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The age of sustainable development - J. Sachs 2015

For a species that depends on environmental services, we are doing a poor job of protecting the physical basis of our very survival.

The Sustainable Development Goals (SDGs)
4 basic objectives of a good society

1. Economic prosperity
2. Social inclusion & cohesion
3. Environmental sustainability
4. Good governance by major social actors (governments & multinational companies)

4 **complex** interacting systems

extreme poverty
inequality
social immobility
discrimination
social conflict

5 concerns about distribution of wellbeing:

SD offers synergies rather than trade-offs in the pursuit of efficiency - equity - sustainability

Why do goals matter?
> social mobilisation
> peer pressure
> knowledge communities
> stakeholder networks

Major economic lesson from the China case

Prosperity through **economic growth** can be achieved almost everywhere but accompanied by **structural changes in society**:
> disrupted lives of 100s of millions of people
> soaring income inequality
> devastated physical environment

>> Societies should be driven by the **balanced set of SDGs**, aiming at **wellbeing** rather than ↑ income, to deliver:
> social stability
> long-lived economic gains
> low frequency of environmental catastrophes

SD in practice = scientifically & morally based problem solving
↓
No fixed blueprint

Dashboard for SD indicators:
helps governments to remain focused on SDGs,
helps civil society to keep governments accountable for their promises

↘ Technological mastery ≠ intelligence, responsibility, forsight

↘ China world's largest GHG emitter, but one of reasons US & Europe emit less: they import energy-intensive products from China

→ No obstacle to a low C world is as important as global politics

We can help make world safe for diversity
> world problems cannot be solved by skeptics or cynics whose horizons limited by obvious realities
> we need men who can dream of things that never were & ask **why not**

↘
If economic growth continues using today's technologies & business models
> humanity will burst through planetary boundaries
↓
We need world economy to develop in fundamentally ≠ way:
> energy efficiency
> sustainable agriculture
> ↓ fertility rates = crucial for ending poverty and for SD
↙
Huge gains in educational attainment
> each family able to ensure health, education, nutrition
> government no endless race against time to keep up with ↑ population, instead of ↑ quality

2 tools for translating SDGs > reality:
> backcasting
> technology road-mapping

Complex systems require a certain complexity of thinking as well
> acknowledge complexity of issues
> make a specific diagnosis of each specific case

We should be driven by a more balanced, holistic approach
> overriding goal is not income but life satisfatction

And what you do not know is the only thing you know
And what you own is what you do not own
And where you are is where you are not.
T.S. Eliot

Colonial legacies have been extremely pernicious,
ca. 50% of population below poverty line in sub-Sahara Africa
1. landlocked countries
> Africa divided up into little parcels
> defense against slave trade
> hostile coastal physical environment
2. European colonial powers did not sit together to construct railway network
> no grid but individual lines
3. European powers did not provide education
> at independence only tiny fraction of population had high school degree and much less a uni degree

2 main regions of extreme poverty:
sub-Sahara Africa & South Asia

+ endemic disease burden: → Specific public health solutions:
Africa's high disease burden
> infectious diseases
> pregnancy - childbirth
> nutrition
linked to location & income level
> disease epidemiology
> feasible & desirable interventions
> systems design

Poverty ⇆ Disease

no fate but reasons for action

+ cultural beliefs that affect SD:
Discrimination against women
> society tries to run on 1/2 its brain power & talents!

Why some countries developed while others stayed poor
> There is no single explanation
> Differential diagnosis of each specific case
↘

7 headline items of poverty checklist:
1. poverty trap
2. bad economic policies
3. financial insolvency of government
4. physical geography
5. poor governance
6. cultural barriers
7. geopolitics

Ending extreme poverty
> sound domestic policies
> international partnerships

High-potential areas of rapid breakthrough:
1. Low crop productivity
> soil nutrient depletion
> no water management via wells & pumps
> no good seed varieties
2. Lack of infrastructure
> extremely high overland transport costs
> large part rural Africa without electricity
3. Very high fertility rate
> young girls don't stay in school
> high child mortality
> no family planning or contraceptives

Single most urgent task = fight against extreme poverty

Global economy

Good health stands at center of SD:
Human development across entire life cylce is strongly affected by health & disease early on
↓
Breaking the vicious spiral:
> primary health system for all
> better nutrition
> local infrastructure
↘
vicious spiral
virtuous spiral

