



SL P101
Sustainable Global Environment
Patrick Spahr Directed Study with John Collins
March 2012

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MAHARISHI VEDIC SCIENCE AND TECHNOLOGY

GLOBAL SUSTAINABILITY

MAHARISHI TECHNOLOGY OF THE UNIFIED FIELD

HEADS OF STATE

Bringing fulfilment to all areas of
society administered by governments

National Law

TM

Global Sustainability

Vasudhaiva kutumbakam: Humanity Aligned with Nature
World Peace, Stabilized population, Stable climate
Healthy Bio-diversity, Genetic Security, Strong health,
Food and Water Security
Ideal, Sustainable Built Environment
Zero Waste

Invincibility
not here

Actions

Coherence, Creating Groups
Education and empowerment of women
Clean Energy Generation, Sustainable water use
Clean, Efficient Transport, Large Sustainable Forests
Sustainable Agriculture And Fisheries, Green Building Practices
Cradle to Cradle design practices,
Government and Corporations action based on sustainable values.

Invincibility
not here

Policy

Policy based in Sustainable Values
Group for a government
Universal education, Life-supporting International Aid,
Go green fiscal policy, Prevention of market failures
Feed in tariffs, Environmental laws for protecting ecosystems
Green building codes, R & D incentives

Invincibility
not here

Knowledge

Understanding sustainability, Understanding ecosystems
Life-supporting ethical framework, Full Free Information,
Education, Green technology

Invincibility
not here

Qualities of mind

The experience of Vasudhaiva Kutumbakam
Creativity, Intelligence, Intuition,
Discernment, Integrity, Commitment, Persistence
Wisdom, Integrated Individual
and Collective Consciousness

Invincibility
not here

Pure Field of Creative Intelligence
Home of All the Laws of Nature
Home of All Impulses of
Creative Intelligence—the devatas—
Supportive Laws of Nature

UNIFIED FIELD = TRANSCENDENTAL
CONSCIOUSNESS

Invincibility
here

Natural Law

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LESSONS PLAN

Lesson 1:	Introduction <ol style="list-style-type: none"> 1. Welcome 2. The course in the context of the SL Program 3. Wholeness of the course 4. Defining Global Sustainability 5. Course practicalities
Lesson 2:	Challenges to Global Sustainability – <ol style="list-style-type: none"> 1. Introduction – Population, land, water and food 2. Energy and climate 3. Other challenges to global sustainability 4. Underlying human values
Lesson 3:	Creativity and Abundance <ol style="list-style-type: none"> 1. The source of sustainability located in the Veda. 2. Individual and collective consciousness, perception, cognition and values
Lesson 4:	Stabilizing Climate <ol style="list-style-type: none"> 1. Energy Efficiency 2. Energy production
Lesson 5	Cities, Poverty and Population <ol style="list-style-type: none"> 1. Designing cities for people 2. Eradicating poverty and stabilizing population
Lesson 6	Restoring the Earth
Lesson 7	Feeding 8 Billion People Well
Lesson 8	Models of Social Change and the Great Mobilization
Lesson 9	Delivering Global Sustainability

Approximate Course Schedule

	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Jan	30	31	Feb 1	2	3	4	5
	Lesson 1 Introduction	Lesson 2 Challenges to Global Sustainability	Lesson 2 contd.	Lesson 2 contd.	Lesson 2 contd.	Lesson 2 contd.	
Feb	6	7	8	9	10	11	12
	Lesson 3 Creativity and abundance	Lesson 4 Stabilizing climate esp. solar	Lesson 4 contd.	Lesson 5 Cities, poverty, population	Lesson 5 contd.	Course review	
Feb	13	14	15	16	17	18	19
	Lesson 6 Restoring the Earth	Lesson 7 Feeding 8 billion well	Lesson 8 Social change	Review	Lesson 9 Preparing final presentations	Lesson 9 Preparing final presentations	
Feb	20	21	22	23	24	25	26
	Lesson 9 Preparing final presentations	Lesson 9 Preparing final presentations	Lesson 9 contd. Final Presentations	Course celebration			

