

Herman Daly

1. Herman Daly (1938 - 2002) was a significant ecological economist known for challenging the notion that economies can pursue unlimited growth on a finite planet. He is especially linked to the concept of the Steady State Economy and the advancement of ecological economics.
2. Herman Daly was born in 1938 in Houston, Texas, USA, and passed away in 2022. His fields of expertise include ecological economics, environmental economics, and sustainable development. Daly studied under economist Nicholas Georgescu-Roegen, whose work on entropy and natural resource limits significantly influenced him. He served as a senior economist at the World Bank from 1988 to 1994 and later taught at the University of Maryland. Daly is well known as a strong critic of the idea that continuous GDP growth should be the primary goal of economic policy.
3. Daly's most notable contribution is his theory of the Steady State Economy (SSE), which describes an economy where resource use and population size remain within the ecosystem's regenerative and absorptive capacities. This does not mean society becomes technologically or culturally stagnant; knowledge, technology, efficiency, and quality of life can all improve even when physical growth throughout the economy ceases. His core argument is that the finite nature of Earth, ecological limits, and constraints on material growth highlight the need for a steady state economy.
4. Daly's fundamental claim challenges traditional economics, which usually considers the environment as just one part of the economy. Daly instead positions

the economy as a subset of the larger ecological system, emphasising that it depends on nature for energy and raw materials and releases waste and pollution back into it. Because the biosphere is limited, the economy cannot grow indefinitely in physical size.

5. A core concept in Daly's ecological economics is the idea of continuous flow, which refers to the movement of physical resources like natural resources, production, consumption, and waste within the system. Daly highlights that traditional economics primarily concentrates on the circulation of money, paying less attention to these physical flows. To achieve genuine sustainability, it is essential to regulate the scale of these flows rather than merely enhancing resource efficiency.
6. Daly drew a key distinction between economic growth and economic development. Growth refers to quantitative increases—more production and material expansion—limited by physical and ecological constraints. In contrast, development signifies qualitative improvements through better technology, institutions, and welfare. It enhances quality without necessarily increasing scale and can be sustainable over longer periods. Therefore, Daly was not opposed to human progress; he believed societies should transition from focusing on "bigger" economies to aiming for "better" ones.
7. Daly contended that a sustainable economy must first address three key issues in a specific order: maintaining a 'Sustainable Scale' within ecological limits, ensuring 'fair distribution' of resources and income, and finally, achieving 'efficient allocation' through markets. He emphasised that this sequence is crucial because, while markets can aid in resource allocation, they cannot independently determine the ecological capacity of an economy or guarantee a just wealth distribution.
8. Daly challenged the traditional view that "Higher GDP = greater welfare" and argued that beyond a certain point, further economic growth could generate

environmental and social costs outweighing its benefits, a concept he termed uneconomic growth. For example, economic activities might increase GDP while also causing pollution, resource depletion, loss of biodiversity, congestion, climate damage, and social upheaval. When these costs surpass the benefits of additional production, growth is considered uneconomic.

9. Daly proposed key principles for sustainable resource use, including -

- Renewable resources should be used at a rate that does not surpass their regeneration rate.
- Non-renewable resources, like their depletion, should be offset by investing in renewable alternatives.
- Pollution involves waste emissions that should not surpass the environment's ability to absorb them, a key principle in ecological economics and sustainability theory.

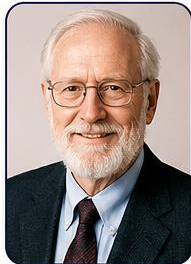
1. Daly contends that GDP reflects economic activity but doesn't directly measure human well-being. It can increase due to activities like cleaning pollution or managing environmental crises. Therefore, he endorsed alternative wellbeing indicators. Daly and John Cobb developed the Index of Sustainable Economic Welfare (ISEW), which considers factors such as inequality, environmental harm, and natural resource depletion.
2. Daly emphasises the significance of natural capital - such as forests, fisheries, soil, water, biodiversity, and ecosystems- that offer vital services. He dismisses the assumption that human-made capital can always replace natural capital; for instance, additional fishing boats cannot make up for the loss of fish. This forms a key argument for strong sustainability, which holds that certain natural resources are irreplaceable and must be preserved.
3. Daly's idea of sustainability differs from views that believe environmental protection can always be paired with endless GDP growth. For Daly, true sustainable development means growth without continuously expanding the

economy's physical size beyond ecological boundaries. Therefore, sustainable development does not equate to unlimited growth.

