

# 생태계와 인간 복지의 관계

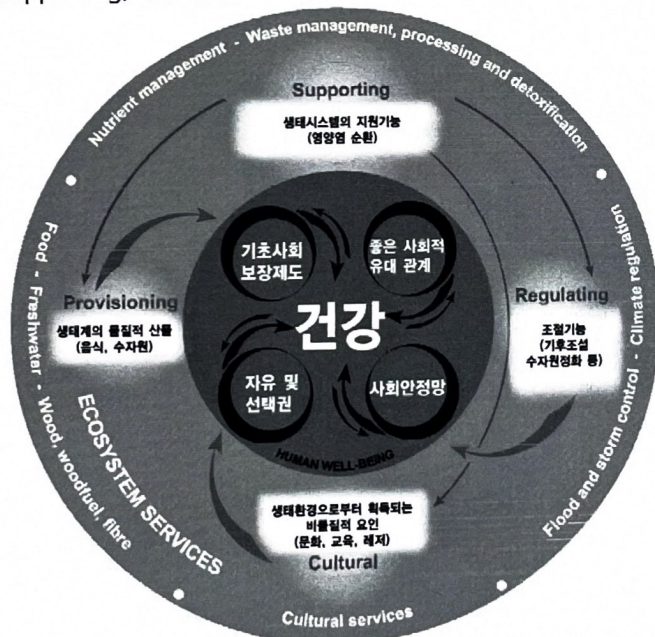
## 생태계와 인간 복지 구성의 중요한 5가지 요인(MEA 2005)

생태계의 기능

인간의 복지

물질 제공(provisioning)기능,  
조절(regulating)기능,  
문화(cultural) 등 비물질적 기능,  
지지(supporting)기능 등을 제공

생태계와의 관계 속에서 인간 복지에  
영향을 미치는 5가지의 주요한 범주들.  
이 중 건강이 인간 복지에서 가장  
중요한 범주에 속한다.



**MILLENNIUM ECOSYSTEM ASSESSMENT**

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### Overview of Reports

The MA synthesized information from the scientific literature and relevant peer-reviewed datasets and models. It characterized knowledge held by the private sector, practitioners, local communities, and indigenous peoples. The MA did not aim to generate new primary knowledge, but instead sought to add value to existing information by collating, evaluating, summarizing, interpreting, and communicating it in a useful form.

### Living Beyond Our Means: Natural Assets and Human Well-being (Statement of the MA Board)

The Board of Directors governing the MA process has developed an interpretation of the key messages to emerge from the assessment:

**Board Statement** [Online version](#) [Download now](#)

[More about the Board statement](#)

### Synthesis Reports

The first set of reports presenting the findings of the assessment consists of one overarching synthesis and 5 others that interpret the MA findings for specific audiences. The MA World Resources Institute, and Island Press published these reports.

	Online version	Printed versions from Island Press
Ecosystems & Human Well-being: Synthesis	<a href="#">Download now</a>	<a href="#">Order now</a>
Ecosystems & Human Well-being: Biodiversity Synthesis	<a href="#">Download now</a>	N/A
Ecosystems & Human Well-being: Desertification Synthesis	<a href="#">Download now</a>	N/A
Ecosystems & Human Well-being: Opportunities, Challenges for Business & Industry	<a href="#">Download now</a>	N/A
Ecosystems & Human Well-being: Wetlands & Water	<a href="#">Download now</a>	N/A
Ecosystems & Human Well-being: Health Synthesis	<a href="#">Download now</a>	N/A

### Global & Multiscale Assessment Reports

A third set of reports, comprised of about 32 official and associated sub-global assessments were released from late 2005 to 2006, and were published by the sub-global assessment teams themselves. Reports on the assessment of southern Africa were released in September 2004.

	Online version	Printed versions from Island Press
Current State and Trends	<a href="#">View chapters</a>	<a href="#">Order now</a>
Scenarios	<a href="#">View chapters</a>	<a href="#">Order now</a>
Policy Responses	<a href="#">View chapters</a>	<a href="#">Order now</a>
Multiscale Assessments	<a href="#">View chapters</a>	<a href="#">Order now</a>
Our Human Planet (Summary for Decision Makers)		<a href="#">Order now</a>
Five-Volume Set		<a href="#">Order now</a>