Course Objectives

1. **Main objective: To gain a global perspective of the problems and solutions in the field of sustainability.**
2. Agree the definition of global sustainability
3. Evaluate what the big challenges are to maintaining a global sustainability for humanity and other beings on Earth
4. Understand the Vedic approach to sustainability
5. Gain a perspective on how managing energy can go a long way to creating global sustainability.
6. Learn about exciting new city design ideas for sustainability and support of Natural Law.
7. Research the causes of poverty and how to remove them.
8. Learn how we can stabilize the world's population.
9. Learn how humanity can feed 8 billion plus people well.
10. Gain some insights into the mechanics of social change at different levels of social functioning.
11. Have an overall understanding of Lester Brown's plan B and make you own personal evaluation.
12. Field trip to a coal fired power station.
13. Develop more professional reading, knowledge absorption and writing skills
14. Chose, learn and be able to use hard facts to back up your opinions about global sustainability
15. To become knowledgeable enough on the issues covered in the course to discuss them intelligently with friends, family and classmates.
16. Research and present a solution of special interest in the field of Global Sustainability.

Lesson 1 Course Introduction

This course studies the big picture as to what should be done to transform the current unsustainable trends in population, land and wildlife depletion, climate change, energy sourcing and usage, the built environment, agriculture and food, economic exploitation, militarism, etc. We study the shifts in collective consciousness, mind-sets and political processes that are needed to take us from regarding our fellow humans and the ecosphere as expendable resources to treasuring them as entities with which we must live in harmony for mutual enrichment and evolution.

- Global sustainability is humanity living happily, in abundance and in harmony with the ecosphere, bringing mutual enrichment and evolution to all in this generation and all future generations.
- Policy is a set of principles, goals, directions and decisions (hopefully coherent as a whole) to achieve specific outcomes. In the context of large (and sometimes small) organizations it can be extremely powerful. Never assume that policy is formulated to achieve the publicly stated objectives.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 1 Course Introduction

1. The organization and evolution of human society is highly complex.
2. Policy formulation and implementation can be a very powerful lever in re-directing society; at the same time it is often governed by collective consciousness that can make it hard to change at the political level.

3. **Transcendental Consciousness** - the field of Pure Consciousness is the foundation and fabric of the knowledge and personal policy structures that learning builds within us, like the canvas for a painter.

4. **Wholeness moving within Itself** - in Unity Consciousness, we experience how the development of policy in society is an expression of evolution align with nature.



Lesson 2

The Challenges to Global Sustainability

Lester Brown believes that food security is emerging as the number global challenge. He analyses the complex web of challenges to global sustainability into four main, inter-related tasks: stabilizing climate, stabilizing population at 8 billion, eradicating poverty and restoring earth's natural systems. We can add the need to address some other challenges relating to technology and unethical human practices. Problem often define their solution, though the solution is often found not on the level of the problem.

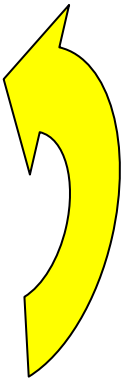
- Lester Brown's view is that, stemming from population pressures we see an unfolding drama of soil erosion, increasing demand for water, reducing supplies of water, water / land conflicts, competition for grain between cars and people, environmental refugees, and conflicts.
- Anthropogenic climate change caused by greenhouse gasses (GHG's) is taking us into uncharted and risky territory. This needs to be addressed by reducing GHG emissions that in turn necessitates a transformation in energy production, farming and forestry practices.
- To maintain the big picture for achieving global sustainability we also need to evaluate issues such as disease, militarism, genetic modification, and perhaps others such as asteroids, aliens and wherever relevant research takes us.
- Underlying unsustainable systems we find patterns of human greed, exploitation, manipulation and ignorance. Underlying all this we find as loss of human contact with the unity of life.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 2

The Challenges to Global Sustainability

1. Individuals and human society as a whole are seriously undermining global sustainability using systems that are based narrowly in greed, manipulation and ignorance.
 2. Spiritually speaking, the source of this mess is the disconnection of the awareness of individuals in society from their inner spiritual nature, transcendental pure consciousness - the unity of all life.
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3. **Transcendental Consciousness** – the direct experience of that silent unity of all life.
 4. **Wholeness moving within Itself**— in Unity Consciousness is the experience that there is no separation between the individual and his or her environment.