Urban sustainability:
basis for success = productive infrastructure
> transport, power, water, sewerage, waste flows, connectivity
→ urban productivity, social inclusion, environmental sustainability

Forces of widening inequalities:
> ↑ salary gaps of low & high skilled workers ◄ globalisation
> shifting income from labour to capital ◄ information
> political system: government forces can resist widening inequality or amplify it
↓
Investing in a girl's education
is also investing in breaking the intergenerational poverty trap

Most important investment countries make is in their own people.
Every economy, rich or poor needs tertiary institutions:
> qualified teachers (train students to use new technologies)
> technical workers (skills to use technology & adapt to local use)
> skilled young people trained in public policy & SD (help society to identify & solve local problems of SD)

6 approaches to social inclusion:
1. virtue ethics: human beings have a responsibility to others
2. great religions: do not do to others what you would not want them to do to you
3. duty ethics: ethics means adopting a universal standard of behaviour
4. utilitarianism: greatest happiness for greatest number of people
5. libertarianism: meaning of life is freedom to choose one's own life course
6. human rights philosophy: all human beings have inherent rights simply because they are beings

↘ dominant framework today

Social interactions

Goals of SD depend on ethical positions we adopt

Role of ethical thinking is vital for good public policy

Goal of social inclusion = unfinished business in almost all parts of the world

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Environmental △ ⇆ Food production

Earth systems

Agri-systems themselves threat to future food production

Deforestation
> causes: population ↑ & international trade
long time ago: in temperate zone areas
now: in tropical areas
if markets are not controlled, international trade will lead to continued massive deforestation

Agriculture, major sector of human-induced environmental △:
> major emitter of all 3 core GHGs
> a major impact on N cycle
> habitat destruction
> pesticides, herbicides, other chemicals, fresh water overuse

Farm systems under tremendous stress ◄
+
remarkable variation in farm systems around the world
↓
no 1 size fits all
↙
Sustainable food supply depends on understanding ≠ farm systems worldwide

Planetary boundaries:
1. human-induced climate △
2. ocean acidification
3. ozone depletion
4. pollution by excessive flows of N & P
5. over-use of fresh water resources
6. land use
7. biodiversity
8. aerosol loading
9. chemical pollution

40% of world's population is malnourished:
1.10^9 chronic hunger
1.10^9 micro-nutrient deficiency
1.10^9 obesity
↘
When markets do not take into account profound externalities of individual behaviour, such as biodiversity loss, **free markets become antagonists of human wellbeing**

Protecting biodiversity = key to protecting ES

Earth's 6th great extinction wave
↕
We depend on biodiversity for:
food supply
safety from natural hazards
construction & industrial materials
fresh water
ability to resist pests & pathogens

Governance

Feedback systems are essential

There's an underpinning of ethics in all these ideas

Ideas count
Ideas play a role so powerfully that interests & entrenched power structures are in the end completely overwhelmed. F.ex.
Past: slavery, European colonial rule, Human Rights
Present: SD, extreme poverty

SD = a process, a way of solving problems

Many types of governments > impose 1 set of political rules = unworkable
↓
Shared principles of governance for public & private sectors:
1. accountability
2. transparency
3. participation
4. polluter pays principle
5. first, do no harm
6. clear affirmative commitment to SD

Threats to biodiversity > Issue is in global supply chains → we still lack:
> public awareness
> political impulse
> economic incentives

Weight, force & momentum of world economy often so powerful that world economy runs roughshod over attempts at regulation

Who will pay for SDGs?
We all by participating in markets & by paying taxes
> both public & private approaches are needed
↓
corrective pricing & regulatory framework = essential to make sure private sector invests in right areas

Why global markets don't ensure sustainable economic growth:
> most planetary damages are **externalities** & **intergenerational**
↓
those who impose damages don't pay the costs ↓
present generation transfers costs to future generations

Private sector does not solve many critical problems:
> when challenge is fighting extreme poverty (markets ignore poor)
> where it's hard to recoup returns on investment in direct cash sense (f.ex. science)
> when people are left unemployed (social insurance)
>> public financing crucial for SDGs
↓
feedback system = essential to prevent corruption

Continuous loop of policy feedback

use timely info to interrogate own performance