Innovations for Development; the African Challenge

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Introduction

• Several (expensive) innovations been advanced to solve numerous problems of Africa & other developing countries.
• But problems remain & sometimes increase.
• There is little to show for so many billions of dollars.
• So what goes wrong?
• Perhaps there is a missing link between innovations & the end users.
Criteria for Successful Innovation

- **1. Affordability;** poverty is endemic. Affordability includes buying & maintenance.
- Quality is not critical but the price is; hence many fake products thrive against genuine ones.
- Large quantity purchases are cheaper but out of reach for the poor.
- Hence low price and small quantities are criteria for success: *MakaPads* in packs of 2.
Criteria for Successful Innovation

2. Use of local materials; easier production, reproduction, maintenance and repair.

Even if innovation is made abroad; otherwise high risk of unauthorised & poor reproduction.

Challenge in R&D of local materials is high.

Papyrus as a high blood absorbent was discovered in quest for affordable sanitary pads; MakaPads.

Soil makes superior & cheaper water tanks to plastic.
Papyrus; raw material for sanitary pads

• Huge papyrus growth in Uganda
MakaPads (sanitary pads) made from papyrus
Water tank from Interlocking Stabilized Soil Blocks (ISSB)
Water tanks from Plastic; expensive & needs protection
Criteria for Successful Innovation

• **3. Environment Protection;** raw material usage, waste disposal & land reusability.

• Advantages not to overshadow apparent losses.

• Better houses using fired bricks at the destruction of swamps and forests should be discouraged.

• Can get superior and cheaper houses with ISSB.
Fired clay bricks; attractive but destroy trees & swamps

• Fired clay bricks
ISSB production; cheaper & protects environment

- Production of ISSB
Improving housing at low cost & protect environment

- House & water tank from ISSB
Criteria for Successful Innovation

• 4. **Low fuel consumption;** efficiency, speed and reduced human involvement are highly attractive in innovations.

• **Fuel** is neither sustainable nor are the machines easily operated or maintainable.

• **Hence;** preference is low or no fuel consumption.

• A manual block press has proved more sustainable than a motorized type.
Criteria for Successful Innovation

• An incinerator with self generating fuel has proved more sustainable than others.

• **5. Low maintenance;** maintenance culture very low in Africa; the reason why biogas & solar have limited uptake.

• Hence criterion is low or zero maintenance.
Zero fuel machines are preferred

- Block press & incinerator are zero fuel
Criteria for Successful Innovation

• **6. Simple operations;** low literacy levels and low reading culture cannot support complex machine operations; user-friendliness is a must. [*Nokia* mobile phone is so popular].

• **7. Cultural considerations;** culture is intertwined with lifestyle. To neglect or change it may fail a good innovation. [An incinerator for used sanitary pads is an uphill task].
Toilet with an incinerator

- Sanitary pads are properly disposed of
Conclusions

• An innovation;
• (i) must stand the test of time.
• (ii) better to serve beyond target group and best to serve whole community.
• Innovations should be done in close collaboration with the local experts and/or beneficiaries.
• Many (African) problems have solutions if appropriate innovations are made.