



# Best Practices Database

Subscriber: Vervoorn, IHS  
Subscription Expires: 01-AUG-04



## Pace Setter Organic Fertilizer Project, Ibadan *Nigeria*

Best Practice

New for 2002

- Categories:**
- Production and Consumption Patterns:
    - waste reuse and recycling
  - Environmental Management:
    - environmental health
    - environmentally sound technologies
    - pollution reduction
  - Infrastructure, Communications, Transportation:
    - sanitation
    - waste-management and treatment

**Level of Activity:** National

**Ecosystem:** Tropical/Sub-Tropical

### Summary

Pace Setter organic Fertilizer Project is conceptually a "Waste-to-Wealth" initiative of solid waste management, i.e. waste recycling and reuse. It was necessitated as a result of enormous solid wastes generated by the densely populated Bodija market in the heart of Ibadan, considered to be the second largest city in Africa. Various types of farm produce, stationery, hides and skins, cans and bottled foods, building materials, clothes and clothing materials etc are also sold in the market. As a result of the variety of items sold at the market and the population density, a mean value of 0.6kg of waste is generated per person per day at the market.

Oyo State Government and Ibadan North Local Government (owner of the market) jointly spend over US\$8,000 monthly to dispose the accumulated waste at the market. Market Associations also engaged the services of Private Refuse Contractors (PRC) to dispose solid wastes at the market without appreciable result. The sanitary condition of the market was a serious threat to the public/environmental health and of serious concern to the government.

A pilot study of the composition of Solid Wastes at Bodija Market was conducted in November, 1997 by the technical working group of Ibadan Solid Waste Management Authority (Agency of Government) and was facilitated by Sustainable Ibadan Project (SIP). It was discovered that about 80% of the solid wastes from the market is putrescible organic waste that can be converted into organic fertilizer through the composting process. The compost plant was constructed and commissioned on July 16, 1998 to produce 10 tonnes per day of organic fertilizer; with a 50kg/bag sold at US\$2.5 with the entire project cost at US\$150,000.

Now the entire market environment is aesthetically pleasing and more revenue comes into the kitty of the government while PRC business of refuse collection thrives with resultant reliefs to farmers on

fertilizer procurement and abundant food production.

## **Narrative**

### Situation before the initiative began

Bodija Market is the largest market in Ibadan, Oyo State, in the western part of Nigeria. The Market is patronized throughout West Africa. It is unique for food stuffs, cattle, pigs, planks, building materials etc. As a result, volumes of solid wastes are generated daily with its attendant public and environmental health problems. Management of Solid Wastes from this market was a challenge to the people and government.

The sanitary situation of the market is worst in the rainy season which contributes to perennial epidemics of gastrointestinal diseases, flood disaster, destruction of lives and property. The market became inaccessible and operation became so hectic for commuters and neighbours in the vicinity. The Local Government Authority that was constitutionally responsible for the management of solid waste in the market could not cope with the huge financial burden involved. The situation was helpless and yet people could not abandon the market because of the patronage it enjoyed.

### Establishment of Priorities

In view of the situation of the market, it became imperative for the Oyo State Government to curb the situation and the State Government came to the aid of the market by jointly disposing the market wastes with Ibadan North Local Government and Ibadan Solid Waste Management Authority with the Ministry of Environment and Water Resources.

The Sustainable Ibadan Project, University of Ibadan, UNICEF, Market Associations, Ministry of Environment & Water Resources and others held series of meetings with stakeholders to address the situation. Succour came when it was agreed that there should be contributions from all the stakeholders to sponsor the pilot study on conversion of organic wastes at Bodija market into organic fertilizer.

### Formulation of Objectives and Strategies

As a result of the meetings, the following objectives and strategies were formulated:

#### (a) Objectives:

- (i) To effectively and efficiently manage solid waste generated at Bodija Market;
- (ii) To aesthetically improve on the environmental condition of the market by direct involvement of business owners in the market in waste management;
- (iii) To convert 80% of the waste generated in the market to organic fertilizer;
- (iv) To improve the quality of life in the market and promote personal and environmental hygiene through public health education; and
- (v) To prevent occurrence of epidemic and flooding in the market.

#### b Strategies

- (i) Sites acquisition and preparation by OYSG, Ib. North
- (ii) Fabrication of Machines & Equipment by OYSG, UNICEF, SIP

(iii) Collection and transportation of accumulated wastes by OYSG, Ib. North, Market Association & PRC

(iv) Processing/Conversion of Soild Waste into Organic Fertilizer (Composting), Field Trials and quality control by OYSG, U.I, SIP, UNICEF and Market Association.

(v) Market and Distribution of Processed Organic Fertilizer OYSG and Market Association

### Mobilization of Resources

A total of US\$150,000 was budgeted for the take-off of the project in 1998. Out of this, Oyo State Government (OYSG) contributed US\$120,000 (80%), Bodija Market Association, US\$10,500 (7%), Sustainable Ibadan Project (SIP) and UNICEF contributed US\$7,500 each (5%), Ibadan North Local Government (Ib. North. L.G.) contributed US\$3,000 and University of Ibadan (U.I) provided technical assistance to the tune of US\$1,500 in form of laboratory investigations and field trials.

