

# ECO SAN dry toilets™

*Life Saving Ecological Sanitation*

**Business Plan Proposal**  
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**Report Compiled by Team 17:**

Laura Hinderwell (New Zealand)

Alejandra Giraldo Escobar (Colombia)

Nurul-Afiqah Lokman (United States)

Na Li (United States)

Samuel Mabikke (Germany)

Santiago Barrientos Botero (Colombia)

## 1.0 Business Summary

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Many developing countries are experiencing adverse environmental health, water and sanitation problems. Though these problems affect everyone, children, women and the urban poor are more vulnerable to diseases that emanate due to lack of proper water and sanitation programs. UNDP (2008)<sup>1</sup> reports that a child born in a developing country is over 13 times more likely to die within the first five years of life than a child born in an industrialized country. Sub-Saharan Africa accounts for about half the deaths of children under five in the developing world. Some 2.5 billion people remain without improved sanitation – more than one billion in Asia and another half billion in sub-Saharan Africa. In 2006, there were 54 countries where less than half the population used an improved sanitation facility; three quarters of those countries were in sub-Saharan Africa (UNDP, MGD Report, 2008). It's upon this background that we decided to develop Ecological Sanitation (ECOSAN) dry toilets that will save lives of poor people in developing countries as well as contribute to achieving the Millennium Development Goals.

As ECOSAN is selling a product for environmental and societal welfare, profit will be less straightforward than with a conventional product. In order to make a product and keep the business running, we intend to sell to Governments and world organisations that have the donated funds to buy our product. For this reason, our choices of location and marketing strategies outlined in this report, have been chosen on the basis of access to and doing business with governments and organisations in developing countries.

The business is simple; think upgrades and city-wide linkages: gradual improvements in sanitation linked to investments in trunk infrastructure (eg. sullage disposal in urban areas) under institutional frameworks that employ households and communities resources are more effective and less risky; and sanitation is a long term business and its results should be judged over 20 years, not 20 months, increasing demand for sanitation is about encouraging major changes in lifestyles<sup>2</sup>.

### 1.1 Objectives

- Reducing the health risks related to sanitation, contaminated water and waste
- Improving the quality of surface and groundwater
- Improving soil fertility
- Optimizing the management of nutrients and water resources
- Creation of profit to cover start up costs and variable costs

### 1.2 Mission Statement

To offer an alternative to conventional sanitation whilst solving some of society's most pressing problems: infectious disease, environmental degradation and pollution in conjunction with improving daily sanitation for citizens of developing countries.

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<sup>1</sup> UNDP (2008) The Millennium Development Goal Report, 2008  
[http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2008/MDG\\_Report\\_2008\\_En.pdf#page=43](http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2008/MDG_Report_2008_En.pdf#page=43)

<sup>2</sup> [http://www.ecosanres.org/pdf\\_files/Nanning\\_PDFs/Eng/Piers%20Cross%202%2049\\_E06Bok.pdf](http://www.ecosanres.org/pdf_files/Nanning_PDFs/Eng/Piers%20Cross%202%2049_E06Bok.pdf)

## 2.0 Product Summary

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### 2.1 Product Description (ECOSAN TOILETS)

The ECOSAN Toilet is a waterless, dehydration / evaporation system that provides a safe, non-polluting and cost effective solution to the worldwide sanitation problem. It offers a standard of respectability and convenience, comparable to a waterborne system, yet without the prohibitive costs and obvious strain on precious water resources. ECOSAN toilets are relatively lightweight and easy to move into position during installation. They don't require any type of flushing mechanism, eliminating the risk of mechanical failure therefore it uses no water, so no plumbing is required. This toilet not only saves water but also saves the entire surrounding environment from pollution of underground water resources. It has no sewer connections. It is ideally suited for both city and rural homes.

### 2.2 How the ECOSAN Toilet Works

The system separates the urine from the faeces. It then uses natural biological means to break down the human wastes into dehydrated odourless compost like material. Since Human wastes contain 95% moisture, separation of urine and the solid wastes in deferent chambers helps fast odourless decomposition. The toilet requires no chemicals for maintenance. Locally available ash is poured in the toilet to mix with the solid waste and urine. This makes the toilet odourless and these decomposed wastes turn into manure that can be applied on any plants in the gardens. The ECOSAN Toilets have been tried, scientifically tested and evaluated for health as well as community tests and feedback. Widespread experience with the system in South Africa and neighbouring countries has demonstrated that it is a cost-effective, respectable, hygienic and environmentally friendly system that satisfies the dignity of all users. A diagram explaining this process can be found in Appendix A.

Ecological sanitation offers an alternative to conventional sanitation, and it attempts to solve some of society's most pressing problems: infectious disease, environmental degradation and pollution, and the need to recover and recycle nutrients for plant growth. In doing so, ecological sanitation helps to restore soil fertility, conserve freshwater and protect marine environments – which are sources of water, food and medicinal products for people.

