GCI submission to the Intergovernmental Panel on Climate Change Working Group Three (WG3) & the First Conference of the Parties (COP1) to the United Nations Framework Convention on Climate Change (UNFCCC)

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This is the text of a letter re COP 1
from: - Kamal Nath Indian Environment Minister
and Head of Indian Delegation to COP 1 to his
COP counterparts prior to COP 1.

24 03 1995

Dear

With the first "Conference of the Parties" to the Climate Change Convention approaching, I would like to share a few thoughts with you on the critical issues which remain unresolved. We in India are very concerned that there has been no significant progress at all towards the stabilising (leave alone the reduction) of atmospheric concentrations of greenhouse gases, despite the lofty commitments made at Rio. On the contrary, decisive scientific evidence continues to disturb us with serious warnings about where the global community is now headed.

The inconclusive discussions about Joint Implementation and Adequacy of Commitments reveal increasing differences of opinion about the resolve of developed countries to meet even their existing commitments under the Convention. In my judgement, the present impasse became inevitable when the alleged cost- effectiveness of Joint Implementation was sought to be based on absurd and discriminatory Global Cost/Benefit Analysis (G-CBA) procedures propounded by economists in the work of IPCC Working Group III. The scale of bias which underpins the technical assessment intended to provide the basis for policy discussions at the CoP can be gauged from the proposed unequally valued mortality costs associated with global climate changes, and the avoidance of using the Purchasing Power Parity (PPP) system of overall damage costs. These are by no means the only issues about which we feel concerned, but they are pertinently representative examples.

We unequivocally reject the theory that the monetary value of people's lives around the world is different because the value imputed should be proportional to the disparate income levels of the potential victims concerned. Developing countries have no - indeed negative - responsibility for causing global climate change. Yet they are being blamed for possible future impacts, although historical impacts by industrialised economies are being regarded as water-under-the-bridge or "sunk costs" in the jargon of these biased economists.

To compound the problem, global damage assessments are being expressed in US dollar equivalent. Thus the monetary significance of damages to developing countries is substantially under-represented. Damage to human beings, whether in developed or developing countries, must be treated as equal, and cannot be translated in terms of the existing currency exchange rate systems.

Faced with this, we feel that this level of misdirection must be purged from the process. The distributional issue of unequal rights-by-income versus equal-rights-per-capita must be resolved to enable fruitful discussions about possible protocols to the Convention, proportionality of commitments and financial mechanisms.

This is of immediate concern to us with regard to the AOSIS proposal. We are wholly sympathetic to it and we want to support it, along with all Parties to the Convention as it is clearly aimed at the global common good. But there are attempts to modify the AOSIS proposal to an extent where it contradicts the very essence of the Rio consensus and nullifies the spirit in which developing countries entered into negotiations to frame the Climate Change Convention. We strongly reject any suggestions of encumbering developing countries with obligations under the Protocols, that they do not have under the Convention.

The implications of faulty economic assumptions are manifold. When they are corrected to reflect a true and just position, then, and only then would any talk of Joint Implementation and Adequacy of Commitments become meaningful. It is impossible for us to accept that which is not ethically justifiable, technically accurate or politically conducive to the interests of poor people as well as the global common good.

I am sure you appreciate these issues which are causing India and several other developing countries much concern. We do not want to be driven to a situation where dialogue itself becomes directionless. The Rio process gave rise to several environmental Conventions. If the logic now being propounded in relation to Climate Change, also enters the interpretation of the other Conventions, the gains which accrued to developing countries at the Earth Summit will have reversed all the gains of Rio - the chief one of which was a universal recognition of the principle of equity, and the inalienable rights of all human beings to the fruits of development and ‘environmental space’ on an equitable basis.

I have instructed the officials of the Indian delegation to the CoP to further elaborate on these issues and discuss them with the officials of your delegation. I trust that you too will instruct the officials of your delegation accordingly, and I look forward to hearing from you on this.

With best wishes and regards

Yours sincerely

KAMAL NATH

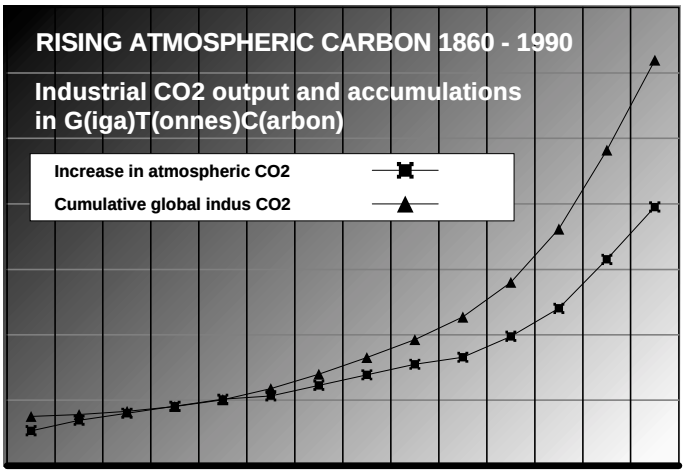
Minister for Environment and Forests Government of India

CONTENTS

PRELIMINARY POINTS REGARDING CO2, CLIMATE AND GEO-POLITICS

a) - Constant Airborne Fraction (CAF)

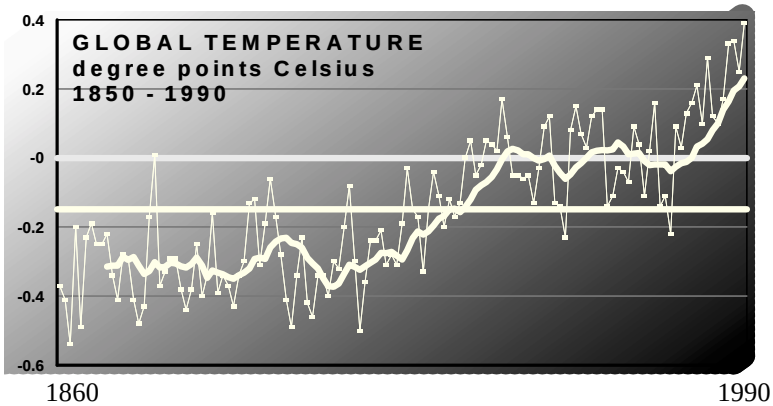
left hand axis in graphic measures gigatonnes carbon running from zero at the bottom to 280 at the top.



1860 1990

As the two curves in the above graphic demonstrate, a constant fraction of CO2 emissions to the atmosphere remained "airborne". This was at least true during the period 1860 - 1990. This is the so-called "Constant Airborne Fraction" (CAF). However, given the possibility of enhanced positive feedback in the future, the fraction may not remain constant. In the face of continued industrial emissions and declining terrestrial sink-capacity, it will probably increase.

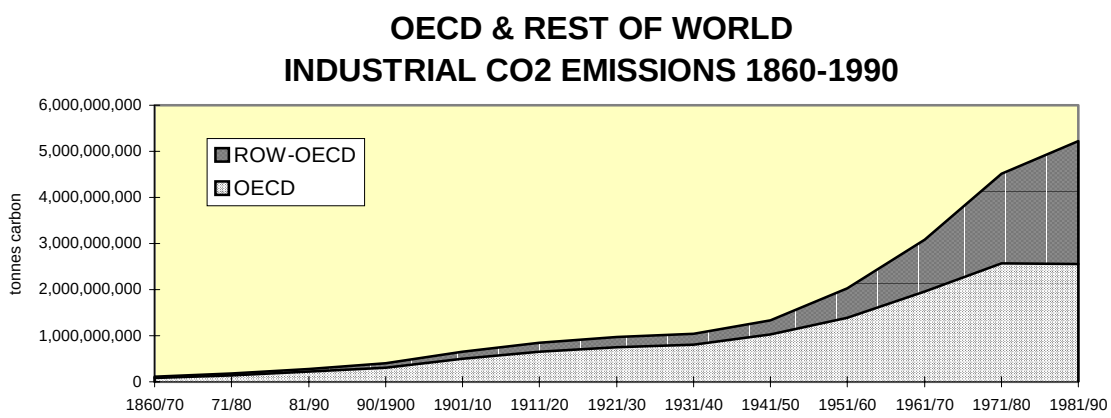
b) - Temperature Rise - 1850 - 1990



1860 1990

The above graphic uses global mean temperature data published by CDIAC to demonstrate a corresponding mean rise of 0.6 degrees Celsius for the period 1860 - 1990.

c) - Breakdown of CO2 Output, OECD & Rest Of World - 1860-1990



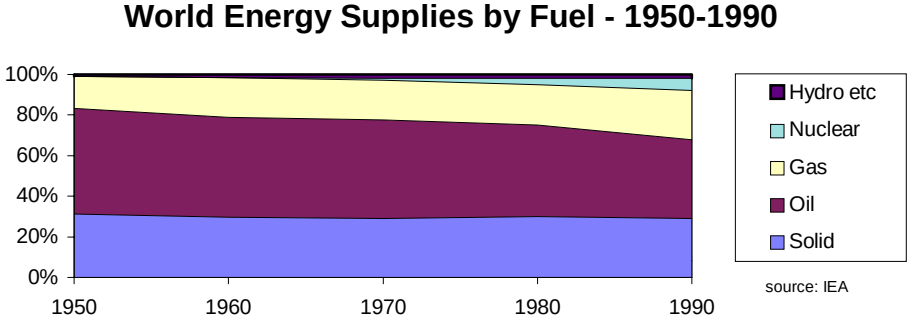
Before 1950, the OECD countries were responsible for more than 90% of Industrial CO2 emissions. During this period economic and population growth rates in these countries rose sharply, unlike the rest of the world where trends remained largely unaffected by industrialisation.

Only within the last four decade have CO2 emissions from (what is now) the other 80% of the global population - Rest Of World (ROW) - reached approximate gross output parity. But the OECD now represents just under 20% of world population with nearly 70% of gross global monetary wealth purchasing power amassed in hard-currency. It also has more than 60% of voting power within global financial institutions such as the International Monetary Fund (IMF).

WHY IS CO2 SUCH AN ECONOMIC ISSUE?

a) - 90% of the World's Formal Energy Supply comes from Fossil Fuel Burning

Economic activity in industrial culture is almost entirely supported by an energy supply generated by fossil-fuel burning. This in turn causes the release of carbon dioxide (CO2) to the atmosphere and the enhanced greenhouse effect.

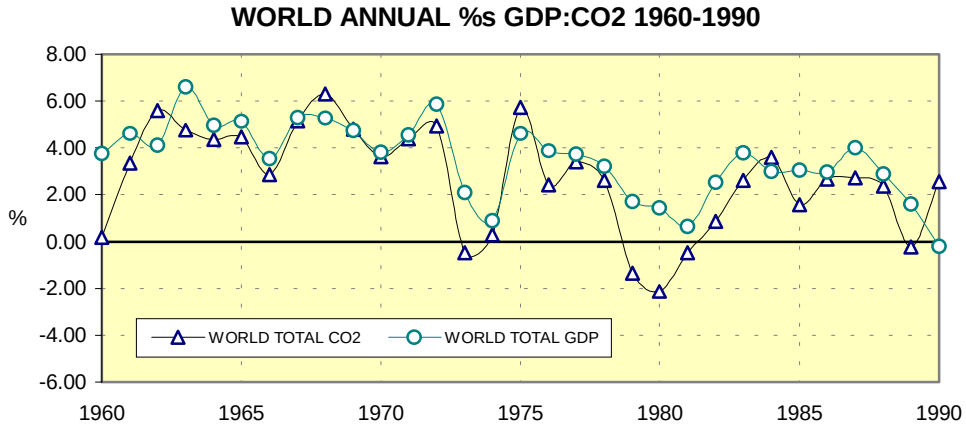


b) - 80% of global CO2 emissions come from fossil fuel burning

Non-fossil sources of CO2 emissions are either from non-human or from "renewable sources". Whilst these renewable resources (eg biomass) are not always renewably used, fossil sources are invariably non-renewable and non-renewably used. Moreover, the vast scale of fossil fuel usage and the commitment of transnational vested interests to this model, precludes any meaningful scale of biomass offset activity, especially given the emerging scale of the climate change problem.

c) - GDP:CO2 correlation remains unbroken at this time globally and sub-globally.

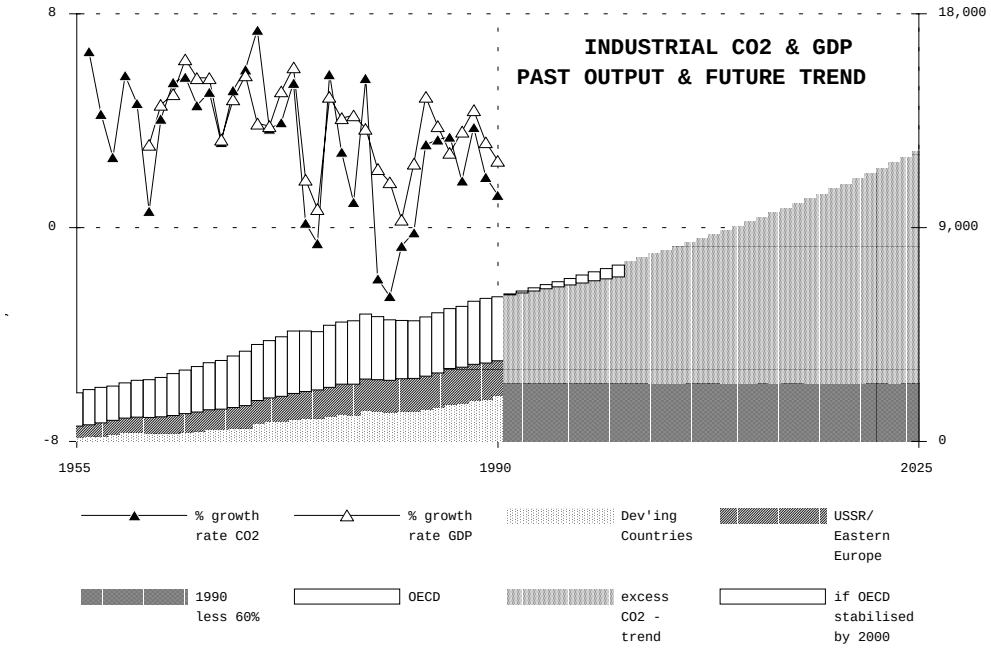
But the most intractable aspect of the climate change problem is the close relationship between industrial CO2 output and the generation of Gross Domestic Product (GDP). This relationship has been globally closely correlated throughout the post-war period, as the following charts demonstrate. (See OECD & ROW CO2:GDP correlation in section hereafter).



IPCC 60% CO2 CUT REQUIREMENT

"**I**ntergovernmental **P**anel's **S**tabilisation **O**utput
For **A**tmospheric **C**oncentration **T**hreshold **O**ver Time" (**IPSO FACTO**).

In their First Assessment Report (pub. 1990), the IPCC Working Group One (the Science Group) stated that in order for the then existing concentrations of CO2 in the atmosphere to be stabilised at that level [not reduced], the annual output of CO2 emissions from human activities would need to be immediately reduced by a minimum of 60% to 80%. We call this "**IPSO FACTO**" (**I**ntergovernmental **P**anel's **S**tabilisation **O**utput **F**or **A**tmospheric **C**oncentration **T**hreshold **O**ver Time). The IPCC did not say this *"had to be done"*. On the other hand IPCC did not say it *"didn't have to be done"* either. They simply established this bench-mark (see black segment right-hand side of graphic below). A 2% reduction of global CO2 emissions annually was initially suggested by the IPCC. It was only a proposal. There was intense pressure from vested interests in the OECD countries and their economists, not to do this. The cut was portrayed as a threat to their economic well-being. The proposal was put aside and it has not been implemented. In the context of the INC/COP and the Climate Change Convention, industrial countries now have an *"aim"* merely to stabilise their CO2 emissions (not atmospheric concentrations) at 1990 levels by year 2000. Collectively and at best this would be no more than 3% off the projected global CO2 emissions output trend (see white segments right-hand side of graphic below), but they are not meeting this aim. And this, in the Climate Change Convention, is in the context of making a commitment to *"sustained economic growth"*.
COP meets for the first time in the context of actual gross emissions, distribution and trends linked to abatement aims/commitments, GDP linkages , and compared with IPCC 60% cut requirement as presented in the graphic below.