Lesson 3

Creativity and Abundance

Nature is infinitely vast and abundant. The Vedic perspective is that if humanity aligns itself with nature then nature will support humanity and provide abundance.

- Is the universe a machine that has learned to think, or consciousness that has created a machine? These two opposing worldviews produce very different prescriptions for action.
- Individually we can start the process of creating global sustainability at any level of human and social functioning. But collectively we have to ensure that all levels are being addressed. See course unified field chart.
- “One can have one's environment the way one wants.” Maharishi. The mechanics of this are that if humanity ‘aligns itself with nature’ then nature will support humanity and provide abundance. This ‘nature’ includes subtle laws of nature - the celestial realms, whose agencies can work in support of humanity.
- Vasudhaiva kutumbakam – the world is my family *Mahā Upanishad* 6.71

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 3 Creativity and Abundance

1. The status of an individual is that all his or her thoughts and actions influence the entire universe. These actions are mirrored back to us. Thus we create our own environment.

2. Individually and collectively humanity has the potential creativity and intelligence to create abundance in the world through engaging the managing intelligence of Natural Law.

3. **Transcendental Consciousness** - is the fundamental level of Natural Law, both within our selves, and our environment. From this field of pure intelligence Nature creates and manages the universal environment. When this level of awareness is enlivened, the devatas rise to support the knower's intentions.

4. **Wholeness moving within Itself** - in Unity Consciousness we enjoy abundance; the whole environment is our Self.



Lesson 4

Stabilizing Climate - Energy Efficiency and Production

There is an abundance of clean energy available to humanity. Producing energy from clean, renewable sources and using energy with much greater efficiency will substantially move us to the goal of climate stabilization by stopping the growth and even reducing GHG concentrations. It will also produce a more sustainable economy and a healthier environment.

- Lester Brown's goal is to stabilize CO₂ concentrations at 350 ppm. Many climate scientists believe that this will result in about a 2 C rise in global temperature and that that is the maximum we can risk without runaway climate change.
- The most sustainable and dollar-efficient strategies to achieve this target are found on the 'demand' side, ie making energy use more efficient. But to achieve our target humanity also needs to move rapidly to renewable energy production: wind, solar, geothermal and hydro and biofuels. Solar will win in the end.
- There is a wide range of powerful policy tools available to achieve the goal (see a sample at appendix four). Although there is exciting progress towards energy efficiency and renewables all round the world, this is being more than offset by the economic development of countries like China and India who are seeking to rise out of poverty.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 4 Stabilizing Climate - Energy Efficiency and Production

1. Energy is fundamental to human society. Most people consume energy with little regard for the environmental and social consequences.

2. There is a massive failure in the market to take account of the environmental and social costs of energy production and consumption. This so-called market failure is in reality a failure of human intelligence, creativity and moral reasoning.

3. **Transcendental Consciousness**— is the source of creativity and intelligence. Research shows that contacting this field by transcending produces greater creativity and intelligence and self actualization in activity.

4. **Wholeness moving within Itself** – the entire universe is perceived as fluctuations in the field of infinite silence and dynamism – our Self.



Lesson 5

Cities, Poverty and Population

- Most cities developed with little planning for sustainability. Some of the rich ideas for improving cities are: bringing in more trees, plants and parks, moving away from the car and greening transport, eliminating pollution, growing food in the city, upgrading buildings and infrastructure, managing the hydrological cycle and waste streams. Maharishi added the concept of city design to align with nature and bring good fortune to the people.
- There is no good reason for the existence of poverty on this abundant Earth. With sufficient integrity, creativity and intelligence serious poverty can be ended and the population stabilized. The UN forecasts a 9.5 times growth in prosperity for the third world this century. (N Lawson, An Appeal to Reason pp 93)
- Stabilization of population always occurs when four conditions are met leading to the so-called 'demographic transition.' This transition is underway in almost every nation. Over the last 10 years the UN has repeatedly revised its population growth forecasts downwards. But with plan B the transition would be going much quicker. The four conditions are: The widespread education of girls, the social and political empowerment of women to participate in the decisions of their families, communities and nations, high child survival rates leading parents to feel confident that most or all of their children will survive into adulthood, and the ability of women to determine the number and spacing of their children.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 5 Cities, Poverty and Population

1. A good home environment, and the prosperity to be able to afford it is central to a family's needs.
2. Stabilization of population and growth of prosperity provides a platform for the development of beautiful cities.