The UNICEF contributions was in term of material and infrastructure e.g bore-hole, spades, shovels, wheel-barrow, forks etc for maintenance of high standards of sanitation. These amounted to US\$7,500 or 5% of the total budget.

### Process

The major problem that confronted the project was how to convince the various Market Associations on the need to embark on the project. The market men and women were reluctant and hesitant to attend meetings of the stakeholders from the on-set and when they did start, the attendance was very poor. Hence, the meetings were dominated by government officials. Market Associations also refused to contribute the 7% (US\$10,500) that was allotted to them. They insisted that it is the government responsibility to manage effectively all waste generated in the market.

Another problem is the strength of materials used to fabricate machines for the waste treatment plant. The metal sheets could not withstand the corrosive nature of the waste. Generally, the mechanical operations were retarded due to the persistent breakdown time.

Bureaucracy was also a problem because before the Market Associations and the community in which the project was located decided to participate, the project suffered a set back as decisions, funds etc. were not provided. It is always difficult to obtain approvals from the government to effect repairs on the damage components of the machines.

Manual sorting of non-biodegradable wastes from biodegradable also presented a great problem. Even though, non-biodegradable wastes are just about 25% of the total waste streams; it is very difficult to sort.

Erratic power supply and acute water shortage were also part of the problem. Whenever power outage occurs, the plants shut down until the electricity is restored and this may not happen until the next day or after several hours. The composting process requires a lot of water and there was no regular water source. It makes it difficult to maintain good environmental sanitation.

However, all these problems were overcome as the project progressed. For instance, Market Associations were convinced eventually on the essence of the Governmental Organization known as the Sustainable Ibadan Project (SIP), sponsored by UN-HABITAT. Market vendors started to attend meetings and also playing a key role in the decision making process. This was possible when government was advised to move the venue of the meeting from Government Secretariat to the market place. The proximity of the meeting venue geared Market Association up to improve their attendance at the meeting. As a result of their participation and contributions at the Stakeholders meetings, some

of them were made signatories to the Bank to withdraw any money so contributed and meant to finance the project (Financial Secretary & Treasurer). The Treasurer mobilized her colleagues and their contribution of US\$10,500 was remitted to the Bank jointly agreed upon by all the stakeholders.

In fact, market vendors also help to address the problem of sorting. This is because they educated themselves on the need to sort non-biodegradable from biodegradable at source (market) before bringing it (refuse) to the compost plant for further treatment. This reduces the amount of unwanted wastes that go to the compost plant and saves on time at the plant.

The Government was encouraged by the positive participation of the market community as they voluntarily released 2 hectares of land and directly prepared the site for the project to take-off. Resultantly, Government privatized the project to enhance further participation of the Market Associations and the entire communities.

Most components of the machines have been strengthened to ensure durability of these machines. There are now technical and finance committees that over see smooth operations of the plant. The plant now has a functional borehole for sufficient water supply and a 135KVA generator was also purchased for efficient power supply.

Now, the plant (project) operates at optimum capacity (8 tons) daily even though the design capacity is 10 tons/day. The Project is still under the management of the Government but monitoring and routine evaluation of the project is jointly conducted by SIP, UNICEF and U.I and the Market Community.

#### Result Achieved

The entire market area is now aesthetically clean as there is no more flooding of the area which was common especially in the rainy season. Epidemics of gastrointestinal diseases e.g. cholera, typhoid etc is now a thing of the past. Farmers are able to purchase organic fertilizer made from solid waste at affordable prices e.g. N300.00 per 50kg bag. and there is no artificial hoarding of the product.

Cooperatives that exist in the market also invested in the project and received better dividend when profits are shared. More revenue is generated for the Government as well with very being spent on the final disposal of waste generated by the market.

Market Associations are proud of the Project they initiated to improve the sanitation of the market by ensuring that all waste generated (95%) got to the project site before the refuse collectors were paid. The entire market community was involved in the policy making and decision process as every branch of operatives in the market was represented.

It is also interesting to observe that shut down time drastically reduced when the market community and other stakeholders got more involved in the operations and management of the project.

There is transparency, honesty and prudence in the financial management of the plant as compared with when the Government was championing the course of the project alone. Salary and wages of workers at the site were paid when due. Plants and equipment were promptly attended to by the technical committee. Conclusively, the project is now result oriented and the Government as well as the people are satisfied with the present situation at Bodija Market.

#### Sustainability

The project is able to sustain itself because all proceeds and gains made from the project were re-invested into the project, as it is independent of Government interventions. In fact, the community (CBOs and Market Associations) now has the largest share of 58% followed by the government (40%) i.e., Oyo State and Local Government contributing 25% and 15% respectively in 2002.

The community and Market Associations have identified with the project and manage it themselves.

85% of the workers at the project are the children of the marketers/community. The raw materials are regularly available and marketing of the finished product is done within the market.