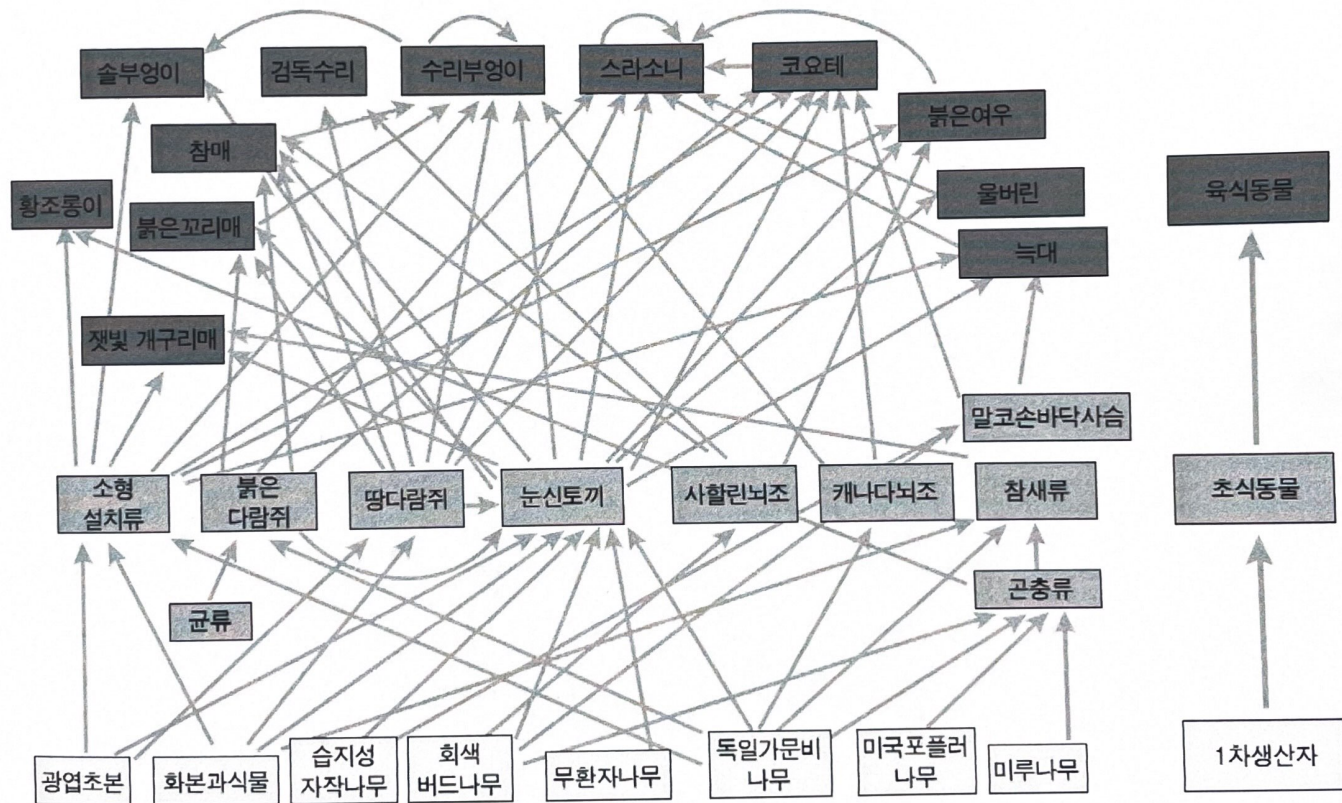
[More about the global assessment reports](#)  
[More about the multiscale assessments](#)

### Ecosystems and Human Well-being: A Framework for Assessment

In late 2003, the MA and Island Press published "Ecosystems and Human Well-being: A Framework for Assessment." The book lays out the assumptions, processes and parameters that were used in the MA.

	Online version	Printed versions from Island Press
Ecosystems and Human Well-being	<a href="#">View chapters</a>	<a href="#">Order now</a>

# 생물 한 종의 멸종이 생태계에 미치는 영향은?



캐나다 북서부 아한대림의 먹이그물

(Thomas M. Smith/Robert L. Smith. 생태학 제9판, 2016)



# 생물 한 종이 인류에게 주는 가치는?

## 님(Neem)나무와 다국적제약회사와의 국제특허분쟁

### 생물주권의 시대



[https://en.wikipedia.org/wiki/Azadirachta\\_indica](https://en.wikipedia.org/wiki/Azadirachta_indica)



### Neem: Tree of 1,000 uses

● People in India have known about the amazing benefits of the neem tree for centuries. Now scientists are acquainting the rest of the world with its valuable properties.

BY ACHARYA S. NAMUNA

**T**O see, the neem tree is a sacred gift of nature to man. Belonging to the Meliaceae (mahogany) family, it is an evergreen, tropical, fast-growing shade tree that grows all over the Indian subcontinent. The botanical name, *Azadirachta indica*, is Persian means 'India's tree'.