3. **Transcendental Consciousness**—home of all the laws of nature. When our awareness is purely established in this home, comfort is continuous.
4. **Wholeness moving within Itself**— In unity consciousness, perceiving our Selves in everything, we feel at home with everything and everyone.



Lesson 6

Restoring the earth

Plan B sets four broad 2020 goals for restoring the earth: reducing deforestation to net zero, rebuilding soils, rebuilding fisheries, and protection of bio-diversity. As always the success of these are interconnected.

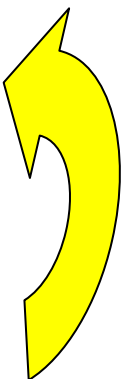
- The value of ecosystem services has been estimated to be similar to the value of the global economy. Therefore it is a vital component of sustainability not to compromise the ecosystems ability to continue to deliver those services. There is also an ethical dimension in relation to loss of habitat for indigenous people and other life.
- Stabilizing population and climate and simply letting nature regenerate are of key importance for ecosystems and biodiversity.
- Forests are vitally important for restoring the earth. See appendix 5. Net deforestation is currently 7 million hectares per annum. There is a will at the international level to address this. But the problems ‘on the ground’ are considerable.
- For the regeneration of soils and fisheries, solutions are available and simple and include the transition to organic farming and creating of Marine Preservation Areas (MPA’s).

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 6 - Restoring the earth

1. To restore the earth all individuals need to live ‘vasudaiva kutumbakam.’
2. Collectively we must structure policies and take action to breathe life into this renewed relationship with our planet.

3. **Transcendental Consciousness**— The awareness of that ever-present, omni-present being.
4. **Wholeness moving within Itself**— In unity consciousness one enjoys clear experience of the richness of all levels of creation and spontaneously lives the experience of vasudaiva kutumbakam.



Lesson 7

Feeding 8 billion people well

Food and water are fundamentals of sustainability and social justice. There are many simple solutions to move to greater food and water security; as with other issues, human attitudes will have to change to deliver the needed results.

- A combination of circumstances – growing population, consumers moving up the food chain, global warming, rising oil costs, water resource depletion and corporate capture, rising food prices and continued exploitative practices by the West have moved us into a challenging new food era.
- Simple, low-tech solutions exist to boost food security such as provision of micro-nutrients, and raising land productivity including the techniques of John Jeavons and Elaine Ingham and many others.
- Water efficiency is becoming increasingly important and can be dramatically improved with drip feed irrigation, water associations, keeping multinationals out of control, changing crops, and moving down the food chain.
- Moving down the food chain will enable protein production to feed a much greater population. Becoming ‘locavores’ through rising awareness and local food portfolio standards brings fresher more nutritious food, greater system resilience and less use of oil and associated CO2 emissions.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

Lesson 7 - Feeding 8 billion people well

1. Collectively society has an ethical duty to provide food and water for everyone. Nourishing food and water are the platforms for human evolution.
2. Agriculture needs to agree with the culturing intelligence of local laws of nature to succeed.

3. **Transcendental Consciousness** - Although this field of yoga is beyond relative creation, to experience it humans need a healthily functioning, properly nourished physiology.
4. **Wholeness moving within Itself** – Maharishi’s favorite grace before meals, begins: In thy fullness, my lord, filled with thy grace, for the purpose of union with thee.



Lesson 8

Models of Social Change and a Great Mobilization

Lester Brown calls for a great mobilization to restructure our lifestyle towards sustainability. This will involve a dramatic change at all levels of society: collective consciousness, politics and activities.