The ECOSAN Toilet is a low cost solution (no water, septic tank, tax) that uses existing material, is environmentally friendly and has a lot of advantages, but it doesn't have political support (lack of legislation), it is a new product in an existing and competitive market, education for its use is needed and the drainage system increases the initial investment.

## 3.0 Environment Summary

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The population of Africa, Asia, Latin America and the Caribbean will increase dramatically over the next twenty-five years. Growth in Latin America and the Caribbean will be close to 50%, in Asia 75 - 85%, while in Africa the population is set to double by 2025. The bulk of this growth will occur in informal and peripheral urban areas. This growing population will increase pressure on already inadequate public services such as water and sanitation. Coverage figures in Africa are poor, and unlike any other region, have fallen over the last 10 years. Currently sanitation coverage is lowest in rural areas, but high population growth in cities, will create the most serious challenges over the next 25 years.

The sanitation sector faces 3 distinct challenges: (1) improve sanitation coverage overall (2) close the gap between rural and urban coverage, and (3) meet the enormous growth in urban areas most of which will be amongst the poor who live in informal settlements<sup>3</sup>. Areas where geological conditions constrain use of “traditional” latrines could be the focus of a major marketing push for ecological alternatives. Similarly, countries supporting an “upgrading approach” should be exposed to the upgrading potential of ecological latrines. The promotion of ecological sanitation as an appropriate solution for poor and crowded urban areas requires much more effort. Options for communities who do not yet see the need for urine re-use also need to be explored.

We propose first marketing and selling our product in Africa, where marketing sanitation is critical.

For its introduction stage, we would like to find support from Multinational Development Agencies (World Bank, WHO, IMF, UN Agencies), set up systems of co-operation in collecting and use of organic fertilisers by a farmers’ co-operative or community, show estimation of climate change/dry periods and emphasis on health issues/diseases in rural areas.

#### **4.0 Company Summary**

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ECOSAN Dry Toilets are a company that develops a dry and sanitize toilet to countries that needs it. It’s to help them with their health and save cost in cleaning up. We want to help these rural areas that can’t afford to do all this by themselves. We want to introduce this ECOSAN Dry Toilet to them. We are a non-profit organization and we put the needs of the people before profit. We would thank the people who would want to help by donating towards this project. In the long run, we will find something to produce in order to get profit to maintain this project so that it wouldn’t rely fully on donations but the effort that we make too.

#### **5.0 Marketing Summary**

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It is important when marketing our product to Africa and similar countries that solutions are designed around target prices and not predetermined standards. Perceived value of the product must be built so that agencies and households are willing to pay for it. In terms of subsidies, subsidies can do both harm and good and it is more effective to subsidize promotion than production; sanitation is a business and from a long list of options it is possible to identify target markets where options fit demand; supply-driven approaches don't work. It is possible to earn a living in the sanitation business and supporting the growth of this business should be the focus of external interventions.

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<sup>3</sup> [http://www.ecosanres.org/pdf\\_files/Nanning\\_PDFs/Eng/Piers%20Cross%20202%2049\\_E06Bok.pdf](http://www.ecosanres.org/pdf_files/Nanning_PDFs/Eng/Piers%20Cross%20202%2049_E06Bok.pdf)

## 5.1 Marketing Strategy

As we will be marketing to Government agencies and world organisations we will implore a marketing strategy emphasising the extreme benefits ECOSAN dry toilets will provide and the ways in which these benefits will lead to lesser amounts of healthcare and sanitation aid such as:

### **Product Related Benefits**

-ECOSAN toilets will provide satisfactory private lavatory facilities for girls in schools. This will encourage them to remain in school longer and lead to a higher educated and capable generation of children

-ECOSAN toilets can be built in any environment for a low cost.

-ECOSAN toilets will be built using labourers from the employing country, creating additional benefits as a form of job creation

### **Price Related Benefits**

-The more ECOSAN toilets an agency or organisation commissions, the cheaper the price per latrine will become, encouraging customers to buy more products

### **Promotion Methods**

-ECOSAN will promote directly to government agencies and world organisations through personal sales, setting up meetings with potential customers and using a benefits enhancing strategy to sell the product

## 5.2 Micro Environmental Analysis

<b>I N T E R N A L</b>	<b>Strengths</b>	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>-Highly needed product with relatively low start up costs</li> <li>-Working for societal gain over profit gain heightens chance of government and organisational grants</li> </ul>	<ul style="list-style-type: none"> <li>-Reliance on foreign governments and world organisations with already low funds</li> <li>-Complicated lattice of command will occur when operating in several countries due to language, cultural and technological barriers</li> <li>-Eco sanitation and compository latrine technology already implemented in some countries</li> </ul>
<b>E X T E R N A L</b>	<b>Opportunities</b>	<b>Threats</b>
	<ul style="list-style-type: none"> <li>-Product useful in all countries , not only developing</li> <li>-Related diversification</li> <li>-Foreign Direct Investment and Portfolio investments with initial donations to create profits and expand operations</li> </ul>	<ul style="list-style-type: none"> <li>-Having relatively low entry costs, new companies can develop new and better technologies</li> <li>- Political climate in some countries temperamental</li> </ul>

