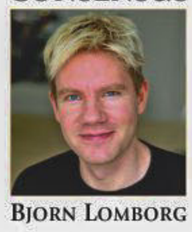
Bringing electricity to *more Bangladeshis*

It turns out that switching five households from kerosene lamps to a single diesel-powered generator would be 12 times more cost-effective than solar power - each taka of spending would do an impressive 24 takas of good.

COPENHAGEN CONSENSUS



BJORN LOMBORG

TENS of millions of Bangladeshis have gained access to electricity over recent years. In 2000, just 32 percent of the population had electricity access; today that figure stands at nearly 60 percent, according to the World Bank.

Yet the national energy sector still lags behind many of its neighbours, and the power Bangladesh manages to generate is unreliable - blackouts and shortages cost an estimated 0.5 percent of GDP annually. What are the smartest ways to bring reliable energy to more Bangladeshis?

New research by David Roland-Holst, University of California, Berkeley, and Herath Gunatilake, Asian Development Bank, along with consultant Bjorn Larsen, analyses the smartest ways to power the country in coming years.

Currently, natural gas accounts for more than 80 percent of fuel used for power generation. However, a British Petroleum study estimates that given existing production and demand, gas reserves could be exhausted in the next two decades.

Out of multiple energy policies considered, the analysis finds that reforming natural gas prices and making coal a primary energy source for electricity production would do the most social good for Bangladesh. Shifting toward coal would cut electricity costs across the economy, and the cheaper energy would raise incomes for households and businesses, while improving export competitiveness, creating overwhelmingly positive impacts even when including the climate impact costs.

Over the next 15 years, replacing half of natural gas electricity with imported coal and expanding electricity production to meet demand would cost Tk. 172 billion. It would also increase CO2 emissions, at a social cost of Tk. 7.7 billion. But in total, the widely available and cheaper power would increase the economy by Tk. 4.2 trillion. In all, each taka spent would do 23 takas of social good.

PHOTO: BREAKINGENERGY.COM

Investment to develop a domestic coal industry, however, would create even larger benefits in terms of economic growth. The cost of additional electricity production associated with this growth would be Tk. 783 billion and lead to climate costs of Tk. 46.2 billion. The benefits from the investment, however, would be astonishing. The net worth over the next 15 years would be greater than Tk. 20 trillion - equivalent to more than an entire year of GDP. By 2030, the average Bangladeshi will be 16 percent richer.

There has been significant political resistance towards the potential land disruption from coal mining, the setting of coal power plants, and concern about more pollution. But given such tremendous benefits, the authors point out there would be substantial resources available to address these concerns, even to the extent of including state-of-the-art technology to live up to the most stringent OECD clean-air requirements. The investment would give 24 takas of benefits for each taka spent.

Yet, for millions of rural homes, electrification is still far off. Most use dirty kerosene lamps to light their homes. A new analysis by A.K. Enamul Haque, Professor of Economics at the East-West University in Dhaka, examines alternative lighting options for rural households.

Over recent years, a much-touted solution was delivered to three million rural Bangladeshi homes: solar lighting. A donor-funded programme gave these families a Tk. 2,000 subsidy to purchase solar units, with the bulk of the cost financed with micro-credit.

The programme is seen as a remarkable development success: it has lighted millions of homes with clean energy, and at no cost to the national government. But is it truly the best strategy to light off-grid homes? In cities, after all, millions of Bangladeshis have chosen diesel generators to light their homes during power cuts - few if any chose solar power.

Over two decades, solar energy costs each household roughly Tk. 67,000. Given usage of four hours per day, an hour of solar power costs Tk. 4.59. Since solar power provides higher quality lighting, each taka spent does just under 2 takas of good.

Alternatively, five rural households could buy a diesel generator together - for about Tk 15,000 - - and split the costs to operate it. The total cost, including fuel over 20 years, is about Tk. 134,000- or just Tk. 26,800 per household. Each hour of electricity, therefore, costs just Tk. 1.84, and each home could be lighted for two additional hours each day, thanks to the lower costs. And even though the generator emits CO2, the climate costs are rather small at Tk. 190 annually.

It turns out that switching five households from kerosene lamps to a single diesel-powered generator would be 12 times more cost-effective than solar power - each taka of spending would do an impressive 24 takas of good.

Given that diesel is five times cheaper, all the money spent on solar energy for 3 million households could have powered 16 million households with diesel. Smarter spending could have helped 13 million more Bangladeshi households get power cheaper. This shows why it's crucial to study costs and benefits of alternative policies, rather than simply doing what seems to be in trend at the moment.

How would you help power Bangladesh for the future? We want to hear from you at https://copenhagen.fbapp.io/energypriorities. Let's continue to discuss how to do the most good for every taka spent.

The writer is president of the Copenhagen Consensus Center, ranking the smartest solutions to the world's biggest problems by cost-benefit. He was named one of the world's 100 most influential people by *Time magazine*.

FROM CRISIS TO DEVELOPMENT

Boosting agriculture's role

JOSÉ GRAZIANO DA SILVA

WITH increasing frequency and magnitude, disasters and conflicts are causing untold human suffering in many parts of the world. These are as diverse as Typhoon Haiyan, Ebola, the civil war in Syria, to name but a few of the more recent crises.