"THE UNEQUAL USE OF THE GLOBAL COMMONS"

A paper for the IPCC WG3 workshop on *"Equity and Social Considerations"*, Nairobi, 18-23 July, 1994.
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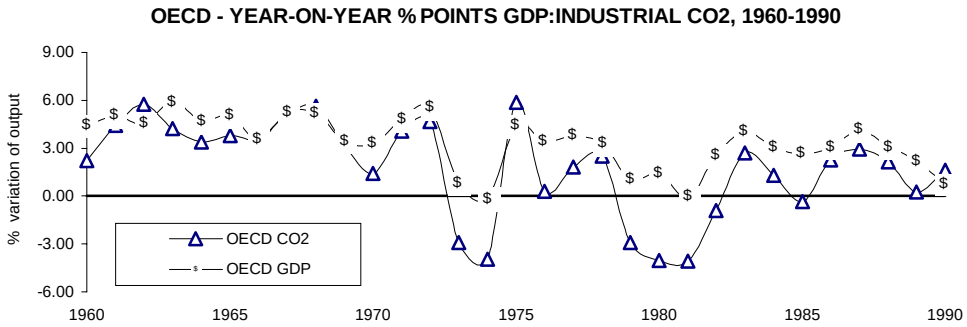
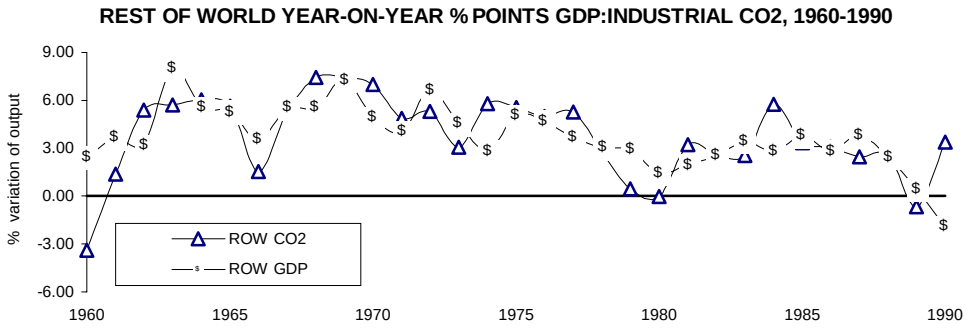
PREAMBLE

We take as our starting point the Intergovernmental Panel on Climate Change (IPCC) judgement in 1990 that a minimum 60% cut in global CO2 emissions was necessary to achieve an immediate stabilisation of atmospheric CO2 levels (IPSO FACTO - see above). Not to comply with this requirement as rapidly as practicable would: - (a) take unnecessary risks with the planet's life-support systems and (b) threaten huge numbers of people present and future *who have had no part in causing the problem.* We also note (c) the "Constant Airborne Fraction" (CAF, c. 60% of any year's CO2 output is retained in the atmosphere - see IPCC First Assessment Report) (d) the 83% of industrial CO2 output accumulated by the industrial countries since 1860 (see GCI "GDP:CO2=BAU:IOU") (e) the global formal economy being still at least 90% dependent on energy from fossil fuel burning (for all of these see earlier sections) and (f) the close relationship between CO2 and GDP globally and regionally (see the 2 charts below).





We next make a judgement which is both ethical and practical - and we call on other analysts working in this field to make the ethical positions and values inherent in their work as explicit as we do. In our judgement, the most valid starting point in assessing how to minimise the adverse effects of global climate change is to recognise that each human individual has an equal entitlement to such carbon usage as can safely be allowed to continue. This does not reflect the current pattern of relationships between nations, as the assessments in this paper will show. However, we believe an unprecedented degree of co-operation will be required to realise any package of policies and procedures capable of fending off a climate disaster.

Equal rights to carbon usage, and to the GDP income that derives from it, is a principle that embodies in practical terms the right to the local enjoyment of shared and interdependent global ecosystems - in the worst case the right to personal survival. We know of no other guiding principle which would command the unprecedented level of agreement now required within the international community. This agreement will be essential if a common language is to be developed which can be used to describe the problem of global climate change in terms of it's socio-economic causes as well as its environmental symptoms, and address solutions on an urgent timescale. If an approach based on this principle is not adopted, the likely scenarios for the future range from environmental blackmail and counter-blackmail, to massive and cruel economic sanctions, through to the use of naked force. None of which preclude the possibility, or even the probability, of large-scale ecological dysfunction globally.

EQUITY IS THE SOLUTION

We believe that any proposed solutions to the problems [which both cause and proceed from global climate change] which are not equitable will not work. In a very real and fundamental way, *equity is the solution* - ie, properly valuing each other and the planet. A failure to understand and apply this is a failure to appreciate the double-jeopardy in which humanity is now situated. We face the actuality of scarce resources (sink capacity etc) and the increasing potential for conflict with each other over these scarce resources. We do not imagine the solutions that emerge will be based exclusively on the principle of rights to equal carbon usage. However, the analytical tools that we are developing and making available are based on the principle of equal rights to carbon usage, and the results our that our work reveal can be used as a network of reference points. Anyone who wishes to diverge from or ignore the principle can then describe what they propose, and this can be judged against our results. It would then be for the international community, through a reformed and better advised negotiating process, to decide whether or not the degree of divergence proposed was socially and ecologically viable.

APPLYING EQUITY

The social, financial and ecological inter-relationships of equity should guide the route to global ecological recovery. Policy Instruments such as *"Tradable Emissions Quotas", "Carbon Taxes"* and *"Joint Implementation"* may well serve to make matters worse unless they are properly referenced to targets and time-tables for equitable emissions reductions overall. This means devising and implementing a programme for convergence at equitable and sustainable par values for consumption on a per capita basis globally. This means that rights to income are accompanied by responsibilities for the impacts associated with the generation of that income, which effectively rewards efficiency. It has always seemed of fundamental relevance to us that while the problems consequent on global climate changes will most probably affect everyone, the cause of global climate change has been the activities of a few. This is the political issue, central to global ecological recovery. The structural and restructuring implications of this are considerable, but the detail of this is beyond the scope of this paper. This paper *simply* presents a factual retrospective assessment of the relevant data ascertaining who - in the context of *"equal per capita rights"* - the *"debitors"* and *"creditors"* were, and the size and trends of their respective credits and debits..

DATA USED IN THIS ASSESSMENT

The data which we take as a starting point for the calculations presented here are all publicly available.
For 189 countries and for the period 1950 - 1990 we used: -

a) National Population Figures: are taken from UN statistics,
b) GDP in US Dollars (USD): at constant 1985 prices are extrapolated from the Penn World Tables 5.5 (with guidance from the PWT5 authors). Because there was a lot of conversion involved occasionally involving huge exchange rate fluctuations, for the quota calculations only, each country's USD curve was exponentially smoothed across the period. Because data was lacking for a few smaller countries for the first decade, these gaps were filled in with exponential regression. Also, because data for a few smaller countries was lacking altogether, another source of data (CHELEM - 1980 constant USD) was used rebased to 1985 constant dollars.
c) GDP in Purchasing Power Parity Dollars (PPP): at constant 1985 prices are taken from the Penn World Tables 5.5. Because data was lacking for a few smaller countries for the first decade, these gaps were also filled in with exponential regression. And, because data for a few smaller countries was also lacking altogether, another source of data (CHELEM - 1980 constant PPP) was used appropriately rebased to 1985 constant dollars.
d) Industrial CO2 emissions: in tonnes of carbon are from Carbon Dioxide Information Analysis Centre (CDIAC). These data cover emissions from oil, coal and gas combustion and also from the manufacture of cement.

CALCULATIONS MADE IN THIS ASSESSMENT

The schematic diagram overleaf represents the basis of GCI conceptual thinking for the three assessments. Then, with the above data for input, we made a series of fundamentally simple calculations, for every nation and for every year from 1950 to 1990. We emphasise that these calculations are based on freely available and uncontentious data and are simple to make. If they appear complex, it is purely because of the volume of data being handled and the use of data-management computer software to group the results in various ways and to produce a variety of graphical "debitor/creditor" representations of consumption trends. The actual countries listed as creditors and debitors are listed out separately as well. In this paper we present three assessment regimes.[1] The increasingly unequal consumption patterns between debitors and creditors are revealed as stark. In that this looks at the existing data for the past against the stated criteria for equitable and sustainable consumption, we regard this as a factual presentation of what actually happened over the last forty years. Some implications are drawn from this in the commentary on the quota regimes which follow and in the conclusions at the end of the paper.

[1] GCI's data-management and modelling software is also available on application.

GCI'S CONCEPTUAL MODEL - THE BASIS OF EQUITABLE ASSESSMENT

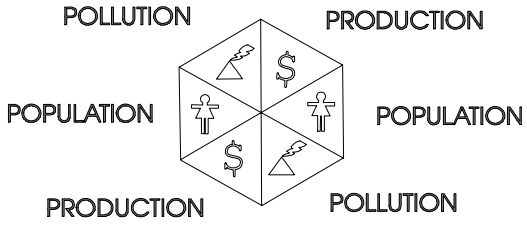
In GCI's basic model of the political economy of the global commons, there are 3 primary features: -

People

Production = Income

Pollution = Impact

These intersect with each other and the biosphere and correspond with social, financial and ecological equity, as follows: -



giving rise to three basic variable scales of relationship, as follows: -

low - per capita income - high

low - per capita impact - high

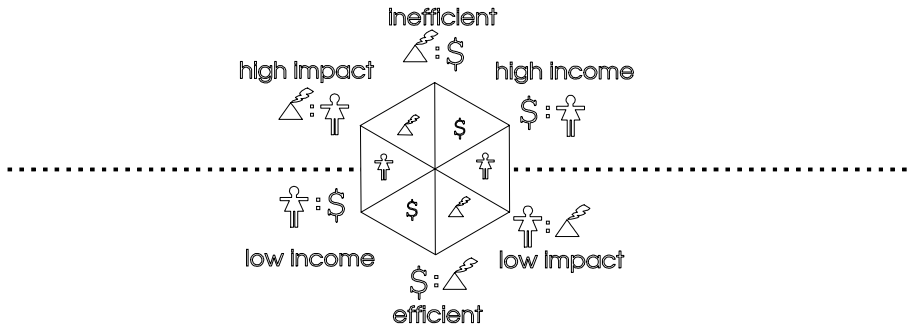
efficient - inefficient

As we demonstrate in the detailed analysis which comprises the rest of this paper, this matrix reveals a pattern of inversality between: -

- high-income/high impact/inefficient individuals *("debitors")*
- low-income/low-impact/efficient individuals *("creditors")*

over-consuming and living unsustainably

"DEBITORS"



"CREDITORS"

under-consuming but living sustainably

REGIME 1 - CARBON USAGE (IMPACT) ASSESSMENT

How its Done and Why

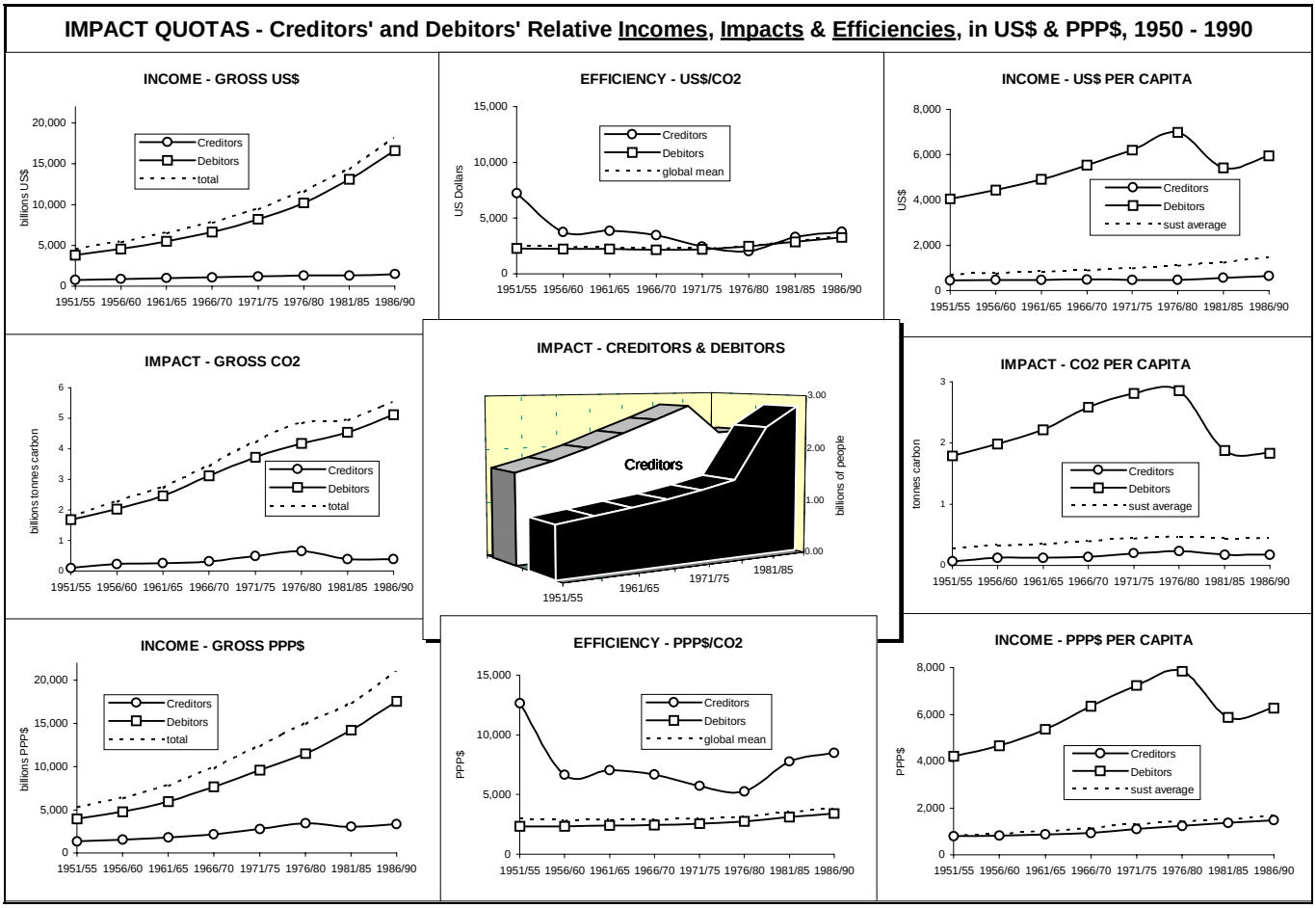
This calculation allocates *"globally allowable carbon usage"* (ie 40% of each year's actual global usage) to each nation on the basis of their populations, and compares this allocation with their actual usage to give a *"debit"* or *"credit"* figure.

- *"Debit"* means the amount by which a nation took more than its equitable share of the carbon usage which could be safely allowed to continue in any year globally.
- *"Credit"* means the amount by which a nation took less than its equitable share of the carbon usage which could be safely allowed to continue in any year globally.
- *"Debitors"* are the total number of people in the nations which took more than their equitable share of the carbon usage than could safely be allowed to continue in any year globally.
- *"Creditors"* are the total number of people in the nations which took less than their equitable share of the carbon usage than could safely be allowed to continue in any year globally.
- *"Efficiency"* means the ratio of GDP (in USD or PPP$) to carbon from CO2 from fossil fuel burning.

Across the period 1950 - 1990, we also then calculated and compared: -

- the total number of *"creditors"* and *"debitors"* in each year
- their respective gross and per capita Incomes in both USD and PPP$ and
- their respective gross and per capita Impacts and
- their respective Efficiency trajectories in both USD and PPP$

The curves for these are traced in the composite graphic below. The country's rankings are identified two pages forward.



Some of the Results

1. Until the early 1980s, there was a clear majority of *creditors* over *debitors* (see centre graphic page 3). However, when per capita emissions in China went above the *Sustainable Equitable Global Per Capita Impact Threshold* (SEGPCIMT) in 1982, the country switched from being an *"Impact Creditor"* to being an *"Impact Debitor"*. This explains why the relative numbers of *debitors* and *creditors* changed in this quota regime.
2. The *gross* combined Impact (see middle graphic left hand column page 3) of *debitors* and *creditors* rose at over 2% per annum across the period split approximately 10:1 between *debitors* and *creditors* throughout.
3. The average *per capita* Impacts (see middle graphic right hand column page 3) of *debitors* and *creditors* rose across the period until 1982, split approximately 10:1 throughout. China crossing SEGPCIMT caused both averages to fall thereafter. The average *per capita* Impact of the creditors was never more than half SEGPCIMT.
4. The *gross* combined USD Income (see graphic top left hand corner page 3) values of the *debitors* and the *creditors* rose across the period and was split at more than 10:1 throughout.
5. The average *per capita* USD Income (see graphic top right hand corner page 3) of *creditors* rose across the period until the early 1980's. The average *per capita* USD Income of *creditors* remained constant across the period overall and was never more than half the value of *"sustainably derived income"* (SDI - explained in regime 2). The split between *creditors* and *debitors* was on average 10:1 throughout.
6. The average USD Efficiency of *creditors* and *debitors*, initially favouring *creditors*, converged over the period, with the global average rising slightly towards the end of the period. (See centre graphic top row page 3).
7. The *gross* combined PPP Income values of the *debitors* and the *creditors* rose on average across the period and was split at less than 10:1 throughout. (See graphic bottom left hand corner page 3).
8. The average *per capita* PPP Income (see graphic bottom right hand corner page 3) of *debitors* rose across the period until the early 1980's. The influence of China crossing SEGPCIMT caused the average to fall thereafter. The average *per capita* PPP Income of *creditors* rose across the period overall at the value of *"sustainably derived income"* (SDI). The differential split between *creditors* and *debitors* was roughly 10:1 until the early eighties at which time the *debitor* average fell causing temporary convergence.
9. The average PPP Efficiency (see centre graphic bottom row page 3) of *creditors* and *debitors*, was always higher with the *creditors*, but converged over the period until the early 1980s. The global average rose slightly throughout the period with *debitors* always below this average.