The technology used in the production of the organic fertilizer is completely indigenous and materials for fabrication were all local. This makes maintenance easier and cheaper. The raw materials (animal and market wastes) were available all year round. The seasonal variations in the raw materials do not affect production. This is because solid waste generated in the market is 75% organic on the average. Both sexes were involved in the operation of the compost plant and only non-biodegradable wastes, such as nylons, plastics, metals, etc. were taken to final disposal site. In fact, effort is being made to encourage scavengers to collect these materials at disposal sites. This might entail registering with the Market Associations and cooperatives in Bodija Market.

### Lesson Learned

- (i) An important aspect of the lesson learned was the temporary collapse of the project when it was dominated by the Government and sudden improvement after resuscitation when SIP emphasized the importance of community participation in the policy making and decision process. When community and Market Associations were fully integrated into the project, the incessant breakdown time disappeared and output increased.
- (ii) There was sincerity of purpose and adequate accountability with the project when the Government reduced its involvement and increased the direct participation of the private sector. The action of the government to reduce its share to 40% in 2002 promoted the progress of the project with the community taking ownership and the profit margin shot upward.
- (iii) There were many voluntary donations from the public, especially market women as they encourage youths to work in the project site, which was hitherto referred to as "dirty" job. Their sons and daughters formed 87% of the workforce at the site. The cost of labour was very cheap, if not free. This made cost of production equally low and production faster.

The Government had also learned from this project and had received invitations from four (4) agro-geological zones of Oyo State to set up similar plants. The government only needs to create a conducive atmosphere by stimulating the interest of the community to participate in the formation and operation of the project in their zones.

Another future plan of the government is to convert domestic solid wastes into organic fertilizer. Presently, only market waste composting process is being practiced. When this also becomes effective, the government will be free of accumulation of refuse on the streets and the entire citizenry will be healthier.

### Transferability

Sustainable Ibadan project (SIP) a demonstration project under the Sustainable Cities Programme of UN-HABITAT practically introduced the bottom-up approach to the State Government and this was allowed to progress as demonstrated with the Market Associations and the community on this project. All Government projects that were meant for developmental programmes enjoy this "bottom-up approach of policy and decision making process in order to ensure the success of the project.

It is now clear to the Government (public sector) that the community that will benefit from a project should be involved in the decision making and implementation of such projects. As such, a department has now been created in the State Governor's office named Project Coordinating Unit (PCU). This department is solely responsible for organising meetings with all stakeholders and ensuring a bottom-up approach is used in any government project for its success.

## Key Dates

- (a) November 8th - 29th, 1997: Pilot Study
- (b) February 5th - April 28th 1998: Construction, fabrication and test running of the plant.
- (c) July 16th, 1998 - Commissioning of the plant.
- (d) September 27th, 1999 - Temporary collapse of the plant.
- (e) January 31st, 2002 - Plant re-commissioned.

## References

- (i) Best Practices in the environment in Nigeria (1998) - Award Winner

Instituted by Federal Ministry of Works and Housing, Nigeria.

### Abbreviations

OYSG - Oyo State Government

IB. North L.G.A. - Ibadan North Local Government Area.

SIP - Sustainable Ibadan Project.

### Other Partners:

SIP: Financial, Technical and Logistic Supports.

UNICEF: Technical Support and Financial support.

University of Ibadan: Technical Support.

## Contact

Tairu Tunde Tajudeen  
Bodija Market  
Old Cattle Control Post  
Kara, P.M.B. 5443  
Secretariat, Ibadan, Oyo State  
Nigeria.

Tel: 02-8104867 of SIP

Tel. No./Fax No. - 02-2318598

E-mail: sip@ibadan.skannet.com.ng

**Type of Organization:** Central Government

## Nominating Organization

(i) Oyo State Ministry of Environment and Water Resources,  
Secretariat, P.O. Box Ibadan.

(ii) Sustainable Ibadan Project (SIP), P.M.B 5204, Ibadan  
South West Local=20

## Partners

Oyo State Government

**Type of Organization:** State Government

**Type of Partner Support:** Administrative Support

Community-Based Organisations

**Type of Organization:** Community-based organisation (CBO)

**Type of Partner Support:** Technical Support

Ibadan North Government

**Type of Organization:** Local Authority

**Type of Partner Support:** Financial Support

## Financial Profile

Year	Total Budget (US\$)	Oyo State Govt (OYSG)	Ibadan North LG	CBO	Bodija Market	S.I.P	UNICEF	University of Ibadan
1998	150,000	80%	2%	7%	5%	5%	1%	Â
1999	20,000	94%	2%	2%	Â	2%	Â	Â
2000	Â	Â	Â	Â	Â	Â	Â	Â
2001	50,000	50%	2%	35%	8%	Â	5%	Â
2002	100,000	25%	15%	58%	2%	Â	Â	Â

[Main Menu](#)

[Search Database](#)

[Sponsors](#)

[To Order](#)

Email questions or problems to [help@bestpractices.org](mailto:help@bestpractices.org).

Copyright © 1996-2002 [The Together Foundation](#) and [UNCHS](#). All Rights Reserved.