- The nature of life is to grow, to evolve. Successive periods of time have their unique qualities. Sometimes change can come rapidly. Sometimes very little happens.
- Here are some aspects of social change to consider.
 - The Maharishi Effect offers a reliable method for producing more coherence and integration in collective consciousness, thereby facilitating smoother social change in a positive direction.
 - Lester Brown identifies three models of social change (Plan B 4.0 page 256): ‘Pearl Harbor, Berlin Wall and Sandwich.’
 - Politically there are 4 main ‘estates’ that can be of varying importance in different cultures as agents of social change (or non change): Government, Judiciary, and Opposition parties and the Media.
 - Social manipulation through message framing has grown as a very powerful tool in the last 90 years, initially used by the corporatocracy and more recently by green campaign groups.
- Plan B identifies taxation and subsidies as a key policy tool to reflect the true environmental and health costs of our consumption patterns: fiscally neutral coal tax, gasoline tax, carbon tax, and cap and trade along with phasing out of subsidies that support GHG emissions and provision of subsidies for activities that sequester CO₂.

Connecting the Parts of Knowledge with the Wholeness of Knowledge:

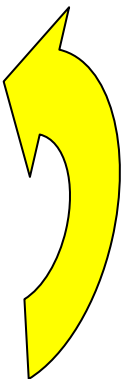
Lesson 8 - Models of Social Change and a Great Mobilization

1. A green forest is made of green trees; the individual is the unit of society and social change. Government reflects the collective consciousness of the people.

2. The quality of time brings opportunities for social change and mobilization. The greater the creative intelligence in society and its ability to enlist the support of nature, the more progressive and life supporting change will be. Plan B contains great creativity and intelligence to guide society towards sustainability.

3. **Transcendental Consciousness**— The level of life in which the devatas reside and administer creation.

4. **Wholeness moving within Itself**— In unity consciousness the individual becomes fully aligned with the cosmic plan for evolution.



Lesson 9

Delivering Global Sustainability - Individual Research Project

See assignments page

APPENDIX ONE - COURSE PRACTICALITIES

REQUIRED TEXT

Plan B 4.0 Mobilizing to Save Civilization by Lester Brown ISBN 978-0-393-33719-8

COURSE FEE

This is \$10 for the text book, payable by the end of the second day of the course. Checks to 'Sustainable Living.'

OTHER REQUIREMENTS

Students will need to use the internet for research, upload work onto the course wiki and also make power point presentations to the class.

COURSE CREDITS

This 4-week directed study and offers 4 credits.

FACULTY

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HOMEWORK

1. Unless otherwise stated, homework is due in by 10 am the day after it is given. After that grade will be subtracted at the rate of 3% a day.
2. All homework should be uploaded onto the moodle unless specified otherwise.

COURSE GRADING

Participation and reliability	10
Chapter by chapter homework assignments	35
Executive summary of Global Challenges	20
Fact file and fact file test	15
Final presentations	20
Total	100

Grade	GPA	%	Criterion
A+	4.0	97 +	Far exceeds expectations
A	4.0	93 - 96	Excellent
A-	3.5	90 – 92	Great
B+	3.3	87 - 89	Very Good
B	3.0	83 – 86	Good
B-	2.7	80 – 82	Fair
C+	2.3	77 – 79	Just satisfactory
C	2.0	73 – 76	Less than satisfactory
C-	1.7	70 – 72	Poor
NC	0.0	Below 70	Failed

APPENDIX TWO - Written Assignments Grading Rubric

Grade	A	B	C
Clear Writing	Clear, plain English, self-explanatory to the layman, good logical flow from point to point. Acronyms introduced	Satisfactory clarity but not all terms explained; maybe complicated sentences – difficult to follow	Not very clearly expressed, complicated and obscure sentences with little logical flow
Structure	A clearly recognizable and appropriate	Reasonably clear structure, but some	Not much structure – meandering from one