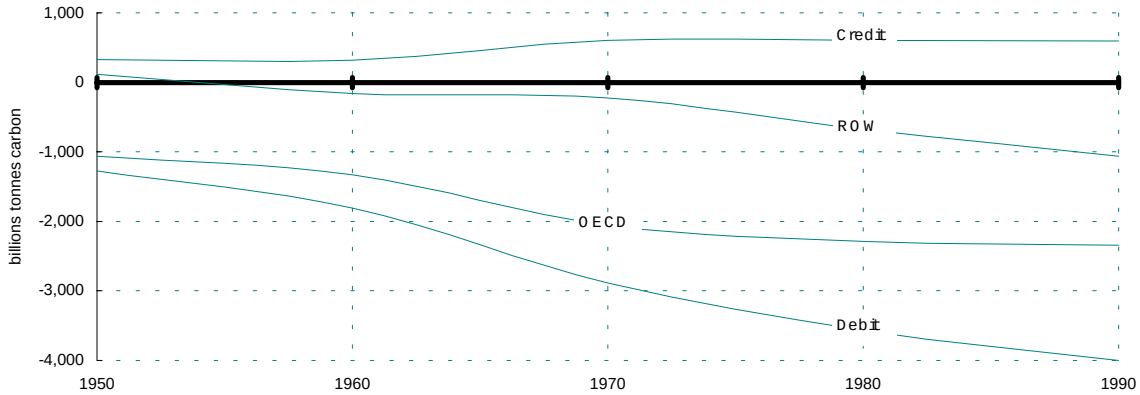
The combined picture shows that the *debitors'* high *per capita* Income goes with high *per capita* Impact at low Efficiency values and that the *creditors'* low *per capita* Income goes with low *per capita* Impact at high Efficiency values. This is the basis of GCI's contention that - in the context of *"understanding and responding to the unequal use of the global commons"* - debitors live unsustainably and creditors live sustainably. Debitors do this by over-consuming global climate resources, both at the expense of and subsidised by, the creditors who do the opposite. In GCI's view the "credit" in any of these quota regimes represents a subsidy from the *"creditors"* to the *"debitors"*.

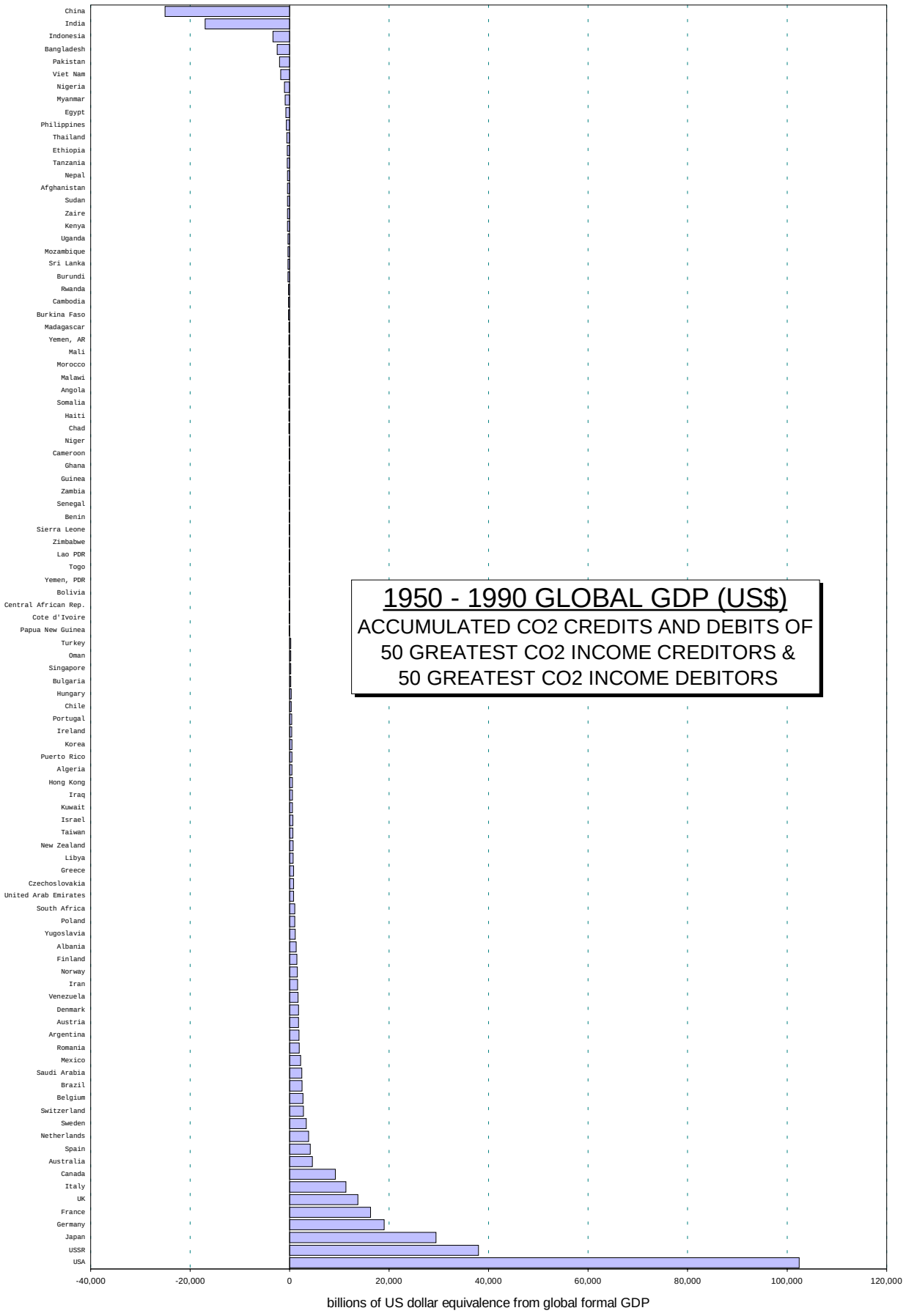
Across the period 1950 - 1990 we also calculated and compared the curves traced in the graphic below: -

- the global total credit/debit curves for CO2-Impact and
- the credit/debit curves of the OECD countries and the Rest Of World (ROW).

Had creditors accessed their full equitable share across the period, the debit curve would have been deeper by the amount registered as credit. It is this credit amount which represents the subsidy from the creditors to the debitors.

OECD & Rest Of World (ROW) COMPARED TO TOTAL CO2 IMPACT CREDIT/DEBIT




1950 - 1990 GLOBAL GDP (US$)
ACCUMULATED CO2 CREDITS AND DEBITS OF
50 GREATEST CO2 INCOME CREDITORS &
50 GREATEST CO2 INCOME DEBITORS
China
India
Indonesia
Bangladesh
Pakistan
Viet Nam
Nigeria
Myanmar
Egypt
Philippines
Thailand
Ethiopia
Tanzania
Nepal
Afghanistan
Sudan
Zaire
Kenya
Uganda
Mozambique
Sri Lanka
Burundi
Rwanda
Cambodia
Burkina Faso
Madagascar
Yemen, AR
Mali
Morocco
Malawi
Angola
Somalia
Haiti
Chad
Niger
Cameroon
Ghana
Guinea
Zambia
Senegal
Benin
Sierra Leone
Zimbabwe
Lao PDR
Togo
Yemen, PDR
Bolivia
Central African Rep.
Cote d'Ivoire
Papua New Guinea
Turkey
Oman
Singapore
Bulgaria
Hungary
Chile
Portugal
Ireland
Korea
Puerto Rico
Algeria
Hong Kong
Iraq
Kuwait
Israel
Taiwan
New Zealand
Libya
Greece
Czechoslovakia
United Arab Emirates
South Africa
Poland
Yugoslavia
Albania
Finland
Norway
Iran
Venezuela
Denmark
Austria
Argentina
Romania
Mexico
Saudi Arabia
Brazil
Belgium
Switzerland
Sweden
Netherlands
Spain
Australia
Canada
Italy
UK
France
Germany
Japan
USSR
USA
-40,000
-20,000
0
20,000
40,000
60,000
80,000
100,000
120,000
billions of US dollar equivalence from global formal GDP

REGIME 2 - US$ INCOME ASSESSMENT (BASED ON GLOBAL EFFICIENCY).

How its Done and Why

This calculation converts each nation's allowable carbon usage into a *"sustainably derived income"* (SDI), on the basis of the global annual average figure for the efficiency of carbon usage (ie units of GDP produced on average per unit of CO2 emitted). This allocation is then compared with each nation's actual income (GDP) to give a *"debit"* or *"credit"* figure.

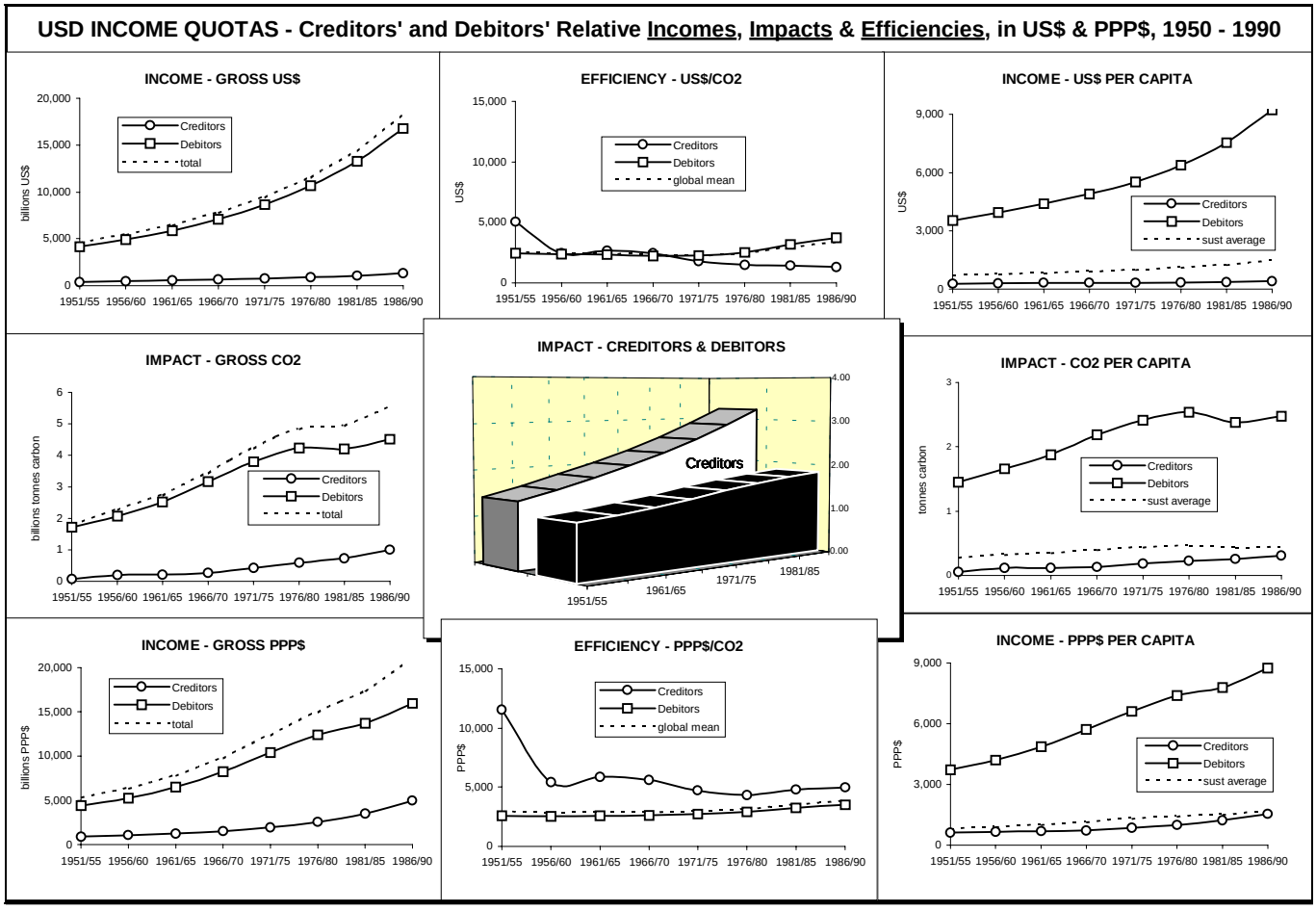
- *Debit* in this case means in any year the amount by which a nation exceeded its equitable share of SDI globally.
- *Credit* in this case means in any year the amount by which a nation fell short of its equitable share of SDI globally.
- *"Debitor"* means in any year the total number of people in the nations which took more than their equitable share of SDI globally.
- *"Creditor"* means in any year the total number of people in the nations which took less than their equitable share of SDI globally.

Because this calculation is based on the global average efficiency of carbon usage, nations capable of burning carbon at an average efficiency greater than the global average *"lose out"* on sustainably derived income under this system. This point is addressed in the PPP$ efficiency regime which follows.

Across the period 1950 1990, we also then calculated and compared: -

- the total number of *"creditors"* and *"debitors"* in each year
- their respective gross and per capita Impacts
- their respective gross and per capita Incomes in both USD and PPP and
- their respective Efficiency trajectories in both USD and PPP

The curves for these are traced in the composite graphic below. The country's rankings are identified two pages forward.



Some of the Results

1. There was an increasing majority of USD Income *creditors* over *debitors*. reaching 2:1 by 1990.
2. The *gross* combined CO2 Impact (USD) (see middle graphic in left hand column on page 5) of *debitors* and *creditors* rose at over 2% per annum split approximately 10:1 overall.
3. The average *per capita* Impacts (see middle graphic in right hand column page 5) of *debitors* and *creditors* rose throughout the period split on average 10:1 throughout. The average *per capita* Impact of the *creditors* was decreasingly less than SEGPCIMT.
4. The *gross* combined USD Income (see graphic in top left hand corner page 5) of the *debitors* and the *creditors* rose across the period split at increasingly more than 10:1 throughout.
5. The average *per capita* USD Income (see graphic top right hand corner page 5) of *debitors* rose across the entire period. The average *per capita* USD Income of *creditors* remained constant overall at increasingly less than half the value of *"sustainably derived income"* (SDI). The maldistribution between *creditors'* and *debitors'* Income seriously increased throughout.
6. The average USD Efficiency (see top graphic in middle column page 5) of *creditors* and *debitors*, initially favouring *creditors*, reversed over the period, with *debitors* following the slightly rising global average towards the end of the period and *creditors* declining below the global average.
7. The *gross* combined PPP Income (see graphic in bottom left hand corner page 5) values of the *debitors* and the *creditors* rose on average and the less than 10:1 initial split continued throughout.
8. The average *per capita* PPP Income (see graphic bottom right hand corner page 5) of *debitors* rose while the average *per capita* PPP Income of *creditors* rose only to the threshold value of SDI. The split between *creditors'* and *debitors'* Income was less than 10:1.
9. The average PPP Efficiency (see bottom graphic in middle column page 5) of *creditors* was always higher than the *debitors*. The global average rose slightly throughout the period with *debitors* always just below this average.

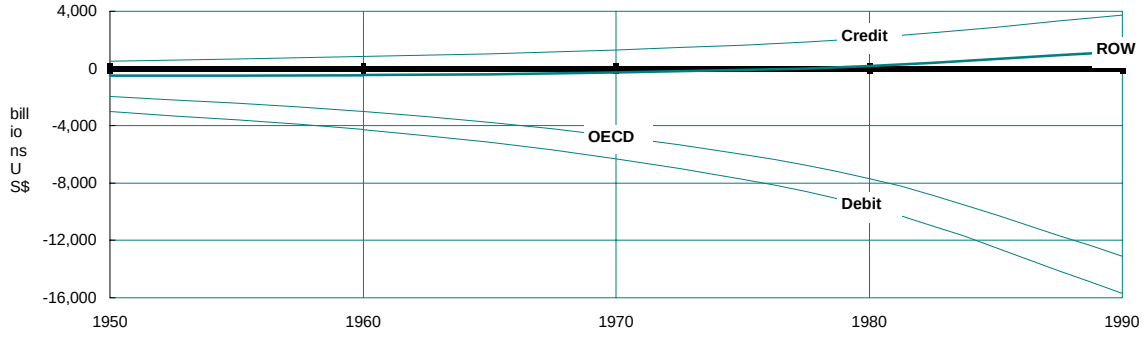
The combined picture - at least in PPP$ - shows that the debitors' high *per capita* Income goes with high *per capita* Impact at low Efficiency values and that the creditors' low *per capita* Income goes with low *per capita* Impact at high Efficiency values. The most striking point about this regime is that by the end of the period, two thirds of global population are creditors sharing 6% of global USD GDP, whilst the other one third are debitors sharing 94% of global USD GDP. It is in this context that *"CO2 emissions trading"* and *"Joint Implementation"* have been proposed in the name of *"cost-effectiveness"*. However, while the US dollar remains the dominant currency in the enforced "global" market, the adverse systemic influence of this increasing maldistribution of global purchasing power and globally unequal consumption patterns would appear to invite conflict rather than the co-operation required by the suggested trading arrangements. Moreover, it cannot plausibly be argued in the context of ecological economics that such trade will be "cost-effective". In cash terms, the magnitude of the exiting debit outweighs the available credit by a factor of 4:1. A failure to re-establish ecological credit proportional to this overhang, simply commits the global system to a process of adapting to increasing risks and rising costs. As such, "cost-effective" (as used by the economists) in reality means *not* "benefit-effective"; - ie, it is *not* delivering "global benefit", it is delivering increased global cost or disbenefit (violating the requirements of the climate convention).