We need more concerted efforts to end conflict, alleviate suffering and reduce risk and vulnerability conditions facing millions of people, most of whom are poor and live in rural and marginalised areas of developing countries.

This, essentially, is the aim of the World Humanitarian Summit convened by United Nations Secretary-General Ban Ki-moon. It seeks to build on the momentum of an extraordinary series of commitments by the international community.

The recent adoption of a sustainable development agenda to end hunger and poverty and to "leave no-one behind", a universal climate agreement, and a new framework to reduce disaster risk and enhance resilience, are important steps in the right direction.

But we must go much further and radically transform how we perceive and implement humanitarian efforts. Crises are not only humanitarian emergencies. Many are also about neglect and lack of development, and as such cannot be solved by humanitarian action alone. In practical terms, it means moving beyond responding with short-term relief measures, and invest much more in tackling the root causes of crises. It means building resilience and strengthening the livelihoods of people in ways that not only drive recovery from war, disease, floods and other shocks, but also help to reduce the impact of these crises and, where possible, prevent them from taking place altogether.

PHOTO: ENGLISH.VIETNAMNET.VN

Invest in the small-scale family farmers

Agriculture and rural development are key to strengthening livelihoods of the most vulnerable, including hundreds of millions of small-scale family farmers who are responsible for producing an important share of the world's food. And it is they who are most at risk. The damage is there for all to see. Extreme weather events, such as those associated with El Nino, wreak havoc across wide swathes of the rural areas of the developing world, animal diseases disrupt food chains and wars force millions to abandon their homes, fields and livestock and become migrants at a scale not seen since World War II.

Meanwhile, the agricultural sector, which bears almost 22 percent of damages and losses caused by natural disasters and up to 85 percent in case of drought, receives on average less than 4 percent of the total in humanitarian aid. This provides a stark measure of the widening chasm between needs and the magnitude of response.

In this context, it is crucial to stress that investing in livelihoods is not only the just thing to do, but it also makes sense from a cost-effectiveness point of view by helping to address the root causes of conflict, reduce the impact of future shocks and prevent a deepening of vulnerabilities and the on-set of a vicious circle. Expanding access to social protection systems is crucial to underpin resilience - in humanitarian response as well as in development.

In the case of natural hazards, it is four to seven times more cost-effective to invest in disaster-risk reduction than to rely on emergency response. Yet only 0.4 percent of Official Development Assistance is spent on disaster-risk reduction.

Moreover, in armed conflict and protracted crises, protecting, saving and rebuilding agricultural livelihoods to save lives and create the conditions for longer-term resilience is a key step towards ensuring peace and stability. However, the role of the agriculture sector in crises is too often overlooked and the necessary investments are not made.

FAO provides both humanitarian and development assistance. We firmly believe in prioritising early warning, prevention and preparedness to safeguard livelihoods, especially in the rural areas. Around the globe, plenty of evidence exists on the benefits of this and on how it reduces the need for emergency interventions.

More generally, we see how investment in agriculture helps strengthen the self-reliance and dignity of vulnerable rural communities, reducing the need for food assistance. We have found that $200 in support enables a Syrian farmer to produce two tonnes of wheat, enough to feed a family of six for a year and provide seeds for future planting. This is a fraction of the economic cost of food aid, not to mention the dramatic human costs.

If we want to address growing humanitarian needs, we need to move beyond business as usual and manage crises differently. We need to acknowledge that the interventions made must have a long-term impact on the beneficiaries, especially those in the rural areas, and then act accordingly. It is the only way we can ensure that nobody is left behind.

The writer is Director General of the Food and Agriculture Organization.

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QUOTABLE *Quote*

KAHLIL GIBRAN

Your children are not your children.
They are sons and daughters of Life's longing for itself.
They come through you but not from you.
And though they are with you yet they belong not to you.

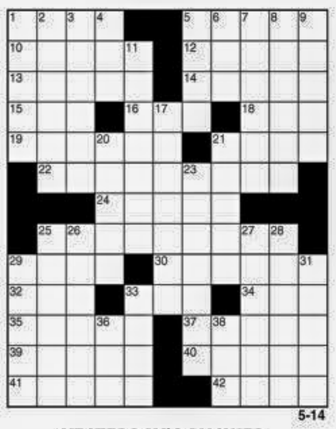
CROSSWORD BY THOMAS JOSEPH

ACROSS

1 Ontario tribe
5 Some coasters
10 Spells
12 Doctrine
13 Polo's home
14 Yucca's kin
15 Ocean off Cal.
16 "Start Wars: The Force Awakens" heroine
18 Frilly wrap
19 Subs
21 Run-down area
22 Ground-skeeper's need
24 Banded rock
25 Legal document marking
29 Mists
30 Blue state
32 Put away
33 Clothes line
34 One of the stooges
35 Keyed up
37 Find charming
39 Church
40 Famous
41 Roofing material
42 Thatcher, for one

DOWN

1 Salty snack
2 Store business
3 Track bet
4 Sushi choice
5 Order to Fido
6 Table part
7 Facilitate
8 Gobble up
9 Iron output
11 Needle
17 As a group
20 Tries for flies
21 Use four-letter words
23 Footrest
25 "Spill it!"
26 To-do list
27 Sleuth of films
28 Less well off
29 Trio of myth
31 Like untended gardens
33 On this spot
36 Match part
38 URL part



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YESTERDAY'S ANSWER

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