Indians revere neem because it abundantly grows under poor soil conditions. It will grow even in hot, arid and saline wastelands, which are unsuitable to most crops. Its fallen leaves and twigs rapidly regenerate the topsoil.

Neem is cultivated throughout southern and southeast Asia and tropical and subtropical areas of Africa, the Americas and Australia. Because the tree cannot tolerate long-term frost and hence freezing temperatures, it cannot be grown commercially in the United States and some parts of California and Mexico.

My first childhood memories of neem are still fresh. Whenever anyone in the neighborhood suffered from most any common ailment, neem provided the answer. Various parts of neem — its tree, seed, bark, root and bark — have been used in India since the days of the Vedic civilization. It is generally believed in India that neem bitters purify the blood. Therefore, millions of Indians daily drink water in which a few fresh neem leaves have been soaked overnight.

In India, neem is vitally important in cultural and religious terms. On the new year day of the Hindu calendar, while welcoming the sun, millions of Indians eat a few tender and fresh neem leaves for health in the morning. It was customary in my family to make a bedtime concoction for the mother, grand and the unmarried girls by simply adding a couple of

sweetly soapy water. Such a simple treatment kept many pests at bay. Neem oil, which has an unpleasant garlicky smell, is a powerful insect repellent.

Neem seed cake, the residue left after cold-pressing the oil from the neem seed kernel, was routinely mixed with soil at the start of the planting season. Scientific studies in recent decades have shown that besides being a good fertilizer, neem contains ingredients that block soil bacteria from converting nitrogenous compounds into usable nitrogen gas and promote plant roots from the onslaught of nematodes and white ants.

Brushing neem regularly by chewing a neem leaf prevents tooth decay, bleeds nose gums, removes bad breath and cures infections of the mouth cavity. Even simple gargling with an aqueous neem leaf and bark extract can successfully treat their ailments. Adding neem leaves to stored grains at home was a standard Indian custom which my parents followed to keep the grain free of weevil infestations. Thus, for many generations millions in India have been using neem leaf on a daily basis.

When scientists examined the above tradition, they found it to be a golden treasure. They discovered that neem leaves have insect-repellent properties and that some neem leaf compounds inhibit the hatching stages of insects. This is produced by the fungus *Aspergillus parasiticus*, which infects corn, cereals, peanuts and other crops. Furthermore, researchers found that neem leaves, besides being of good nutritional value for livestock, have great medicinal and insect growth-regulating properties. Given such facts, now wonders how Indians of long ago acquired such an outstanding power of observation, fully compatible with ecology and health.

**D**espite the proven utility of neem in insect control in India, the west breakthrough came in 1946, when British researchers reported on the isolation of azadirachtin, one of the most active insect antifeedants, from the seeds of the neem tree. Besides the presence of other biologically potent compounds such as melianthol and salannin in neem, azadirachtin remains the most potent insect antifeedant present in neem.

An insect antifeedant is a substance that inhibits insect feeding but does not kill the insect directly. It is different from the more traditional pesticides and insecticides, which are non-selective and also kill rapidly. Not only are insects evolving resistance to such toxins, they also are responsible for much ecological disturbance and pollution.

Chemicals isolated from the neem leaf and seed act in the particular range as antifeedants, repellents and insect growth regulators on more than 200 species of insect pests, but they are amazingly nontoxic to warm-blooded animals including man, and are benign to beneficial predators, such as spiders, bees, ladybugs and others.

Thus, it is expected that neem can provide good control of blow flies, horn flies, greyish moth, fruit flies, aphids, mosquitoes, the European corn borer, the Colorado potato beetle, desert locust and several insect species that are now resistant to conventional insecticides, such as the sweet potato whitefly, green peach aphid, western flower thrips larvae, diamondback moth and several leaf miners.

When treated with neem extract, some plants absorb the active ingredients systemically and thus are protected against insects from within. Since beneficial predators prey on insects and not on plants, that explains, in part, why they are not harmed by neem extracts. Also, because neem extracts disrupt the growth of insects in multiple ways, it is most unlikely that insects would develop resistance to neem.

**I**n India, the Ayurvedic and veterinary medicine practitioners rely heavily on neem for its impressive therapeutic benefits on man and other animals, ecotons, crop pests and weeds, and scalp-related problems, especially as dandruff, itching and loss of hair, are known to improve by regular neem.

Neem has been scientifically proven to reduce blood pressure, blood clots, heart irregularities, diabetes, insulin dependency as diabetes, intestinal worms and psoriasis. Neem destroys the 14 most common fungi that infect man, and its antiseptics not neutralize scabies, ringworm and athlete's foot. Two to