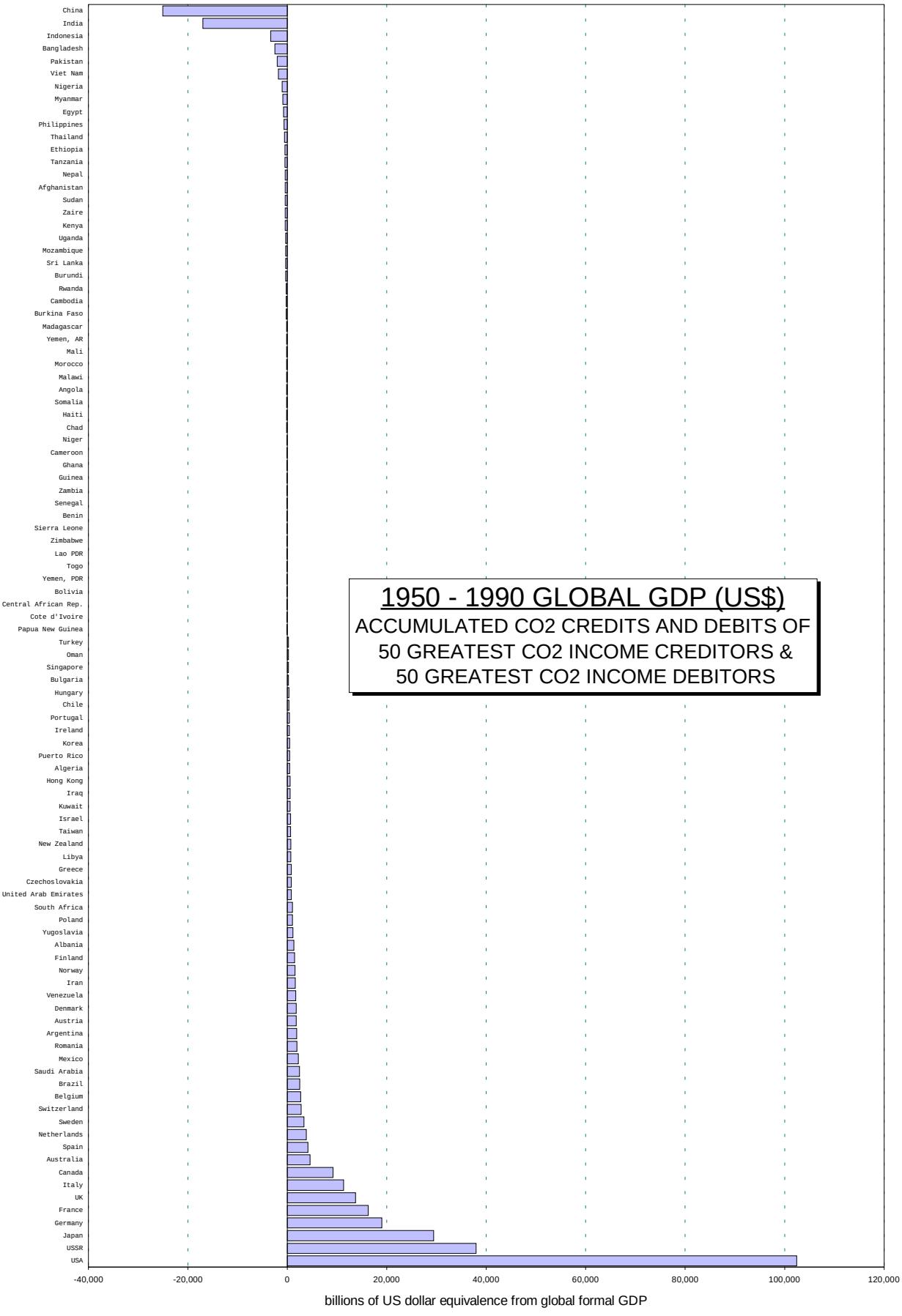
Across the period 1950 - 1990 we also calculated and compared the curves traced in the graphic below: -

- the global total credit/debit curves for USD Income and
- the credit/debit curves of the OECD countries and the Rest Of World (ROW).

OECD countries, with 19% of global population, were responsible for 99% of the accumulated USD Income debit.

OECD & Rest Of World (ROW) COMPARED WITH TOTAL US$ INCOME CREDIT/DEBIT




China
India
Indonesia
Bangladesh
Pakistan
Viet Nam
Nigeria
Myanmar
Egypt
Philippines
Thailand
Ethiopia
Tanzania
Nepal
Afghanistan
Sudan
Zaire
Kenya
Uganda
Mozambique
Sri Lanka
Burundi
Rwanda
Cambodia
Burkina Faso
Madagascar
Yemen, AR
Mali
Morocco
Malawi
Angola
Somalia
Haiti
Chad
Niger
Cameroon
Ghana
Guinea
Zambia
Senegal
Benin
Sierra Leone
Zimbabwe
Lao PDR
Togo
Yemen, PDR
Bolivia
Central African Rep.
Cote d'Ivoire
Papua New Guinea
Turkey
Oman
Singapore
Bulgaria
Hungary
Chile
Portugal
Ireland
Korea
Puerto Rico
Algeria
Hong Kong
Iraq
Kuwait
Israel
Taiwan
New Zealand
Libya
Greece
Czechoslovakia
United Arab Emirates
South Africa
Poland
Yugoslavia
Albania
Finland
Norway
Iran
Venezuela
Denmark
Austria
Argentina
Romania
Mexico
Saudi Arabia
Brazil
Belgium
Switzerland
Sweden
Netherlands
Spain
Australia
Canada
Italy
UK
France
Germany
Japan
USSR
USA
1950 - 1990 GLOBAL GDP (US$)
ACCUMULATED CO2 CREDITS AND DEBITS OF
50 GREATEST CO2 INCOME CREDITORS &
50 GREATEST CO2 INCOME DEBITORS
-40,000
-20,000
0
20,000
40,000
60,000
80,000
100,000
120,000
billions of US dollar equivalence from global formal GDP

REGIME 3 - PPP$ INCOME ASSESSMENT (BASED ON NATIONAL EFFICIENCY).

How its Done and Why

This calculation shows income (GDP) data expressed in *"Purchasing Power Parity"* (PPP) dollars. PPP$ delink national currencies from their US$ exchange rates, and value them instead for domestic purchasing power. This is more realistic basis for comparing economies internationally. [It is accepted as such by the IMF and other such institutions].

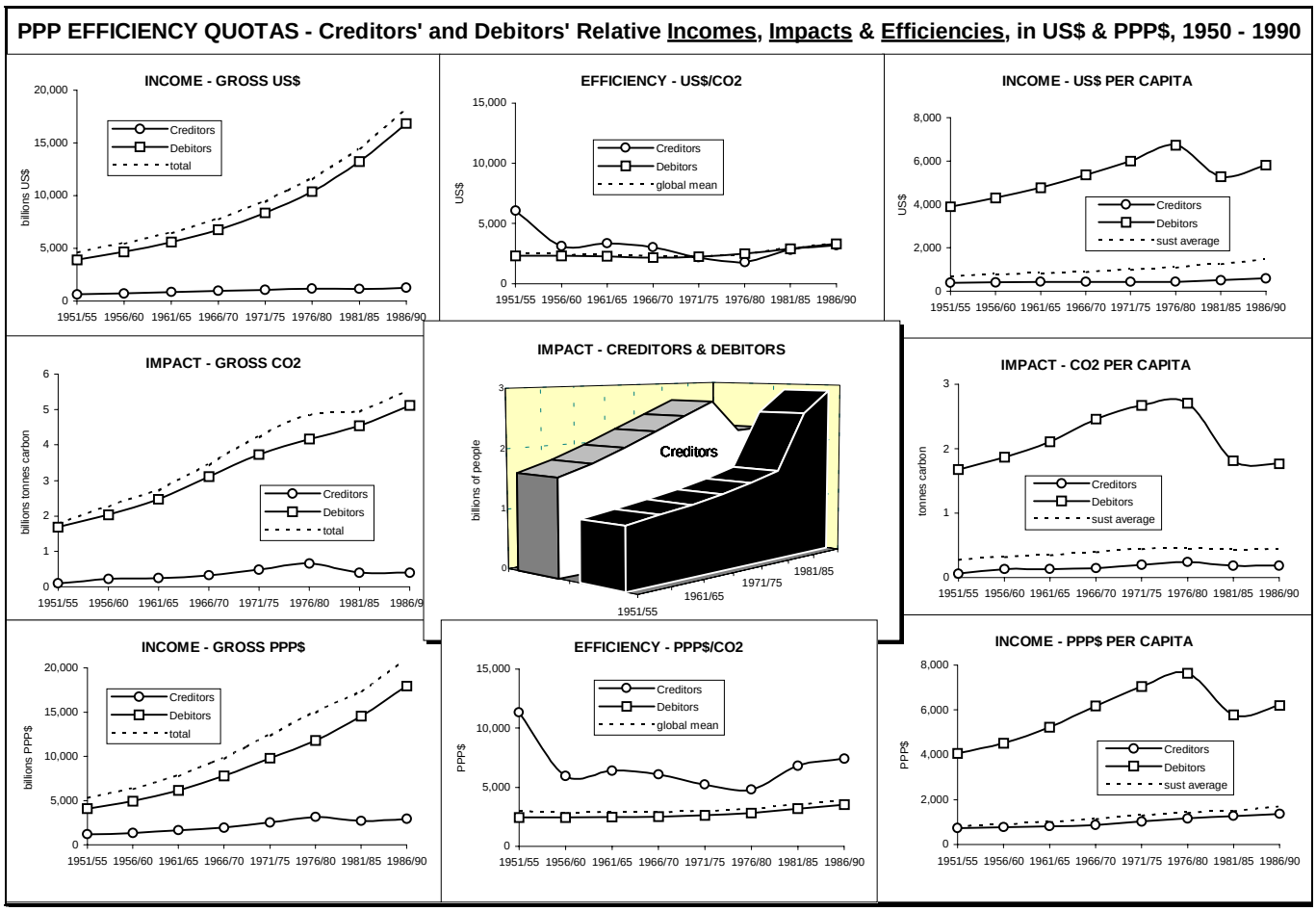
This calculation converts each nation's allowable carbon usage into a sustainably derived income (SDI), on the basis of the *national* (not global) figure for the efficiency of carbon usage (ie units of GDP produced on average per unit of CO2 emitted). This allocation is then compared with each nation's actual income (GDP) to give a *"debit"* or *"credit"* figure.

Because this calculation is based on the *national* efficiency averages of carbon usage, nations currently burning carbon at an average efficiency greater or less than the global average are respectively rewarded or penalised. The league table of countries is different from the league table arising out of the earlier impact and US$:CO2 income allocation regime (compare columns 1, 2 and 3 on pages 9 and 10).

Across the period 1950-1990, we also then calculated and compared: -

- the total number of *"creditors"* and *"debitors"* in each year
- their respective gross and per capita Impacts
- their respective gross and per capita Incomes in both USD and PPP and
- their respective Efficiency trajectories in both USD and PPP

The curves for these are traced in the composite graphic below. The country's rankings are identified two pages forward.



Some of the Results

1. As with the Impact, until the early 1980s, there was a 2:1 majority of *creditors* over *debitors* (see centre graphic page 7). However, with reference to the comparative country rankings pages 9 and 10, it will be seen that the order of countries in the league tables varies considerably between these three allocation regimes.
2. As before, the *gross* combined Impact (see middle graphic in left hand column page 7) of *debitors* and *creditors* rose at over 2% per annum across the period. The initial differential was approximately 10:1 and this split increased over the period.
3. The average *per capita* Impacts (see middle graphic in right hand column page 7) of *debitors* and *creditors* rose throughout the period until about 1980 and was split approximately 10:1 throughout. Thereafter both these averages fell. At the end of the period the average *per capita* Impact of the *creditors* was decreasingly less than half the value of SEGPCIMT.
4. The *gross* combined USD Income (see graphic in top left hand corner page 7) of the *debitors* and the *creditors* rose across the period and was split at increasingly more than 10:1 throughout.
5. The average *per capita* USD Income (see graphic in top right hand corner page 7) of *debitors* rose across the period until the early 1980's. The average *per capita* USD Income of *creditors* remained constant at less than half the value of SDI. The split between *creditors'* and *debitors'* Income widened overall.
6. The average USD Efficiency (see top graphic in middle column page 7) of *creditors* and *debitors*, initially favouring *creditors*, reversed over the period, with *debitors* following the slightly rising global average and *creditors* recovering slightly towards the end of the period.
7. The *gross* combined PPP Income (see graphic in bottom left hand corner page 7) of the *debitors* and the *creditors* rose on average for most of the period. But the initial split widened throughout.
8. The average *per capita* PPP Income (see graphic bottom right hand corner page 7) of *debitors* rose until the 1980s at which point it fell as the number of debitors increased. The average *per capita* PPP Income of *creditors* rose across the period at the SDI threshold value. The differential split between *creditors'* and *debitors'* Income diverged overall with temporary convergence towards the end.
9. The average PPP Efficiency (see bottom graphic in middle column page 7) of *creditors* and *debitors*, was always higher with the *creditors*, but converged and then diverged over the period. The global average rose slightly throughout the period with *debitors* always slightly below this average.

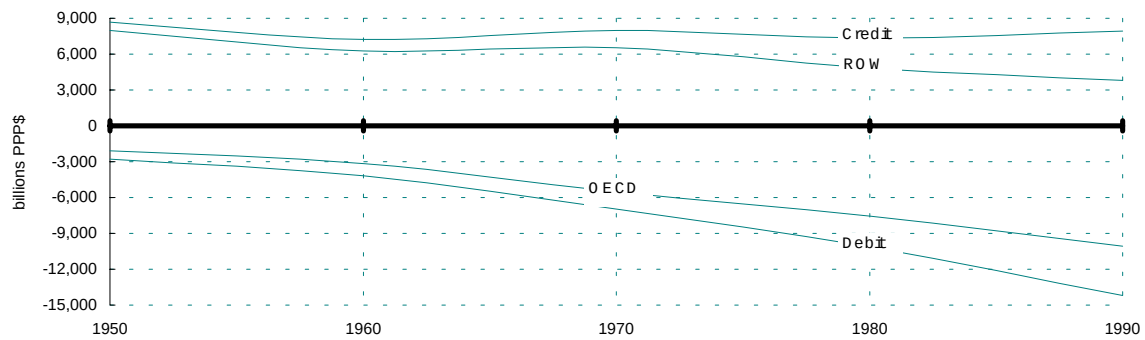
The combined picture shows that the *debitors'* high *per capita* Income goes with high *per capita* Impact at low Efficiency values and that the *creditors'* low *per capita* Income goes with low *per capita* Impact at high Efficiency values. The point about this quota regime is that using the domestic purchasing power (PPP$) of the countries is a more realistic way of measuring their relative wealth and their provision of global benefit or disbenefit. Using PPP$ from the outset of the calculations is a more realistic way of measuring their relative socio-ecological efficiencies (PPP$:CO2) and it is these efficiencies which should be rewarded.