4. Daly advocated for various institutional reforms aimed at establishing a steady state economy. These included reducing resource overuse, implementing ecological taxes, conserving natural capital, promoting greater distributive justice, stabilising population growth, and addressing excessive inequality. He also proposed shifting taxation from desirable activities like labour to less desirable ones such as pollution and resource depletion. His core policy principle can be summarised as : tax what society aims to reduce - namely resource depletion and pollution - rather than heavily taxing productive work.
5. Daly influenced modern degrowth thought, but the two concepts should not be regarded as identical. Degrowth primarily emphasises intentionally lowering production and consumption, especially in affluent economies, whereas steady-state economics aims to achieve and sustain an ecologically viable scale. Therefore, degrowth can be seen as a transitional approach for economies that have already surpassed ecological limits, while the steady state describes a potential sustainable equilibrium.
6. Major works -
 - Toward a Steady State Economy (1973)
 - Steady State Economics (1977)
 - For the Common Good (with John B. Cobb Jr., 1989)
 - Beyond Growth: The Economics of Sustainable Development (1996)
 - Ecological Economics and Sustainable Development (2007)
1. Daly's significance lies in challenging the growth-focused model of states and capitalism. His work links economics, ecology, public policy, distributive justice, and sustainability. He shifted environmental discussion from simply asking, "How can economic growth be cleaner?" to a more profound question: "How large can the economy grow without surpassing Earth's ecological limits?"

2. Herman Daly transformed environmental economics by asserting that on a finite planet, real progress depends on qualitative development and justice rather than endless material growth.





HERMAN DALY (1938–2022)

Father of Ecological Economics & Champion of the Steady-State Economy

- Born: 1938, Houston, Texas, USA
- Died: 2022
- Ecological Economist and Environmental Thinker
- Influenced by his teacher **Nicholas Georgescu-Roegen**
- Worked as Senior Economist, World Bank (1988–1994)
- Taught at University of Maryland
- Strong critic of the idea of unlimited economic growth

“The economy is a subsystem of the larger ecosystem.”



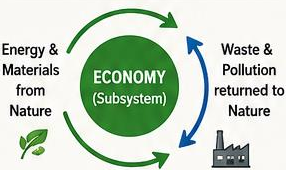
1. STEADY-STATE ECONOMY (SSE)



An economy in which the physical scale of resource use and population is kept within the regenerative and absorptive capacity of the ecosystem.

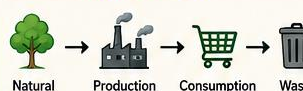
- Not a static or stagnant economy
- Technology, knowledge and culture can improve
- Focus on quality of life, not quantity of consumption

2. ECONOMY AS A SUBSYSTEM OF NATURE



The biosphere is finite. Therefore, the economy cannot grow physically forever.

3. THROUGHPUT



Throughput is the physical flow of materials and energy through the economy. Sustainability means **controlling the scale of throughput**, not just improving efficiency.

4. GROWTH vs DEVELOPMENT

GROWTH	DEVELOPMENT
Quantitative increase	Qualitative improvement
More production / material throughput	Better technology, institutions and welfare
Expands physical scale	Improves quality without necessarily expanding scale
Ecologically limited	Can potentially continue much longer

Shift from “bigger” economies → toward “better” economies.

5. THREE GOALS OF ECONOMIC POLICY

- 1 **SUSTAINABLE SCALE**
Keep the economy within ecological limits.
- 2 **FAIR DISTRIBUTION**
Ensure equity and social justice.
- 3 **EFFICIENT ALLOCATION**
Markets can then help in efficient allocation.

First two goals cannot be achieved by markets alone.

6. CRITIQUE OF UNLIMITED GROWTH

After a certain point, more growth can become “uneconomic growth”.

It increases GDP but creates greater costs than benefits such as:

- Pollution
- Resource depletion
- Biodiversity loss
- Congestion
- Climate damage
- Social disruption



GDP can rise while welfare falls.

7. THREE RULES OF SUSTAINABILITY



RENEWABLE RESOURCES:
Use rate should not exceed their rate of regeneration.



NON-RENEWABLE RESOURCES:
Depletion should be accompanied by investment in renewable substitutes.



POLLUTION:
Emissions should not exceed the environment's absorptive capacity.

8. CRITIQUE OF GDP

GDP measures economic activity, not human welfare.

GDP rises even with activities that repair damage (e.g., cleaning pollution, disaster recovery).

Daly supported alternative welfare measures like the Index of Sustainable Economic Welfare (ISEW) (with John Cobb).



9. NATURAL CAPITAL & STRONG SUSTAINABILITY

Natural capital includes forests, water, soil, fisheries, biodiversity and ecosystems.

Certain natural capital is irreplaceable. Human-made capital cannot fully substitute for natural capital.

Example: More fishing boats cannot compensate for the disappearance of fish.

Therefore, Daly supported **STRONG SUSTAINABILITY** – maintaining critical natural capital for future generations.

10. POLICY PROPOSALS BY DALY

- Limit excessive resource throughput
- Ecological taxation: tax pollution and resource depletion more, labour less
- Conserve natural capital
- Stabilize population
- Reduce inequality and promote distributive justice
- Move from growth obsession to steady-state prosperity



11. DALY & DEGROWTH

Degrowth: deliberate reduction of excess production and consumption, especially in rich countries.

Steady-state economics: reaching and maintaining an ecologically sustainable scale.

Degrowth may be the transition strategy; steady state is the goal.

12. MAJOR WORKS

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SIGNIFICANCE

Herman Daly changed the way we think about the economy and the environment. He asked the deeper question: “How large can the economy be without exceeding the ecological limits of the Earth?”

ONE-LINE CONCLUSION

On a finite planet, genuine progress comes from qualitative development and justice, not from limitless material growth.



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