### 5.3 Benefits Matrix

<p><b>Environmental Benefits</b></p> <ol style="list-style-type: none"> <li>1) Separation of flow-streams + adapted treatment of flow streams = minimize hygienically critical waste and pathogens.</li> <li>2) Adapted treatment of flow streams saves energy for irrigation and improves drinking water quality</li> <li>3) Water saving sanitation solution.</li> </ol>	<p><b>Health Benefits</b></p> <ol style="list-style-type: none"> <li>1) Treatment of excreta + destruction of pathogens = reduction in disease transmission.</li> <li>2) Benefits whole community including children whose development suffers from such diseases as diarrhea and bilharziasis propagated by low hygiene.</li> <li>3) Reduced prevalence of diseases = better quality of life as productive member of society.</li> </ol>
<p><b>Social Benefits</b></p> <ol style="list-style-type: none"> <li>1) Increased security and comfort, especially for women and girls.</li> <li>2) No discrimination of girls at schools (due to lack of sanitation facilities).</li> <li>3) No direct handling of excreta, support anti-scavenging legislation.</li> <li>4) Clean, hygienic and affordable solution for all.</li> </ol>	<p><b>Economic Benefits</b></p> <ol style="list-style-type: none"> <li>1) Lower running and maintenance costs than conventional sewer based systems.</li> <li>2) Improved agricultural productivity + substitution of expensive artificial fertiliser = economical benefit</li> <li>3) . Reduced prevalence of diseases = increased GDP</li> <li>4) Every dollar invested in sanitation returns USD 7 in averted healthcare costs and productivity gained<sup>4</sup></li> </ol>

<sup>4</sup> [http://www.cibmagazine.com.cn/Executive\\_Living/Book.asp?id=690&the\\_ultimate\\_toilet\\_book.html](http://www.cibmagazine.com.cn/Executive_Living/Book.asp?id=690&the_ultimate_toilet_book.html)

## 6.0 Start up Summary

### START-UP FUNDING & EXPENDITURES ECOSAN TOILETS 2009

#### Start-up Cash

Equity Investments	\$ 100,000.00
Loan Proceeds	\$ 750,000.00
Real-Estate Loans	\$ 500,000.00
Donations	\$ 50,000.00
<b>Total Start-up Cash</b>	<b>\$ 1,400,000.00</b>

#### Start-up Expenditures

##### Security Deposits

Rent (last month's)	\$ 3,600.00
Telephone Deposit	\$ 500.00
Utilities Deposit	\$ 7,500.00
Other Deposits	\$ 400.00
<b>Total Security Deposits</b>	<b>\$ 12,000.00</b>

##### Start-up Expenses

Accounting Fees	\$ 7,000.00
Activation Fee	\$ 5,500.00
Corporate Fees & Taxes	\$ 5,000.00
Federal Tax ID	\$ 1,000.00
Fictitious Name Costs	\$ 500.00
Insurance	\$ 2,000.00
Legal & Consulting Fees	\$ 500.00
Meals & Entertainment	\$ 3,500.00
Office Supplies	\$ 4,000.00

#### Payroll Expenses (training/setup)

Salaries & Wages	\$ 8,000.00
Payroll Taxes	\$ 250.00
Benefits	\$ 900.00
Pre-opening advertising Printing (cards, stationery, brochures)	\$ 400.00
Sales Tax Permit	\$ 850.00
Other Start-up Expenses	\$ 500.00
<b>Total Start-up Expenses</b>	<b>\$ 40,150.00</b>

#### Other Costs

Opening Inventory	\$ 6,500.00
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#### Capital Expenditures

Computer Equipment	\$ 1,500.00
Equipment/Machinery	\$ 4,500.00
Furniture & Fixtures	\$ 1,300.00
Vehicles	\$ 750.00
Leasehold Improvements	\$ 150.00
Buildings	\$ 1,250.00
Land	\$ 550.00
<b>Total Start-up Capital Expenditures</b>	<b>\$ 10,000.00</b>

<b>Total Start-up Expenditures</b>	<b>\$ 68,650.00</b>
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## Final Summary

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The challenge to reach the Millennium Development Goal, of halving the proportion of people without access to basic sanitation by 2015, is enormous. Put simply these targets mean that at least 1.47 billion more people will need services.

ECOSAN is more suitable in areas where water is scarce; ground water is at risk; near water bodies, like rivers and lakes; no sewerage and drainage system; poor sanitation; and new settlements.

Many countries in Africa, and other parts of the developing world, will struggle to meet numerical targets that seem almost insurmountable. At the very least it means the current rate of sanitation provision in Africa must quadruple.

ECOSAN hope to contribute to this goal through the production of dry, safe and sanitary toilets which can be implemented in both urban and rural areas, saving lives globally.

## Appendix A