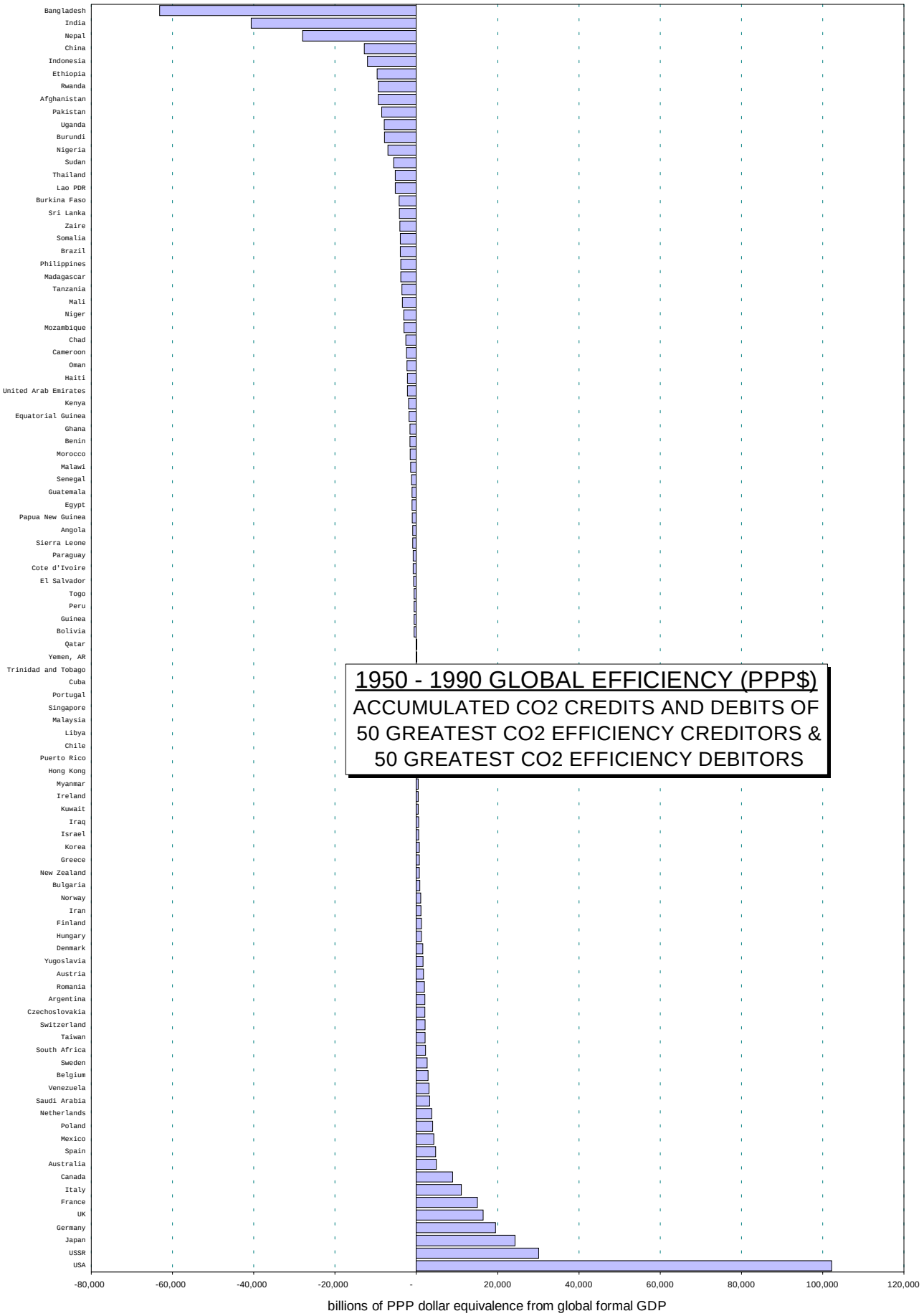
Across the period 1950 - 1990 we also calculated and compared the curves in the graphic below.: -

- the global total credit/debit curves for PPP$ Efficiency and
- the credit/debit curves of the OECD countries and the Rest Of World (ROW).

OECD countries, representing 19% of global population, were responsible for 1635% % of accumulated USD Income debit. The ROW provided an accumulated 1735% of accumulated credit.

OECD & Rest Of World (ROW) COMPARED TO TOTAL PPP$ EFFICIENCY CREDIT/DEBIT




1950 - 1990 GLOBAL EFFICIENCY (PPP$)
ACCUMULATED CO2 CREDITS AND DEBITS OF
50 GREATEST CO2 EFFICIENCY CREDITORS &
50 GREATEST CO2 EFFICIENCY DEBITORS
Bangladesh
India
Nepal
China
Indonesia
Ethiopia
Rwanda
Afghanistan
Pakistan
Uganda
Burundi
Nigeria
Sudan
Thailand
Lao PDR
Burkina Faso
Sri Lanka
Zaire
Somalia
Brazil
Philippines
Madagascar
Tanzania
Mali
Niger
Mozambique
Chad
Cameroon
Oman
Haiti
United Arab Emirates
Kenya
Equatorial Guinea
Ghana
Benin
Morocco
Malawi
Senegal
Guatemala
Egypt
Papua New Guinea
Angola
Sierra Leone
Paraguay
Cote d'Ivoire
El Salvador
Togo
Peru
Guinea
Bolivia
Qatar
Yemen, AR
Trinidad and Tobago
Cuba
Portugal
Singapore
Malaysia
Libya
Chile
Puerto Rico
Hong Kong
Myanmar
Ireland
Kuwait
Iraq
Israel
Korea
Greece
New Zealand
Bulgaria
Norway
Iran
Finland
Hungary
Denmark
Yugoslavia
Austria
Romania
Argentina
Czechoslovakia
Switzerland
Taiwan
South Africa
Sweden
Belgium
Venezuela
Saudi Arabia
Netherlands
Poland
Mexico
Spain
Australia
Canada
Italy
France
UK
Germany
Japan
USSR
USA
-80,000
-60,000
-40,000
-20,000
-
20,000
40,000
60,000
80,000
100,000
120,000
billions of PPP dollar equivalence from global formal GDP

	IMPACT DEBIT/ORS & CREDIT/ORS		USD INCOME DEBIT/ORS & CREDIT/ORS		PPP EFFICIENCY DEBIT/ORS & CREDIT/ORS		
	CO2 - millions tonnes		Income - billions		Efficiency - billions		
1	USA	39,495	USA	102,440	USA	102,272	1
2	USSR	22,672	USSR	37,978	USSR	30,178	2
3	German	8,996	Japan	29,468	Japan	24,385	3
4	UK	5,700	German	19,002	German	19,51	4
5	Japan	5,056	France	16,296	UK	16,497	5
6	France	3,233	UK	13,75	France	15,02	6
7	Canada	3,078	Italy	11,26	Italy	11,10	7
8	Poland	2,879	Canada	9,179	Canada	8,941	8
9	Italy	1,866	Australia	4,543	Australia	4,921	9
10	Czechoslovakia	1,78	Spain	4,156	Spain	4,740	10
1	South Africa	1,459	Netherlands	3,806	Mexico	4,305	1
12	Australia	1,423	Sweden	3,357	Poland	4,028	12
13	Belgium	1,039	Switzerland	2,796	Netherlands	3,885	13
14	Romania	1,033	Belgium	2,703	Saudi Arabia	3,289	14
15	Netherlands	979	Brazil	2,504	Venezuela	3,114	15
16	Spain	787	Saudi Arabia	2,463	Belgium	2,874	16
17	Mexico	768	Mexico	2,176	Sweden	2,681	17
18	Bulgaria	592	Romania	1,974	South Africa	2,255	18
19	Sweden	558	Argentina	1,892	Taiwan	2,209	19
20	Hungary	531	Austria	1,81	Switzerland	2,194	20
21	Iran	462	Denmark	1,756	Czechoslovakia	2,130	21
22	Argentina	457	Venezuela	1,740	Argentina	2,072	22
23	Yugoslavia	450	Iran	1,642	Romania	2,029	23
24	Denmark	443	Norway	1,51	Austria	1,779	24
25	Austria	370	Finland	1,436	Yugoslavia	1,734	25
26	Korea	307	Albania	1,323	Denmark	1,593	26
27	Finland	296	Yugoslavia	1,11	Hungary	1,259	27
28	Switzerland	254	Poland	1,096	Finland	1,241	28
29	Norway	215	South Africa	1,045	Iran	1,234	29
30	Greece	200	United Arab Emirates	819	Norway	1,12	30
31	Kuwait	193	Czechoslovakia	794	Bulgaria	892	31
32	United Arab Emirates	190	Greece	786	New Zealand	798	32
33	Ireland	15	Libya	719	Greece	784	33
34	Singapore	143	New Zealand	697	Korea	758	34
35	Libya	135	Taiwan	688	Israel	550	35
36	New Zealand	129	Israel	635	Iraq	536	36
37	Israel	126	Kuwait	600	Kuwait	512	37
38	Luxembourg	11	Iraq	542	Ireland	504	38
39	Iraq	11	Hong Kong	538	Myanmar	470	39
40	Netherlands Antilles	11	Algeria	499	Hong Kong	414	40
41	Cuba	98	Puerto Rico	490	Puerto Rico	406	41
42	Puerto Rico	89	Korea	473	Chile	404	42
43	Trinidad and Tobago	86	Ireland	427	Libya	352	43
44	Qatar	77	Portugal	371	Malaysia	322	44
45	Chile	72	Chile	361	Singapore	320	45
46	Malaysia	60	Hungary	285	Portugal	303	46
47	US Virgin Islands	48	Bulgaria	277	Cuba	277	47
48	Portugal	47	Singapore	271	Trinidad and Tobago	237	48
49	Bahrain	44	Oman	268	Yemen, AR	209	49
50	Hong Kong	44	Turkey	240	Qatar	166	50
51	Algeria	36	Malaysia	207	Luxembourg	137	51
52	Brunei	31	Qatar	186	Bahrain	11	52
53	Oman	27	Uruguay	11	Lebanon	77	53
54	Bahama	26	Colombia	11	Brunei	61	54
55	Mongolia	21	Luxembourg	11	Iceland	57	55
56	Gabon	19	Bahrain	10	Cyprus	52	56
57	Jamaic	18	Trinidad and Tobago	100	Central African Rep.	52	57
58	Lebanon	15	Lebanon	90	Bahama	49	58
59	Albania	14	Iceland	84	Uruguay	48	59
60	Syria	14	Peru	83	Guadeloupe	46	60
61	New Caledonia	13	Cuba	80	Netherlands Antilles	41	61
62	Iceland	13	Gabon	64	Jamaic	36	62
63	Turkey	13	Brunei	61	New Caledonia	30	63
64	Cyprus	12	Syria	51	Gabon	30	64
65	Guam	10	Panam	48	Surinam	22	65
66	Surinam	9	Cyprus	46	US Virgin Islands	19	66
67	Uruguay	7	Bahama	46	Bermuda	16	67
68	Greenland	3	Martinique	41	Mongolia	16	68
69	Malta	3	Costa Rica	39	Malta	15	69
70	Bermuda	3	Netherlands Antilles	39	St	9	70
71	Martinique	2	Jamaic	38	Martinique	9	71
72	Antigua & Barbuda	2	Reunion	37	St Vincent & Gr.	7	72
73	Panam	2	New Caledonia	35	Barbados	6	73
74	Barbados	1	Guadeloupe	33	French	5	74
75	Western	1	Mongolia	29	Western	4	75
76	Guyana	1	Barbados	18	French	4	76
77	French	1	Bermuda	18	Antigua & Barbuda	3	77
78	Falkland Islands	1	Malta	17	Gibraltar	1	78
79	Nauru	1	Surinam	14	Seychelle	1	79
80	Cayman	1	Fiji	7	Guyana	0	80
81	Christmas Island	1	Mauritius	5	Panam	0	81
82	French	0	Western	5	Albania	-	82
83	Leeward Islands	0	Gibraltar	5	Br Virgin Islands	-	83
84	St Pierre and Miquelon	0	Western	4	Cambodia	-	84
85	Br Virgin Islands	0	Tunisia	3	Cayman	-	85
86	Western	0	Dominica	2	Christmas Island	-	86
87	Gibraltar	0	Antigua & Barbuda	2	Cook Islands	-	87
88	Korea, DPR	-	Seychelle	1	Falkland Islands	-	88
89	St	-	Belize	1	Faroe Islands	-	89
90	Montserrat	0	St Lucia	1	Greenland	-	90
91	Niue	0.1	Christmas Island	0	Guam	-	91
92	Seychelle	0.3	Korea, DPR	0	Korea, DPR	-	92
93	Kiribati	0.6	Leeward Islands	0	Leeward Islands	-	93
94	St Kitts Nevis Anguilla	0.6	St	0	Macau	-	94
95	Belize	0.6	St Vincent & Gr.	0	Montserrat	-	95

96	Faroe Islands	-	0.6	Niue	0	Nauru	-		96
97	Dominica	-	0.9	St Pierre and Miquelon	0	Niue	-		97
98	Sao Tome & Principe	-	1	Nauru	0	St Pierre and Miquelon	-		98
99	Grenada	-	1	Grenada	0	Viet Nam	-		99
100	St Lucia	-	1	Br Virgin Islands	0	Western Sahara	-		100
101	Tonga	-	1	Montserrat	0	Yemen, PDR	-		101
102	Vanuatu	-	1	St Kitts Nevis Anguilla	0	Sao Tome & Principe	-	2	102
103	St Vincent & Gr.	-	1	Kiribati	-1	St Kitts Nevis Anguilla	-	3	103
104	Maldives	-	2	Falkland Islands	-1	Kiribati	-	5	104
105	Solomon Islands	-	2	Cayman Islands	-1	Belize	-	7	105
106	Macau	-	2	Djibouti	-1	St Lucia	-	8	106
107	Djibouti	-	3	Vanuatu	-1	Maldives	-	8	107
108	Reunion	-	3	Faroe Islands	-2	Grenada	-	8	108
109	Cook Islands	-	3	Greenland	-2	Tonga	-	9	109
110	Cape Verde	-	4	Tonga	-2	Vanuatu	-	11	110
111	Jordan	-	4	Sao Tome & Principe	-2	Zimbabwe	-	16	111
112	Equatorial Guinea	-	4	Swaziland	-2	Dominica	-	22	112
113	Fiji	-	4	French Guiana	-2	Solomon Islands	-	25	113
114	Swaziland	-	4	Solomon Islands	-2	Djibouti	-	29	114
115	Zimbabwe	-	4	Nicaragua	-3	Botswana	-	40	115
116	Comoros	-	5	US Virgin Islands	-4	Reunion	-	41	116
117	Guadeloupe	-	5	Guam	-4	Swaziland	-	44	117
118	Botswana	-	6	Maldives	-4	Cape Verde	-	54	118
119	Gambia	-	7	French Polynesia	-5	Fiji	-	57	119
120	Mauritius	-	8	Congo	-5	Comoros	-	74	120
121	Guinea Bissau	-	9	Cape Verde	-6	Colombia	-	76	121
122	Colombia	-	12	Guyana	-6	Jordan	-	76	122
123	Congo	-	12	Jordan	-6	Gambia	-	99	123
124	Costa Rica	-	12	Equatorial Guinea	-6	Guinea Bissau	-	119	124
125	Mauritania	-	15	Paraguay	-7	Algeria	-	130	125
126	Bhutan	-	16	Comoros	-8	Syria	-	139	126
127	Liberia	-	19	Cook Islands	-9	Costa Rica	-	174	127
128	Nicaragua	-	20	Dominican Republic	-10	Congo	-	179	128
129	Ecuador	-	25	Botswana	-10	Mauritius	-	183	129
130	Tunisia	-	25	Guatemala	-12	Turkey	-	185	130
131	Central African Rep.	-	28	Ecuador	-14	Tunisia	-	213	131
132	Yemen, PDR	-	28	Macau	-15	Zambia	-	227	132
133	Dominican Republic	-	30	Gambia	-15	Nicaragua	-	233	133
134	Togo	-	30	Guinea Bissau	-18	Liberia	-	239	134
135	Paraguay	-	31	Mauritania	-30	Dominican Republic	-	302	135
136	Honduras	-	33	El Salvador	-31	Bhutan	-	330	136
137	Papua New Guinea	-	35	Liberia	-35	Honduras	-	361	137
138	Zambia	-	38	Bhutan	-39	Ecuador	-	382	138
139	Sierra Leone	-	38	Honduras	-41	Mauritania	-	417	139
140	El Salvador	-	42	Papua New Guinea	-46	Bolivia	-	509	140
141	Benin	-	43	Cote d'Ivoire	-47	Guinea	-	514	141
142	Lao PDR	-	44	Central African Rep.	-50	Peru	-	515	142
143	Bolivia	-	46	Bolivia	-54	Togo	-	544	143
144	Senegal	-	58	Yemen, PDR	-55	El Salvador	-	652	144
145	Chad	-	59	Togo	-57	Cote d'Ivoire	-	732	145
146	Guinea	-	61	Lao PDR	-67	Paraguay	-	769	146
147	Peru	-	61	Zimbabwe	-76	Sierra Leone	-	858	147
148	Guatemala	-	63	Sierra Leone	-78	Angola	-	880	148
149	Haiti	-	64	Benin	-81	Papua New Guinea	-	988	149
150	Niger	-	65	Senegal	-81	Egypt	-	1,025	150
151	Cote d'Ivoire	-	68	Zambia	-86	Guatemala	-	1,076	151
152	Angola	-	69	Guinea	-101	Senegal	-	1,171	152
153	Somalia	-	71	Ghana	-103	Malawi	-	1,416	153
154	Malawi	-	72	Cameroon	-107	Morocco	-	1,460	154
155	Mali	-	86	Niger	-107	Benin	-	1,554	155
156	Cameroon	-	89	Chad	-126	Ghana	-	1,616	156
157	Burkina Faso	-	99	Haiti	-128	Equatorial Guinea	-	1,822	157
158	Cambodia	-	99	Somalia	-148	Kenya	-	1,870	158
159	Yemen, AR	-	102	Angola	-149	United Arab Emirates	-	2,166	159
160	Madagascar	-	109	Malawi	-167	Haiti	-	2,202	160
161	Rwanda	-	113	Morocco	-172	Oman	-	2,288	161
162	Burundi	-	120	Mali	-189	Cameroon	-	2,396	162
163	Ghana	-	122	Yemen, AR	-189	Chad	-	2,580	163
164	Mozambique	-	126	Madagascar	-196	Mozambique	-	3,002	164
165	Saudi Arabia	-	129	Burkina Faso	-207	Niger	-	3,109	165
166	Morocco	-	152	Cambodia	-258	Mali	-	3,392	166
167	Sri Lanka	-	166	Rwanda	-269	Tanzania	-	3,459	167
168	Kenya	-	169	Burundi	-288	Madagascar	-	3,810	168
169	Uganda	-	176	Sri Lanka	-296	Philippines	-	3,823	169
170	Venezuela	-	182	Mozambique	-300	Brazil	-	3,902	170
171	Nepal	-	192	Uganda	-362	Somalia	-	3,940	171
172	Egypt	-	197	Kenya	-371	Zaire	-	4,044	172
173	Afghanistan	-	204	Zaire	-391	Sri Lanka	-	4,123	173
174	Taiwan	-	214	Sudan	-394	Burkina Faso	-	4,213	174
175	Sudan	-	221	Afghanistan	-424	Lao PDR	-	5,100	175
176	Tanzania	-	222	Nepal	-425	Thailand	-	5,146	176
177	Ethiopia	-	251	Tanzania	-489	Sudan	-	5,554	177
178	Zaire	-	301	Ethiopia	-512	Nigeria	-	6,967	178
179	Thailand	-	331	Thailand	-593	Burundi	-	7,827	179
180	Philippines	-	377	Philippines	-642	Uganda	-	7,845	180
181	Brazil	-	384	Egypt	-716	Pakistan	-	8,508	181
182	Myanmar	-	457	Myanmar	-922	Afghanistan	-	9,321	182
183	Viet Nam	-	530	Nigeria	-1,048	Rwanda	-	9,348	183
184	Nigeria	-	639	Viet Nam	-1,829	Ethiopia	-	9,579	184
185	Pakistan	-	826	Pakistan	-2,036	Indonesia	-	12,016	185
186	Bangladesh	-	1,117	Bangladesh	-2,513	China	-	12,782	186
187	Indonesia	-	1,352	Indonesia	-3,337	Nepal	-	27,958	187
188	China	-	2,331	India	-17,030	India	-	40,635	188
189	India	-	6,161	China	-25,044	Bangladesh	-	63,145	189