	structure. Scope of paper and wholeness point at the beginning	meandering from one topic to another.	topic to another. Difficult to understand structure of thesis.
Coverage	A full coverage of all the important topics for the subject. This may include mentioning some things which are less important in your opinion, if only to rule them out.	Most of the points covered.	Quite a lot of points missed.
Succinctness	Very succinct. Absence of duplication and redundancies	Reasonably succinct.	Longer than needed for the points covered. Repetitions.
Facts	Plenty of relevant, well expressed facts that back up statements	A few facts, reasonably expressed and reasonably relevant	Not many facts. Units not defined. Facts used not particularly important.
Thesis	Thesis strongly justified and consistent	Reasonably well argued thesis.	Weak or no logic offered for your viewpoint.
Graphics (final project only)	Excellent relevance to key issues and high clarity of paper.	Reasonable relevance and acceptable quality of presentation	Relevance not central; presentation mediocre
References	Give references for all quotes and hard facts in footnotes (or for Plan B just a page number in brackets will do).	Missing some references.	References not bothered with.
Grammar	Sentence structures and punctuation fully correct	Good grammar but a few mistakes	Mediocre sentence structure, punctuation poor
Spelling	100% correct	A few mistakes.	Quite a lot of mistakes

APPENDIX THREE - Maharishi's Vedic viewpoint

"Therefore, in all walks of life, under all circumstances, in all types of surroundings, animate and inanimate, living or non-living, it is necessary to have a very loving, kind and sympathetic view in the inner core of your heart."

"If you want the surroundings to be of best use to you, be of best use to your surroundings."

“If you cultivate within yourself a natural state of kindness, compassion, love and forgiveness you will receive a thousand fold reward from the surroundings.”

Maharishi Mahesh Yogi,
Science of Being and Art of Living

“One can have one's environment the way one wants.”

Maharishi Mahesh Yogi,
Videotaped lecture: SCI and the Environment

Maharishi Video Lecture: SCI and the Environment – main points

- *“Every man can create the environment the way he likes.”*
- *You have to make a choice*
- *Every thought, speech and action influences all of the environment.*
- *Our influence on the environment is mirrored back to us.*
- *So we need to consider our present influence on the environment*
- *We have to think with wider awareness that will enable it to spontaneously produce the most favorable influence on the environment and for that to be reflected back to us.*
- *To create this we do TM – contact unbounded awareness leading to spontaneous right action and maximum creativity*
- *Then we will be able to create the environment we want*
- *“Man is born to be the master of nature and the environment.”*
Explanatory comment: Man has that unique nervous system that can experience Transcendental Consciousness. In the process of enlivening that level in one's awareness the laws of nature, or ‘devatas,’ that administer nature and the environment, rise in support.
- Richo akshare parame vyoman yasmin devā adhi vishve nishedu. Yastanna veda kim richā karishyati ya ittadvidus ta ime samāsate Rik Veda 1.164.39

The verses of the Veda exist in the collapse of fullness (the *kshara* of ‘A’)
in the transcendental field, the Self,

In which reside all the Devas, the impulses of creative intelligence,
the Laws of Nature responsible for the whole manifest universe.

He whose awareness is not open to this field,
what can the verses accomplish for him?

Those who know this level of reality are established in evenness, wholeness of life.

APPENDIX FOUR- A sample of policy tools for energy efficiency and renewables.

General	Demand side	Supply Side
National and state targets	CAFÉ standards	Feed in tariffs (FiT)

Funded research and Development (R&D)	Prohibitions (eg incandescent light bulbs, CFC's)	Renewable Portfolio Standards (RPS)
Carbon tax	Minimum energy performance standards (MEPS)	Production tax credits (PTC)
Cap and Trade (or Emissions trading schemes ETS)	Weatherization grants	Phasing out fossil fuel subsidies
		Capital equipment grants

APPENDIX FIVE - Forests, Deforestation, Reforestation

WHAT FORESTS GIVE	WHY DEFORESTATION?	WHAT TO DO?
Bio diversity habitat	Fuel	Create no-go reserves
Carbon sequestration – atmospheric regulation	South America: Soy, corn, beef, sugar cane	Certified sustainable forests

	Far East: Palm Oil	
Flood control and water cleaning	Timber as a material	Tree planting
Indigenous people habitat		Satellite measurement
Timber		Forests Dialogue
Recreation Cultural use		REDD and Copenhagen
Growing food		Addressing governance and corruption issues
Rain and temperature moderation		
<i>Global Forest Status</i> <i>Millions of hectares</i>	Protected 290 Not 'economic' 1400 Undisturbed 665 Semi natural 900 Plantations 205 Total 3460	Current trend pa 13 logged 6 planted Net loss 7