The efficacy of UNDP-GEF’s BRESL program on energy efficient fans market: A behavioral analysis

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The Preamble

a. Energy efficiency is a cost effective measure to combat climate change
   ◦ with transforming markets on sustainability, reducing needs for new energy sources.

b. Asia accounts for 28% of global energy needs, with a growth rate of 3.7%.

c. The growing energy need enhances the demand for more electrical appliances as well,
   ◦ leading to more GHG emissions due to fossil fuels based energy.

d. To cut down energy gap between supply and demand of power in Asia,
   ◦ residential and commercial energy efficiency and better equipment is essential.
Barrier Removal to the Cost Effective Development & Implementation Energy Efficiency Standards and Labeling (BRESL) Project

United Nations Development Program (UNDP) and
Global Environment Facility (GEF)
- jointly launched for five Asian developing countries,
  Pakistan, China, Vietnam, Bangladesh, Thailand.

The project aims to aid:
- the manufacture, sales and usage of
  Six energy efficient electrical appliances:
  Fans, Motors, Ballasts, Air conditioners, CFLs and Refrigerators
  - through regional cooperation.

Also, it provides assistance to each participating country,
- for establishing or expanding its
  Energy Standards and Labeling (ES&L) program.
1. Pakistan selected as lead country on fans through BRESL.

2. Pakistan has a substantial electric fan manufacturing industry for both local and export market.
   a. Current global share of Pakistan’s fans: ~34 million $
   b. Current Production 8 Million Fans

3. The government has prioritized to develop and implement ES&L for electric fans through BRESL program.

4. ES&L will reduce energy consumption by 10% in Pakistan when completed.
The Study

Understand the effectiveness of implementation of BRESL via

*behavioral analysis* of

- *stakeholders* in market of energy efficient *household ceiling fans*
Fan market: Stakeholders

- a. Federal Govt.
- b. NGOs
- Nexus
- c. Fan industry
- e. Consumers
d. Retailers

The Tools

1. Field survey/questionnaire
2. Interviews

Sample:

a. National Project Coordinator: ENERCON/BRESL
b. CEO - “The Network”: Protection of consumer rights
c. Fan Industry: 2 (Industrial hub of the country, Gujarat)
d. Retailer - Hamdan Electronics
e. Consumers: 100
   I. 80 households (Two residential sectors in Islamabad)
   II. 20 commercial
The Analysis

a. *Federal Government*

1. ENERCON: National Energy Conservation authority
   ◦ Promulgates comparative labeling
   ◦ Voluntary, then mandatory

2. Pakistan Standards Quality Control Authority (PSQCA)
   ◦ Approves

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a. *Federal Government*

i. Awareness workshop on energy efficiency standards and labeling regime for fan industry

ii. Focused group discussion/workshop on energy efficiency standards and labeling regime (Policy Context)

iii. Launching of Minimum Energy Performance Standards (MEPS) and energy labeling for electric fans
Pakistan Energy Label

b. The Net Work

a. Education and awareness of consumers very important: Consumer rights

b. First Data Government Solution (FDGS): Consumer groups
   ◦ emergence of new ideas and solutions
   ◦ effective and powerful qualitative approach for discussion.

c. Consumer involvement in decision making for policies, enforcement
c. Fan industry: Tiers

**Large**
- >300 employees
- uses mostly imported raw material
- Typical voltage for a ceiling fan: 70-80 W

**Small**
- < 30 employees
- uses mostly local raw material (often recyclable metals)
- Typical voltage for a ceiling fan: 120 W

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**Manufacturing Process of a Ceiling Fan**

Material → Casting → Assembly Process → Overheads → Marketing
c. Fan industry:

1. Investment for quality raw material for an energy efficient appliance
   ◦ Use of copper wiring
   ◦ Electric steel sheet

2. Positive purchasing response from consumers

d. The Retailer

a. Consumer purchase’s choice depends on price and performance of a product

b. Retailers unaware of energy efficiency labelling of appliances
### e. The consumers

#### Ceiling Fan Purchase

- Promotion/sale/ads
- For better technology/quality
- Replace when needed

#### Product Guidebook

- Country of origin: 5%
- Brand & safety: 20%
- Energy consumption: 37%
- Quality & price: 36%
- Others: 2%
Reliability of Energy Labeling

- Yes: 40%
- No: 22%
- Don't know: 38%

Willingness to Purchase Energy Efficient Fans

- Yes: 88%
- No: 12%
In conclusion

i. Financial issues for Tier II fan manufacturers.

ii. Lack of consumers awareness among retailers, consumers for policies/novice technology.

iii. If available, consumers willing to convert to energy-efficient ceiling fans despite high cost.

iv. Government policies need some revisions to accommodate/incorporate solutions for energy efficient appliance.

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Bibliography


Bibliography (contd.)