CONCLUSION - Spotted Owls and Fighting the Economics of Genocide

These allocation exercises show the scale of worsening maldistribution of resources globally since the war. The trend was increasingly inequitable and unsustainable. OECD countries - although they do not yet admit to it officially - are now on the defensive about this state of affairs. Their principal tactic has been to blame developing countries for future impacts, rather than accept responsibility for the past and present impacts of the industrial countries. No-one is advocating hair-shirt politics. However, it is unrealistic for the industrial countries to promote the future as an extension of the present unless this includes a willingness to become accountable over the massive structural advantage which they have developed globally whilst running up this global environmental debt on everyone's account.

Overall, this is not a complicated debate. The resources in question are global common property and vital to survival. The well-being of all people now and into the future depend on the integrity of these resources being maintained. There is a simple choice to be made; - either we *accept* that everyone has an equal right to be here and to share the benefits of these resources or we *reject* that everyone has equal rights in this. This is choosing for equity and survival or for increasing inequity and loss of sustainability. It is that simple.

As a matter of principle and of prudence, GCI accepts and affirms that everyone has an equal right to be here. We base our modelling and analysis on that acceptance, and present our analysis as an affirmation of that right. We note that rights to income should be accompanied by responsibilities for its impacts, which effectively rewards efficiencies. Contrarily, the Global Cost/Benefit Analysts (now in the IPCC Working Group Three (WG3)) do no affirm the equal right to be here. They appear not even to accept it either. Certainly - at least by default - they are rejecting this right, as the analysis presented by them so far, suggests that rights increase proportional to income. Advised by these very people, the World Bank has openly promoted the idea that the right to emit carbon dioxide should be proportional to income for example.[2] The policy measures for the mitigation of emissions proposed by many of these economists preparing material for WG3[3] are based on this formula of *"rights-by-income"*. Mitigating emissions is presented by these analysts as a *cost*, and the "damages-avoided" by mitigating emissions are presented by them as the *benefit*.

As intended, all this sounds professional and innocent. But it is conceptually skewed, factually inaccurate and politically devious. In reality it is a velvet glove for the iron fisted insistence on business-as-usual. At worst it is the economics of genocide. Faced with this fist, we should recognise how its grip is exerted; - the exercise fundamentally depends on the analysts converting all the costs and all the benefits associated with climate changes to *cash values*. One immediate example of this is the need to give cash values to the human lives which are going to be lost (a "damage cost"). In their analysis, if the overall damage costs are calculated as high (and higher than the cost of mitigating emissions), this makes the costs of mitigation bearable, and wins the case for mitigating the emissions. If, on the other hand, the damage costs are low (and below the costs of mitigating emissions), the case has been made for business-as-usual, and the damage costs (including the loss of life) become bearable. Clearly the damage cost (cash valuation) that is put on a human life in this context is crucial.

The key question which now also arises is this: - are all human lives *equally* valuable or not? Moreover, should economists employed by the nations responsible for causing the problems of climate change, have the job of valuing the lives which are going to be lost? And even more to the point, should they value the lives of the people who are not responsible for creating the climate changes, as less valuable than the lives of those responsible? Surely we all have a fundamentally equal right to be here: surely each person is equally valuable in this fundamental way? So far the global cost/benefit analysts say no, this is not the case.

[2] World Development Report 1992, page 165

[3] measures such as carbon taxes, tradable-emissions-permits and joint-implementation

Take for example the (UK-government-funded) *Centre for the Social and Economic Research of the Global Environment* (C-SERGE) based in the UK. David Pearce is one of its directors and he is also the IPCC's convening lead author on "Social Costs". C-SERGE has already published a valuation of the lives to be lost. In a recent research paper it stated that the cash value of a "statistical life" in the EC or the USA is $1,500,000 per head, but in "poor" countries such as China, it is only $150,000.[4] [The disparate figures are derived from peoples' ability-to-pay for damage insurance]. In global cost/benefit analysis, this means therefore these economists discard a real Chinese life ten times more easily than a real life in the EC or the USA. This an example of how you keep the damage costs below the emissions mitigation costs. You just quietly devalue the lives of the people who aren't in the EC and the USA and hope nobody questions "business-as-usual" with genocide written into the bottom-line. This approach is now formally embedded in the text of IPCC's Second Assessment Report (SAR) in the section prepared by the Western economists dominant in Working Group Three (WG3) on "Economic and other Cross-Cutting Issues". This approach is one of the great scandals of our times. It has now been dubbed "the Economics of Genocide" in some of the world's major media and an international protest campaign over this has been growing since it was launched by GCI in June 1994. (See overleaf)

The Godfather of these economists, William Nordhaus, has stated that *"the economic perspective in global cost/benefit analysis attempts to condense the complex set of impacts over, space, time and sectors by summarising them in a scalar measure of value . . . the fact that the scalar is in monetary units is not really crucial: it could be in spotted-owl equivalents."* [5] For GCI this is evidence of confusion in the reasoning of these economists at this fundamental level. On the one hand they say that monetary units are not crucial [spotted-owl equivalents will do just as well as money] and on the other hand they say that monetary units are crucial [peoples varied ability-to-pay - in money - determines their rights and their relative worth].

The question that haunts their confusion is this: why if one spotted owl equals one spotted owl, doesn't one human equal one human? In the twisted logic of global cost/benefit analysis, it turns out that people do not have an equal right to survive even though spotted owls do. This is another way of saying that people do not have an equal right to be here in the first place; your rights are proportional to your income. In terms of achieving sustainable development globally, this is nonsense. For practical as well as ethical purposes, each human being is - and must be recognised as - the fundamentally equal unit for measuring sustainability and this is the irreducible level of decision-taking.

At sub-global levels of 'economic' debate, this kind of wrangle is of a familiar vintage. It is the substance of the traditional left/right arguments where those without the money make "equity-for-equity's sake" (principle) arguments, whilst those with the money make "efficiency-for efficiency's sake" (practicality) arguments. Whatever the rights and wrongs of this approach, equity and efficiency are seen as being traded off against each other between the left and the right. Much of the history of our political economy is a story about this false dichotomy.

At a global level this kind of economic discrimination is simply suicidal. It is discriminatory on a greater scale than before. But it is also dangerous and different in a manner which is without precedent. First there is nowhere else to go. There isn't a global carpet under which the waste, the pollution and the "poor" can be swept and then ignored. The causes and the influence of these things in the system needs to fundamentally inform the analysis under-taken. This is true because large numbers of people are not going to accept being made the discards of a sub-system which values itself 10:1 over everyone else, let alone a system which hasn't demonstrated sustainable consumption patterns since industrialisation began.

The "Conference of the Parties to the Climate Convention" cannot succeed in its task if these issues are not faced head on. The 'Economics of Genocide' must be rejected now and for always.

[4] "Global Warming Damage Costs: Some Monetary Estimates" by Samuel Fankhauser (with input from Pearce and Nordhaus). Working Paper GEC 92-29 from C-SERGE, the UK's Centre for the Social and Economic Research of the Global Environment.
[5] Prof William D Nordhaus in a letter to GCI dated 28 2 94.

The Results of Changing Two Bases of Valuation in the Global Cost/Benefit Analysis (G-CBA) done by IPCC Working Group Three (WG3)

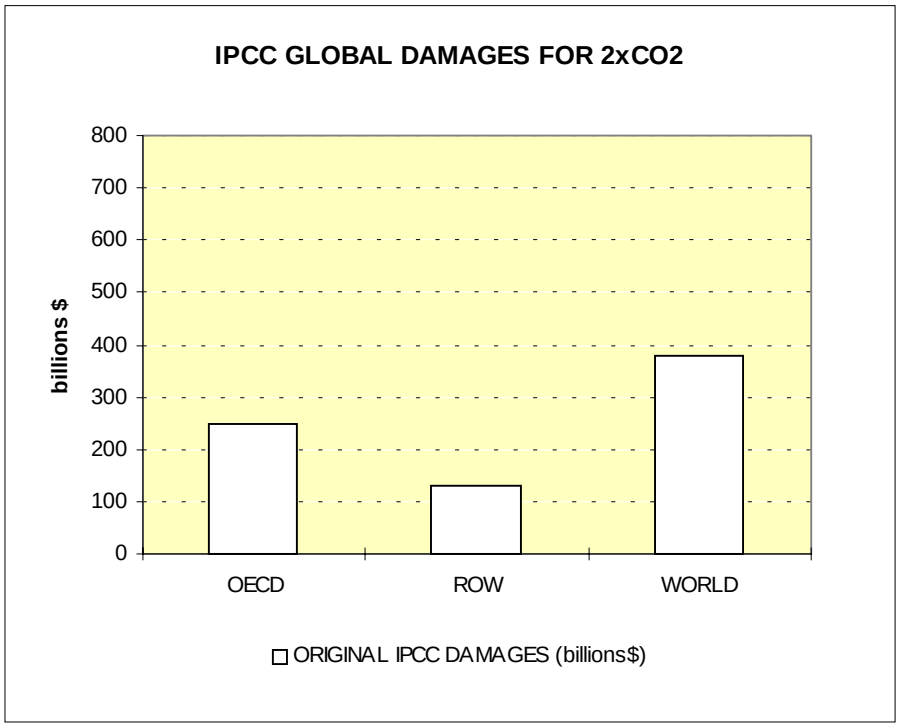
GCI was contacted by the Chair of WG3 during the final lead authors meeting in Paris (22-24/3/95) to say that the PPP point raised here had been won as a result of this paper being submitted and would be assimilated (whatever that means. However, the equal versus unequal life evaluation controversy remained unresolved within the group.

* *

The Intergovernmental Panel on Climate Change (IPCC) is due to publish its Second Assessment Report (SAR) later this year. IPCC Working Group Three (WG3) now deals with *"Economic and other Cross-Cutting Issues"*. Its contribution to the Report is intended to assist policy formulation at the *"Conference of the Parties"* (COP) in Berlin 27/3/95 - 8/3/95.

The approach adopted by the economists in this Group has been conceived in terms of a Global Cost/Benefit Analysis (G-CBA). Using this approach, the Group estimates that annual global damage costs will be 1.5% - 2.5% of Gross World Product (GWP), if atmospheric CO2 concentrations go to twice pre-industrial levels.

The Group also estimates that the distribution of these damages between the Organisation for Economic Co-operation and Development (OECD) and the Rest of World (ROW) will be OECD 65% and ROW 35%.



Two separate but related features of this G-CBA invite re-appraisal. These are: -

1. IPCC's failure to use Purchasing Power Parity (PPP) for comparative assessments of overall damage costs (excluding loss of human life ie mortality costs) and
2. IPCC's unequally valued mortality costs associated with global climate change.

1. Purchasing Power Parity (PPP)

At present, the total global damage assessment is as an aggregate of all individual country damage assessments converted to US$ at market exchange rates.

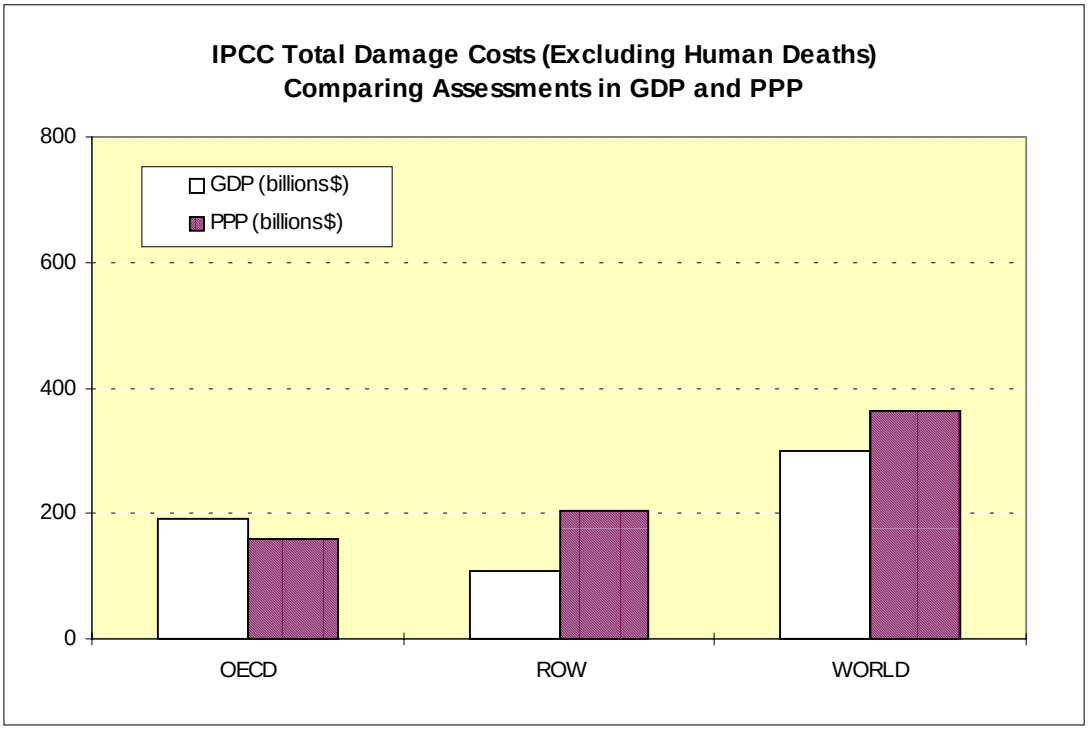
This is misleading and would only make sense if the OECD countries intend to pay for all damages, a liability not accepted by them. So in developing countries, the monetary significance of their damage costs to them (and proportionately in the global account for the purposes of international comparative assessment) is substantially under-represented because the amounts in question are devalued through the currency exchange rate system. The burden on the damage to non-OECD countries would be more realistically represented if the figures were revalued at PPP equivalence.

If the IPCC calculation is redone using PPP to evaluate all the damages (except the human deaths - see comments later), the distribution of the damage is shown to fall much more harshly on the ROW and the total amount of damage increased.

