

NIRGANDH-ECO FRIENDLY TOILETS FOR MASS UTILIZATION

HIGHLIGHTS

- **NIRGANDH** works where there is no supply of municipal water, sewage or electricity
- **GREEN SOLUTION** to country's huge unmet public sanitation demand • **Waterless and Odorless urinals, Odorless defecation toilets**
- **SOCIAL BENEFITS: Safety for women, Improve Hygiene Standards:** Prevents occurrence and spread of diseases.
- **JOB EMPLOYMENT: 100 units will create employment for 30-40 people** as O&M operators
- **GIRL CHILD EDUCATION:** Deployment of women urinals and toilets in municipal schools across the country to eliminate a key reason for girl child not going to school
- **RAPE AND ASSAULT:** Women bear the brunt of lack sanitation in terms of security as well as severe health problems; snake and scorpion bites
- **OPERATIONS & MANAGEMENT:** Outsourced to Local Agency/ Franchisees with Quality Control
 - ❖ **operations and management**-Emptying of urinal owl / septic tanks periodically
 - ❖ **All maintenance** from front of cabin
- **SOLAR POWER FOR CABIN LIGHTING**, water lifting pump to membrane
 - ❖ **Power Efficient**-No electrical connection for urinals; 70 watts electricity required for Toilets
 - ❖ **Space Efficient**-No need to dig a septic tank (no soil and water source contamination)
- **ODORLESS URINALS & TOILETS:** Urine flows down through an odor sealing siphon arrangement with an environment friendly oily liquid, No foul smell
- **WATERLESS:** No water connection required: Each urinal saves ~150,000 liters of water p.a.
 - ❖ **Recycling and Reuse of wash water** and toilet discharge water
 - ❖ may be discharged without fear of contaminating ground water resources such as wells, streams, nearby ponds and lakes
- **NO POLLUTING CHEMICALS USED:** Nano particles are coated on the urine bowl walls releasing ions over long period of time
- **PORTABLE:** Can be used as mobile option for limited periodic use
 - ❖ **Easily dismantled** for reassembly at site reducing packing volume by 30-40%.
 - ❖ **Can be airdropped** in remote places and disaster hit places
 - ❖ **Affordable low cost solution** to meet sanitation needs of under-served social strata
- These **ECONOMICAL TOILETS** are designed as **Place and Start** using modules on the **Plug and Play concept**. These can be deployed very quickly in large numbers
- **ACCESSIBLE TO NEEDY MILLIONS** Rickshaw pullers, auto drivers, daily wage earners, bus commuters, house maids, slum dwellers and so on.
- **Already supplied** ~ 100 units to 10 buyers in last two years in five States
- **BILL GATES FOUNDATION** in collaboration with the Department of Technology in Ministry of Science and Technology-selected NIRGANDH design concept as a finalist (top 9 out of 108 entries) held in March 2014, Reinvent the Toilet Challenge-India
- **Key Promoter is** Madhu Sudan Thakar, an IIT Delhi Engineer with over 30 years of industry experience who is very passionate about toilets for the girl child and women.
- **NIRGANDH offers the best Low Cost & Efficient Solution for Urinal Kiosks, Community Toilets and Public Toilets.** It provides Girls and Women with dignity, convenience, privacy, safety, security and preventing several sexual health problems arising from enforced urine control. It provides good Employment opportunities through maintenance and operations.

निर्गन्ध

Product Line

Men Urinals



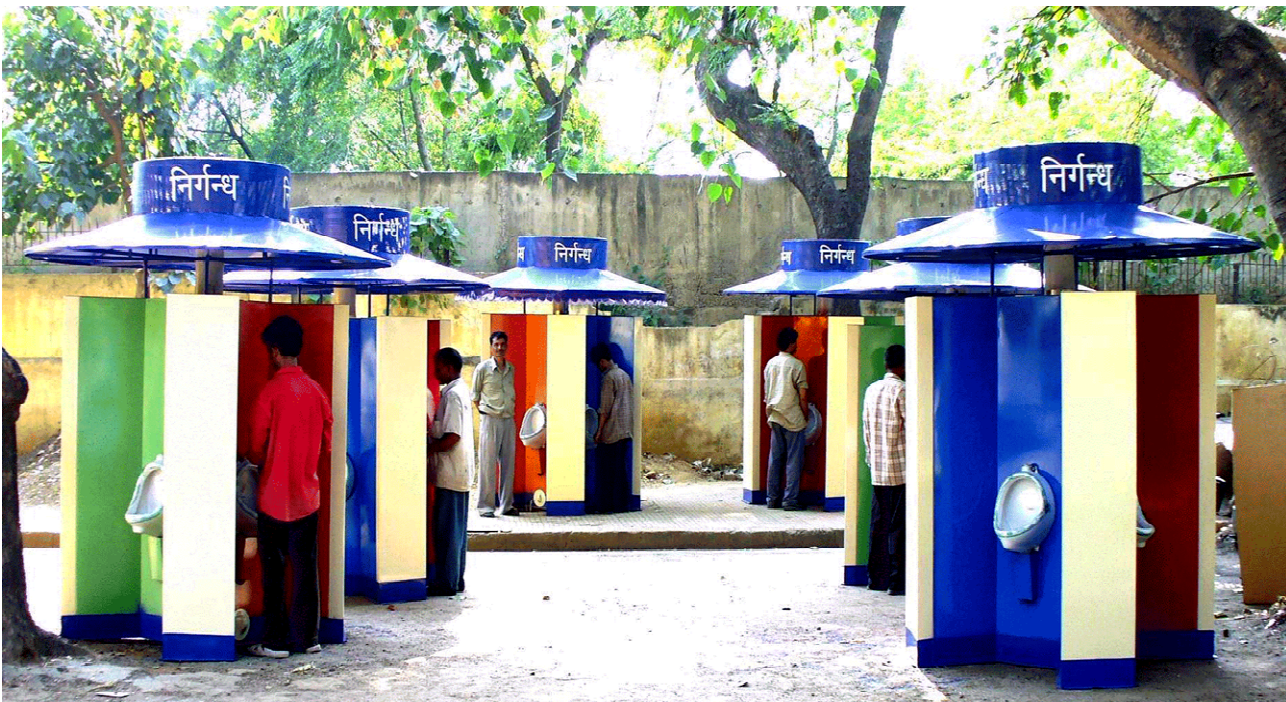
Women Urinal Cabin



Toilets / Defecation Chambers.
Men or Women



The feces of human beings contain 93-95% water and 5-7% solids, which gets absorbed by the bio-digester, leaving pathogen free water and traces of methane gas. The safe pathogen free water is discharged into the earth, leaving no smell and no maintenance for removal of feces



Odorless Urinals & Toilets: Urine flows down through an odor sealing siphon arrangement with an environment friendly oily liquid, No foul smell. Urine is discharged into a sewage manhole or into a sandpit through the odor sealant; or else urine collection tank needs to be emptied only periodically