Sungura! Ujanja ni kuwa nayo")** is common in SanPlat promotion in Tanzania.

The 2003 survey (Table 2) conducted in Ilala and Kinondoni Districts of DSM shows a significant increase in the number of block sellers who are also producing and selling SanPlat slabs in their business areas. A noticeable different phenomenon is that, while in the rural areas producers of slabs are also sellers, in urban areas producers are partly sellers but often there are middlemen who assist in selling. This practice of having a middleman increases the cost of the slab from US$ 2.5/slab to 5.45/slab. Urban dwellers have got their own mechanisms of finding ways to live. Without them sometimes it is hard to get the market for your produce. This is because they have got their own influential networks. Under such circumstances, it may be difficult to know the good quality producers of slabs. The survey evaluated the results of SanPlat promotion training conducted in DSM, in which 80% of the participants were from the small-scale private sector (masons, artisans, small contractors and brick markers). Five of the 24 artisans in Dar es Salaam who were trained on SanPlat production in 1997 by EEPCO are now block makers in various parts of the city (peri-urban); the others could not be traced but they may have left the job or work in non-surveyed parts of the city.

Unfortunately the crackdown on street vendors by the DSM City Council (DCC) in early 1998 had affected most of the block makers whose businesses were located close to roads, among which were successful and popular SanPlat production and selling points. As a result of this only three points remain active in DSM, but these are far from the roads and the sales of slabs are rather slow. Record keeping is generally a problem; the production spread and selling points are not recorded but remain to be a free market to every one. Although it is difficult to locate the persons trained by EEPCO in 1997, it is easy to locate SanPlat slabs displayed for sale in block and building decoration selling points scattered in peri-urban areas of the city (Figure 3 left).

Figure 3.
Left: SanPlat slab and lids displayed for sell in a point also selling building decorations and blocks in Pugu Kigogo Dar es Salaam.

Right: SanPlat center in Mitengwe Village Kisarawe District. Photos by EEPCO 2003

[8] % of hh with SanPlat latrine in DSM is unrealistic (not included) since records are missing in some of production centres.

## Conclusions

- SanPlat slabs with other latrine improvements are very suitable for the Tanzanian environment. They provide job and income for small-scale private sector and create social/economic relations for marketing the slabs.
- Existing unhygienic traditional latrine slabs can be improved by using SanPlat slabs.
- Acceptability, affordability and political determination are very crucial in promoting SanPlat.
- Involvement of small-scale private sector in sanitation promotion is important, as they are very useful in information gathering, dissemination and application of sustainable designs.
- Promotion of SanPlats in rural areas is best done after harvest as people have time to listen and money to buy the slabs.
- Collective efforts at Ten Cell level to improve the latrine conditions by buying and installing SanPlat slabs have been successful in some areas and needs follow-up. They are also very important in replicating knowledge and skills in slab production and sale
- Emotional messages are effective in both rural and urban communities SanPlat marketing.
- Data acquisition and storage for sanitation and private sector participation is necessary.
- There is no sanitation policy in the country at present but it is now under development.
- Sanitation is fragmented in different ministerial sectors, which causes conflicting ideas and accountability difficulties for small-scale private sector for implementing the sanitation concepts and options.
- Building a latrine as an outcome of health campaign and using it are two mutually exclusive aspects in some areas of the country.

## Recommendations

a) Small-scale private sector should be involved in Sanitation programmes in the country for efficiency, effective marketing strategies and good impact of technologies to be applied
b) The performance of the small-scale private sector should be monitored, preferably by themselves, by the established CBOs and possibly by an Association of small-scale industries if existing.
c) To have an efficient and effective small-scale entrepreneurship for sanitation, issues such as product quality control, price setting, legal framework, regulation, micro-credit schemes etc, need to be discussed and followed-up between the local authorities and the small-scale private sector.
d) Provision of public education in hygiene and sanitation to local people should continue. It creates awareness of SanPlat and hence, a possible increased market of slabs and more jobs for small-scale private sector.
e) In rural areas, it might be good to design the latrines in the same way as the local houses are constructed so that self-help construction and maintenance can be used.
f) Given the poverty status of the people, it will be good to create an enabling environment through starting income-generating activities that will enable the people to improve their sanitation status.
g) The issue of subsidy needs thorough discussion; experience on rural sanitation from Asia has indicated several negative effects from subsidy on the progress of coverage of improved sanitation (Kar, 2003).
h) Funding agencies should assist in offering the necessary technical input and soft loans.
i) The local authorities should be overseers of the sanitation activities in their localities and assist the dwellers in constructing adequate excreta disposal facilities through co-ordinating with the knowledgeable NGOs and SSE.
j) Local authorities and small-scale private sector should be encouraged to keep good records of those (men and women of the various sectors) trained and then monitor their performance for the sake of replicability, efficiency, durability, and sustainability. They should as well keep records of constructors and households.

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