	IPCC Total Damage Costs (but excl human deaths)	
	GDP (billions$)	PPP (billions$)
OECD	192	159
ROW	107	203
WORLD	299	362
	% of total damage excl deaths	% of total damage excl deaths
OECD	64	44
ROW	36	56
WORLD	100	100

- OECD damages fall from 64% to 44% of the total
- ROW damages rise from 36% to 56% of the total
- global annual damages rise above the original figure by $63 billion or 22%

-



2. Unequally Valued Mortality Costs

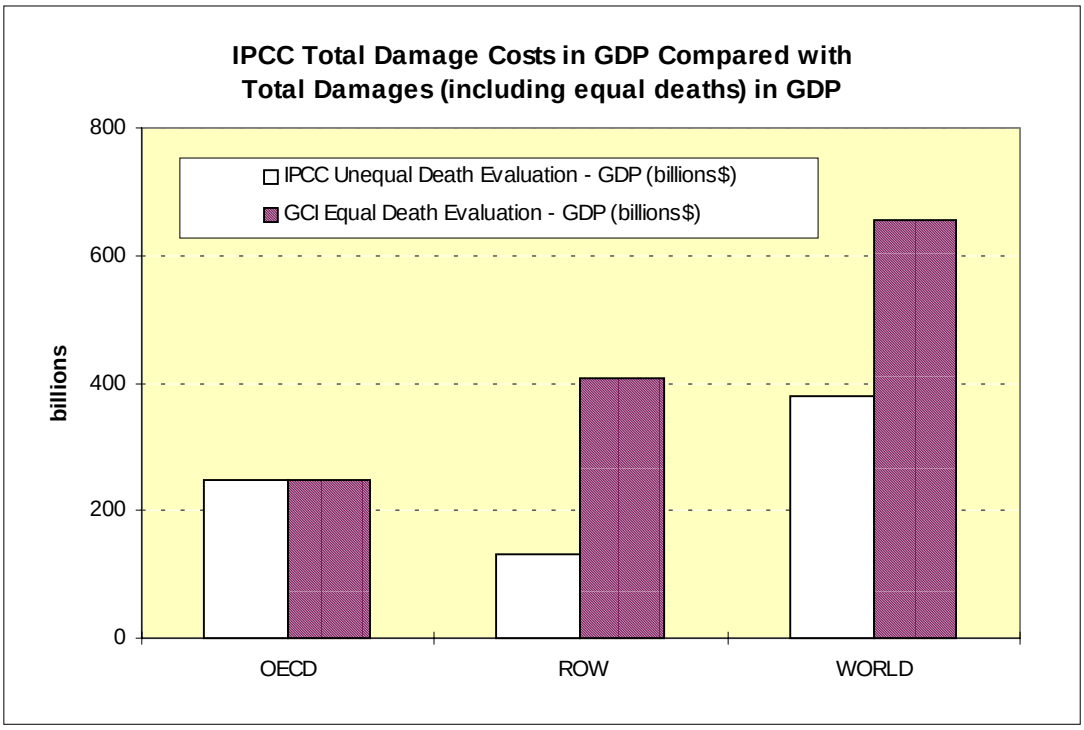
IPCC recognises many people will die each year as a result of global climate changes. Most of these deaths will be in developing countries. Economists have to put a cash figure on these deaths in order to perform the G-CBA. They value people's lives around the world differently because of the disparate income levels of those directly affected. Consequently the lives of people in the poor countries are valued at one tenth the value of people in the wealthy countries. Deaths in the USA and the EU are costed at $1.5 million per head. In the poorer countries they are put at $150,000 per head.

This approach is controversial and may compromise the IPCC in general. So far, the poorer countries have no responsibility for causing global climate change. In fact many authorities argue that low-energy consuming countries are providing an environmental subsidy to energy-intensive ones. Yet it is in these low-energy consuming countries that the majority of deaths will occur.

If WG3's figures are recalculated using the US value of $1.5 million for all deaths, the results are show below.

	IPCC Total Damage Costs GDP (billions$)	Total Damage Costs (incl equal death evaluation) GDP (billions$)
OECD	249	249
ROW	132	407
WORLD	381	656
	% of total damage excl deaths	% of total damage incl equal deaths
OECD	65	38
ROW	35	62
WORLD	100	100

- OECD damages fall from 65% to 38% of the total
- ROW damages rise from 35% to 62% of the total
- global annual damages rise above the original figure by $275 billion or 72%



So contentious is the question of unequal life-evaluation that a sign-on protest against it started last June. Many professional people North and South including some IPCC lead authors became co-signatories. This protest has already attracted considerable international media interest.

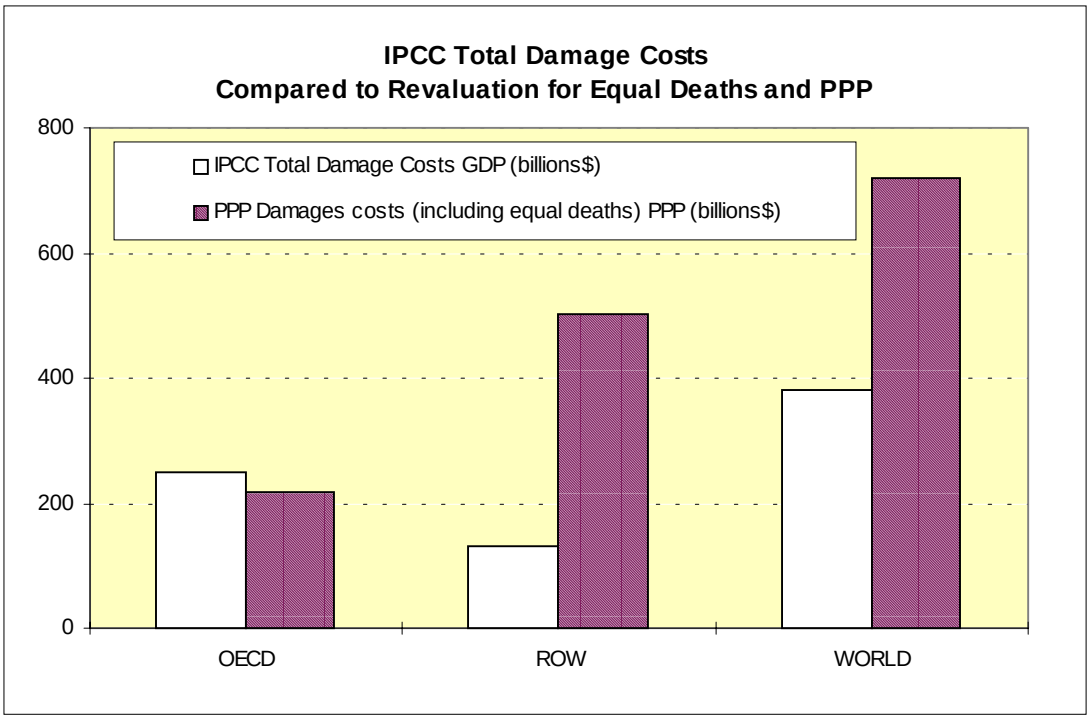
3. Combining PPP and Equal Lives and Comparing the Results with IPCC

If changes for both equal life evaluation and PPP are made together, the overall level of damage costs of global warming rise substantially and the distribution of these are shown to fall very much more heavily on the Rest of World (ROW) than in the original IPCC estimate.

	IPCC Total Damage Costs GDP (billions$)	PPP Damages costs (including equal deaths) PPP (billions$)
OECD	249	217
ROW	132	503
WORLD	381	720
	% of total damage excl deaths	% of total damage incl equal deaths
OECD	65	30
ROW	35	70
WORLD	100	100

- OECD damages fall from 65% to 30% of the total
- ROW damages rise from 35% to 70% of the total
- global annual damages rise above the original figure by $339 billion or 89%

IPCC's total damages of 2% of GWP rise to 3.2% when these revaluations are performed.



It is entirely probable that policy-makers from developing countries will refuse the existing results of IPCC's Global Cost/Benefit Analysis (G-CBA). The margin of error is too great. Any policy measures conceived under the original formulation are bound to treated with suspicion and even hostility, and the IPCC's credibility could be impaired.

UPDATE SIGNATORY LIST ON PROTEST LETTER AGAINST UNEQUAL LIFE EVALUATION BY CLIMATE CHANGE ECONOMISTS IN INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

Below is a sign-on letter which GCI has been circulating. Since June, many people and organisations around the world have co-signed this in protest against the actions of some economists now working in the Intergovernmental Panel on Climate Change or IPCC's Working Group Three (WG3) on "Economic and other Cross-Cutting Issues".

These (mostly OECD) economists have now established the following ideas in the drafts of the IPCC's Second Assessment Report (SAR): -

(a) There will a huge number of deaths as a result of human-induced global climate changes.
(b) These need to be given a cash value (a "damage cost").
(c) The cash value of people's lives around the world is different.
(d) This is because of their differing abilities to pay for damage insurance.

Consequently, the lives of people in poor countries should be substantially discounted in the Global Cost/Benefit Analysis (G-CBA) being conducted by IPCC.

The poorer countries have least - or indeed no - responsibility for causing the problems of climate change. They also cover the regions of the globe where most of the associated deaths will occur. They are also the countries now most blamed for "future impacts".

We do not feel that this aspect of the IPCC's analysis is ethically justifiable or politically prudent. We therefore ask you and all your colleagues please to consider becoming co-signatories to the attached letter. Signature collection will also continue until the 1st "Conference of the Parties" (COP) ie the UN Climate Change negotiations in Berlin next March.

"DEFEND THE VALUE OF LIFE"

Please co-sign THIS letter to the Conference of the Parties & the IPCC

"Protecting the world environment requires that development be sustainable.

"Some time ago main-stream economists explicitly set out to capture the sustainable development agenda for the economics profession.

"In this pursuit and with much public money, they invented the technique they call "global cost/benefit analysis" (G-CBA). Global warming and the cost and benefits of climate change are now assessed by them in these monetary terms. And this assessment is being aggressively pushed by the economists in the UN's Inter-governmental Panel on Climate Change (IPCC).

"Part of this exercise, they assert, entails giving cash values to human lives. They accept there are going to be hundreds of thousands of deaths worldwide as a result of global climate changes.

"A recent research paper from the UK-Government-funded C-SERGE, the UK's "Centre for the Social and Economic Research of the Global Environment", (C-SERGE Director David Pearce is also the convening lead author in IPCC on "Social Costs" and has now formally lodged this approach in the IPCC text - and it has survived the peer review) states that the cash value of a "statistical life" in the EC or the USA is $1,500,000 per head, but in ("poorer countries" such as) China it is only $150,000. In G-CBA, this means that, as an economist, you help capture the sustainable development agenda for your profession by discarding a real Chinese life ten times more easily than a real life in the EC or the USA.

"Ironically, these lives are now at risk as a result of damage to the global environment for which citizens in the EC and the USA have been and are at least ten times more responsible per head than citizens in China. There is, of course, a foreign policy cost associated with this since the population of the EC and the USA is outnumbered 10-1 by everyone else.

"The need to value human rights as equal, is prudent as well as perennial."

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Global Commons Institute (GCI)

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Global Commons Institute (GCI)

Richard Douthwaite
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Robert Rubin
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Bernhards Wiebel
Ruhr Universitat, Bochum

Zia van der Veen

Dr Warren Andrew Chang

David Carter

Odette Berger

Andrew Ridell

Peter Alcock

Ian Boote

Graham Reid

Gurinder Shahi

S Iniyan

Patrick Mann
Organic Farmer

Jacqueline Florek,
Issues Specialist, USA

George Silva

Ramona McCoy

Blair Irvine

Nancy Glass

Markku Oksanen

Heikki Patom

Kenneth Scott (USA)

Toni Vidan
Zelewa Arcia Zagreb

Andrea Ersek
Zelewa Arcia Zagreb

Marin Kiriwck
Zelewa Arcia Zagreb

Kristina Markowic
Zelewa Arcia Zagreb

Maja Bogunovic
Zelewa Arcia Zagreb

Eva Kaufmann
VIRUS Vienna

Karl Brandnek
VIRUS Vienna

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Evelyn Magletner
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Angelica Tesak
Vienna

Jet van Hailsma
ASEED Holland

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Prague

Stephanie Howard
Prague

Erika Welge
Kulturne Socialni Centrum Prague

Hellmuth-Christian Stuven
Denmark

Brian Grant

Claire Gilbert
Blazing Tattles

late arrivals

Anand Patwardhan
Department of Engineering and Public Policy
Carnegie Mellon University

Ellen Schmidt
Greenpeace International Climate and Energy Campigner

ORIGINAL GCI CLIMATE STATEMENT AND SIGNATORIES

"We the undersigned acknowledge with concern that climate change through enhanced global warming is a real and growing threat and is caused by the emissions of long-lived greenhouse gases from human activities.

"The IPCC advises that to stabilise atmospheric concentrations requires a reduction of emissions to less than 40% of current levels.

"On average each person in the world contributes 1.65 metric tonnes of carbon and equivalents each year. 40% of this figure ie 0.66 MTCE thus represents each individual's output threshold to forcing future climate change.

"Currently (1990) 53% of the people in the world produce greenhouse gas emissions at or below this threshold figure, and their emissions contribute only 90% of the non-forcing total. They therefore provide the equivalent of a 10% "credit" (subsidy) which is taken up by the rest of the world.

"This inequity is particularly unacceptable at a time when the majority of people are struggling to meet basic human needs. it is also unacceptable as the forcing emissions total is derived largely from unsustainable, luxury-based activities in countries one of whose governments has still refused even the principle of setting targets for CO2 stabilization let alone reduction.

"We believe that all people present and future, should have rights-to-life and sustainable livelihoods which are free from the threat and the reality of human-induced climate disruption.

"We stress that the responsibility for taking corrective action and reducing bad practice lies with those who created and who continue to exacerbate this global crisis. We demand that their response should be immediate and without prevarication, and should take special action over this issue of social inequity."

Ann Clywd
Shadow Minister Overseas Development UK

Sir Richard Body
Conservative MP (UK)

Tony Benn
Labour MP

The Rt Hon Paddy Ashdown
leader of the Liberal Democrats UK

Simon Hughes MP
Lib/Dem Environment Speaker

Charles Kennedy
President of the Liberal Democrat Party UK

Margaret Ewing MP
Leader of the Scottish National Party

Ken Livingstone MP
UK Labour Party

Bryan Gould MP
UK Labour Party Shadow Environment Speaker

Dr David Clark
UK Labour Party Shadow Food and Agriculture Speaker

Clare Short MP
UK Labour Party

Hermann Scheer
Bundestag MP

Michael Meacher
UK Labour Party Shadow Spokesman Social Security

Jim Wallace MP
UK Lib/Dem Party Chief Whip

Sir Russell Johnson
Lib/Dem Speaker on Europe

Lord Bonham Carter
Lib/Dem Speaker on Overseas Development

Lord Stoddart of Swindon (Labour Peer) Former Lord Commissioner for the Treasury and Front Bench Opposition spokesman on Energy in the Lords

Baroness Eward Biggs
opposition spokesman for ODA House of Lords UK

Wilfried Taelkemper
Vice President European Parliament

Dyfdd Wigley MP (Now Lord)
Plaid Cymru

Dyffd Ellis Thomas MP
Plaid Cymru

Rosie Barnes MP
Social Democratic Party

Bowen Wells
Conservative MP

Ken Collins
MEP Chair of European Parliament Environment Committee

James Glynn Ford
Member European Parliament

Kim Howells MP
UK Labour Party

Terry Lewis
UK Labour Party

Joyce Quinn MP
UK Labour Party

Tom Pendry MP
UK Labour Party

Joan Ruddock MP
UK Labour Party

Jeremy Corbyn MP
UK Labour Party

Jim Cousins MP

UK Labour Party

Hemmo Muntingh
Member European Parliament

Paul Lannoye
Member European Parliament

Jon Owen Jones
UK Labour Party

M Watson
UK Labour Party

Joan Lestor
UK Labour Party

R Waring MP
UK Labour Party

Dawn Primarolo MP
UK Labour Party

Anne Campbell
UK Labour Party

Jean Corston MP
UK Labour Party

Alice Mahon MP
UK Labour Party

Kevin Hughes MP
UK Labour Party

Mike Hall MP
UK Labour Party

Andrew Miller MP
UK Labour Party

Dale Campbell Savours MP
UK Labour Party

Ieuan Jones MP
UK Labour Party

Cynog Dafis
Plaid Cymru

South North Development Monitor - SUNS
Fri Mar 24 16:44:36 1995

'Genocidal' economic analysis on climate change

Geneva Mar 23 (Chakravarthi Raghavan) -- The Intergovernmental Panel on Climate Change (IPCC) which with its expertise in an area involving some hard science helped to establish its reputation and credentials to speak for the public interest, seems in danger of
losing its credentials for dialogue as a result of its incursions into the softer science of economics where theories and models and 'facts' come out to suit particular ideologies.

The view appears to be gathering strong among Southern policy makers that it would be impossible to 'dialogue' with groups, claiming pseudo-scientific expertise, to shift the burden on the South.

At issue is the report being prepared on its behalf, in a Working Group III, on the potential economic damages to nations and peoples, as a result of global warming.

Last year, at a workshop in Nairobi, Southern and Northern NGOs joined hands to denounce this working group which they said had been taken over by the OECD economists and their attempts to put "value" on lives of humans across the globe, and on the damages in non-human terms.

In a report yet to be approved by the IPCC and presented as part of its assessment to be given at the end of this year, but with some preliminary views to be conveyed to the first Conference of Parties of the Framework Convention on Climate Change, beginning next week
at Berlin, the economists assumed, in terms of mortality costs, the value of one human life in North America (US and Canada) and the EU to be $1.5 million per head and that in the developing countries of the South at 150,000 per head.

In other words, ten Southern lives are equal to that of one in the North.

The UN's Intergovernmental Negotiating Committee (INC) which had been meeting to prepare for the COP meeting nor the Climate Change secretariat have so far taken note of these officially.

One of the diplomats involved suggested that with the COP and the intergovernmental bodies of the COP envisaging their own scientific panel etc, the IPCC has been trying to find a continuing role, but has allowed itself to be hijacked by these economists whose views
seem to be an echo of the former World Bank Chief economist, and now US Treasury's No 2, Summers, who propounded the view about allowing the export and siting of toxic and dirty industries to the South.

The special working group of the Intergovernmental Panel on Climate Change (IPCC), WG3 on "Economic and other Cross-Cutting Issues", met in Paris this week to put the finishing touches on the analysis which will be submitted at next week's international talks on climate change in Berlin. According to the latest reports, the WG3 is trying to take on the purchasing power parity valuations instead of the exchange rate, but its critics say it does not change their overall criticism.

The IPCC report will be published in August or September as part of the update to the original IPCC report first published in 1990.

"Their analysis amounts to genocidal economics," says Aubrey Meyer of the London-based Global Commons Institute. "The implications of this are that there are too many Bangladeshis and, if they drown, who cares..." says Meyer.

Meyer has prepared, with easy graphics to catch the eye of policy-makers, an analysis of the WG3 approach, and providing a different projection based on a more equitable approach, and this is under study by several of the Environment Ministers from the South.

Meyer also faults the tradable permits approach used by UNCTAD, and faults it for avoiding the 'equity issue' of responsibility for the past and who should cut the consumption and pay.

Some of the Environment ministers from the South are taking a common position to make clear that if this is the approach, it will be difficult for them (or for the COP and the Climate Change secretariat of the future) to engage in a dialogue with the IPCC and its neo-classical economists trying to safeguard the North and its industries against environmental measures to reduce their consumption and spewing of Greenhouse gases, but attempt to shift the burden on to the South.

The GCI has mobilised a letter writing campaign by the NGOs, but has also had discussions with key environment ministers of the South on the dangers of the IPCC-WG3 approach.

The original IPCC report concluded that the planet's surface is warming as a result of the accumulation in the atmosphere of artificial gases, like carbon dioxide and methane, that trap heat from the sun. The scientists estimated that emissions of these gases would have to be cut back by at least 60 percent to reverse this "greenhouse effect".

At the Earth Summit in Rio de Janeiro in 1992, 100 countries signed an agreement to cut back their emissions of greenhouse gases to 1990 levels by the year 2000.

The IPCC economic analysis was commissioned by the Centre for Social and Economic Research of the Global Environment (C-SERGE) to seven economists, including Samuel Fankhauser of Germany, William Cline of the United States and David Pearce of Britain -- who have
adopted an approach conceived in terms of a Global Cost/Benefit analysis (G-CBA).
With this approach, excluding human costs, they estimate the annual global damage costs to be 1.5% to 2.5% of the Gross World Product, if the atmospheric Carbon dioxide (CO2) concentrations reach twice the pre-industrial levels. It then distributes this damage in the proportion of 65% for the OECD countries and 35% for the Rest Of
World (ROW).

As Indian Environment Minister Kamal Nath has pointed out, in a letter he has apparently sent to several of his colleagues from the South, the entire approach overlooks the fact that the current CO2 burdens in the atmosphere is entirely or mainly due to the activities of the industrial countries, since their industrialisation, in their reckless consumption of the 'global commons' and now trying to preserve the status quo by throwing the responsibility on the ROW and in particular the developing countries. Nath has advised his Northern and Southern colleagues that India would have nothing to do with the IPCC-WG3 approach, and that this would vitiate the entire negotiations at the COP.

Meyer points out that the WG3 approach fails to use Purchasing Power Parity (PPP) for comparative assessment of overall damage costs, excluding human life or mortality costs and its "unequally valued" mortality costs associated with global climate change.

He points out that at present the total global damage assessment is an aggregate of all individual country damage assessments converted in US dollars at current market exchange rates. This he says is misleading and would only make sense if the OECD countries intend
to pay for all damages -- a liability not accepted by them.

Hence, in developing countries, the monetary significance of the damage costs, and proportionately in the global account for purposes of international comparative assessment, is substantially under-represented because the amount in question is devalued
through the currency exchange rate system.

Thus, damage to Vietnamese or Bangladeshi food crops are given a lower dollar amount than damages to the same crops in Canada, even though they provide the same nutritional value to human beings.

The burden on the damage to the non-OECD countries, he says, would be more realistically represented if the figures were valued in PPP terms.

By redoing the IPCC (non-mortality) calculations using the PPP terms, the distribution of the damage falls more heavily on the ROW. Instead of the 64% damage for the OECD, estimates on PPP terms reduces it to 44%, while that of ROW goes up from 35% to 56%.

Meyer notes that the IPCC recognises many people will die each year as a result of the global damage and that most of these deaths will be in the developing countries.

In trying to put a cash value on these deaths (as the economists do for the G-CBA exercise), they value people's lives differently because of the disparate income levels of those affected directly.

Lives of people in ROW are valued at one-tenth of value of lives of people in the wealthy countries. Each life in the US or Europe is valued at $1.5 million, while that in the South is put at $150,000.

This approach itself, Meyer says, is controversial and compromises the IPCC approach.

The poorer nations of the South have had no responsibility for causing the CO2 and GHG overloads of the atmosphere and causing global climate change.

Many argue that the poor countries of the South, with their low-energy consumption, are now providing an environmental subsidy to the energy-intensive rich countries.

But the largest number of the climate change related deaths will be in the poor countries.

Recalculating the WG3 figures on the PPP basis, Meyer says that the OECD damages total fall from 65% to 38% of the total and the ROW damages rise from 35% to 62% of the total.

The global annual damages rise above the IPCC-WG3 figure by $275 billion annually -- or by 72%.

The contentious nature of the unequal life-evaluation has resulted in a sign-on campaign against the IPCC and its WG3 since last June, with many professionals from the North and the South including many IPCC lead authors becoming co-signatories, says Meyer.

If changes for both equal life evaluation and PPP are made together, the overall level of damage costs of global warming rise substantially and the distribution of this falls much more heavily on the ROW than the original IPCC approach says Meyer.

The global annual damages rise above the IPCC original figure by $339 billion or 89%. The ROW damage rises from 35% to 70% of the total while that of the OECD falls from 65% to 30% of the total. The IPCC's total damages of 2% of the Gross world product rises to
3.2% when these revaluations are performed.

Proponents like Fankhauser say the critics have misunderstood the logic of his argument. "Economists do not value lives. What they do estimate is people's appreciation of a risk-free environment. It has nothing to do with the worth of life as such," he wrote recently in a reply to the Ecologist article.

But Daphne Wysham of the Washington-based Institute for Policy Studies says that the 300,000-person death toll fails to take account of possible increased starvation due to global warming- induced crop failure. A total of between 135 and 900 million people could die as a result of global warming by the year 2030, she estimates. Most of the victims will be in the Third World.

"(Fankhauser's) figure is an extrapolation of U.S. Environmental Protection Agency data -- which apply only to the United States and tend to regard phenomena like heat-induced death and hurricane casualties as the major kinds of mortality," Wysham says in the Ecologist, a British magazine.

Fankhauser says he was criticised for using different values for goods in different countries, but the values used by him were in fact identical, in the sense that they were identical fractions of income. "But to use absolute values would completely disregard observed facts. Chinese are not willing to sacrifice ten times as much for environmental goods as Europeans," he argues.

But Meyer says that this is missing one of the most important aspects of global warming. "It is the industrialisation of Europe and America that has created the accumulation of greenhouse gases. But the people who will suffer are those in the poor countries."

Also, it is fine for an European, after having achieved a level of living, to begin looking to improve the quality on environmental goods, while in the Third World nations the food and basic needs are the first "environmental goods" needed, if properly understood.

Meyer notes that the argument of the rich "is the most sickening form of self-fulfilling prophecy. They are saying, in effect, that since those who created the problem, gained more wealth, they have more rights to determine who dies," he said.

INDIA REJECTS ECONOMICS OF U.N. CLIMATE CHANGE PANEL

by Jaya Dayal

UNITED NATIONS, Mar 24 (IPS) - India's environment minister has repudiated the findings of a U.N.-convened panel of economists on climate change as biased against developing countries.

In a letter made available to IPS Friday, India's Minister for Environment and Forests, Kamal Nath, faults the "absurd and discriminatory global cost/benefit analysis procedures propounded by economists in the work of IPCC Working Group Three."

The two-page letter was sent to environment ministers and senior government officials of more than 10 industrialised countries including Australia, Britain, Canada, France, Germany, Japan, Russia, Sweden and the United States.

In addition, the letter was sent to more than 16 developing countries including Brazil, China, Egypt, Indonesia, Kenya, Malaysia and Singapore.

The Intergovernmental Panel on Climate Change (IPCC), a U.N. body responsible for co-ordinating scientific and economic efforts to stem the effects of global warming, is due to publish its Second Assessment Report (SAR) later this year.

IPCC Working Group Three has been asked to provide economic analysis for policy formulation at the first Conference of Parties (CoP) to the 1992 Climate Change convention slated for Berlin beginning next Tuesday.

The approach adopted by the economists in this group has been conceived in terms of global cost/benefit analysis (G-CBA). Using this approach, the group estimates that if atmospheric carbon dioxide concentrations increase to double pre-industrial levels,
annual damage costs will be 1.5 to 2.5 percent of gross world product.

The group estimates that the distribution of these damages between the wealthy, industrialised Organisation for Economic Co-operation and Development (OECD) nations and the rest of the world will be OECD, 65 percent, and the rest, 35 percent.

But according to the London-based Global Commons Institute (GCI), a non-governmental organisation monitoring the working group, the G-CBA rests on shaky and discriminatory ground.

Key among the faulty assumptions used by the working group, says GCI, is the differing values applied to the lives of human beings in the South and the North.

In his letter, Nath says "the scale of bias which underpins the technical assessment intended to provide the basis for policy discussions at the CoP can be gauged from the proposed unequally valued mortality costs associated with global climate change."

GCI director Aubrey Meyer explains that the working group has assigned a cash value of 1.5 million dollars per human life in the industrialised North against 150,000 dollars in the developing South.

"In global cost/benefit analysis, this means that you discard a Chinese life 10 times more easily than a life in the European Community or the United States," he said.

GCI figures that if the working group's numbers are
recalculated using the 1.5 million dollar value for all deaths, OECD damages fall from 65 to 38 percent of the total while ROW damages rise from 35 to 62 percent.

"We unequivocally reject the theory that the monetary value of people's lives around the world is different" Nath says in his letter. "We feel that this level of misdirection must be purged from the negotiation process."

So contentious is the question of unequal life-valuation that a protest against it started last June. Since then many economists, environmentalists and development professionals in the South and the North have signed on.

Nath argues in the letter that any basis for dealing with the costs of climate change should not be formed along the current lines of "unequal rights by income," but "equal rights per capita."

"Developing countries have no -- or indeed negative --
responsibility for causing global climate change," he states.

"The implications of faulty economic assumptions are
manifold," Nath warns, adding, until "they are corrected to reflect a true and just position, then and only then would any talk of joint implementation and adequacy of commitments become meaningful."

At the final round of talks here before next week's meeting in Berlin, industrialised countries -- under pressure from their fossil-fuel and energy industries -- attempted to shift the burden of climate change by pushing joint implementation schemes.

These schemes, the European Union and United States argue, would provide cost-effective opportunities for rich countries to limit their greenhouse gas emissions by financing projects in other nations.

Joint implementation projects would be financed by
industrialised countries or their big businesses. In exchange, these countries would receive credits for fulfilling their commitments under the convention.

But some developing countries argue that the industrialised countries' rush towards joint implementation projects is a simply a way to divert attention from politically difficult economic
decisions at home.

Nath noted that the early discussions on joint implementation in February "reveal increasing differences of opinion about the resolve of developed countries to meet even their existing commitments under the convention."

Geneva 25 Mar (TWN/Chakravarthi Raghavan) --

India has expressed its concern over the biased and discriminatory Global Cost/Benefit Analysis procedures of the IPCC economists and its use as a basis for policy discussions at the Conference of Parties (CoP) of the UN Framework Convention on Climate Change (FCCC)
opening in Berlin on Monday.

In letters to other Environment Ministers, developed and
developing, the Indian Environment Minister Kamal Nath has said that the bias imported into the discussions by the WG3 approach must be "purged, and the distributional issue of unequal-rights-by-income versus equal-rights-per-capita must be resolved to enable fruitful discussions at the CoP about possible protocols to the Convention, proportionality of commitments and financial mechanisms."

The letter to the Environment Ministers of the developed countries cautions them of a situation developing (as a result of the WG3 approach) that would make further "dialogue directionless".

His letter to the G77 Ministers has stressed the need for them to adequate co-ordinate their positions at the CoP.

The Berlin meeting is the first Conference of Parties on the UN Framework Convention on Climate Change and is to review the Adequacy of the Commitments under the Convention.

It has before it a proposal on behalf of the Association of Small Island States (AOSIS) for a protocol to cut back the Greenhouse Gas, and in particular Carbon di Oxide (CO2) emissions.

This proposed protocol called for Annex A parties to undertake the cutbacks, but some recent proposals or amendments to this are said to call for obligations by some of the major and more populous developing countries.

In the FCCC, and at the Rio Earth Summit, the Annex A Parties to the Convention undertook to provide national assessment reports, which are to be reviewed and assessed about their adequacy. Separately, at other fora, the ICs have taken a general commitment to return their emissions in 2000 to the levels of 1990. But the national reports from these countries suggest that several would
not achieve even these.

The IPCC in preliminary views and assessments provided to the Intergovernmental Negotiating Group (INC) which has been preparing for the CoP-1 show that even the return to 1990 levels would not be enough to mitigate the adverse effects of Climate Change and there has to be some sizeable cutbacks.

The Annex A Parties which accepted at Rio, and in the framing of the Convention, their major responsibility for the present situation and need to cutback have since been doing some backsliding, and under the concept of Joint Implementation and other proposals, are trying to shift some, if not a major portion of the responsibility to some of the major Third World economies, like China, India, and a few others -- with low per capita GHG and CO2 emissions, but in absolute terms would be increasing their
emissions as they industrialise and develop.

The OECD dominated neo-classical economists in the IPCC-WG3 (on Economic and other Cross-Cutting Issues) have been trying to provide a scientific basis for this shifting of responsibilities, by a so-called economic assessment of the damages to the OECD economies and the Rest of the World (ROW).

Kamal Nath's letter to his fellow Ministers from the South and North is in relation to this.
In his letter referring to the crucial unresolved issues, Kamal Nath has expressed India's serious concern that no "significant progress" has been at all made towards stabilising, leave alone reduction of atmospheric concentrations of greenhouse gases, "despite the lofty commitments made at Rio".

"On the contrary, decisive scientific evidence continues to disturb us with serious warnings about where the global community is now headed," Kamal Nath says.

"The inconclusive discussions (at the INC) about Joint
Implementation and Adequacy of Commitments reveal increasing differences of opinion about the resolve of developed countries to meet even their existing commitments under the Convention. In my judgement, the present impasse became inevitable when the alleged

cost-effectiveness of Joint Implementation was sought to be based on absurd and discriminatory Global Cost/Benefit Analysis procedures propounded by economists in the work of the IPCC Working Group III (IPCC-WG3).

"The scale of bias which underpins the technical assessment intended to provide the basis for policy discussions at the CoP can be gauged from the proposed unequally valued mortality costs associated with global climate changes, and the avoidance of using the Purchasing Power Parity system of overall damage costs. These are by no means the only issues about which we feel concerned, but they are pertinently representative examples".

(According to the latest reports from Paris, the authors of the WG3 report, at their final meeting last week, appear to have accepted the need for making assessments using the PPP rather than the market exchange rates as they had done. However this is only one aspect of a bias they are now trying to correct, and does not meet the fundamental objections to the WG3 approach, namely, its ignoring the equity issues and the past historical responsibilities of the OECD economies for the damages caused by them to the global environment and their responsibility to undertake the remedial measures.)

In his letter, Kamal Nath continues: "We unequivocally reject the theory that the monetary value of people's lives around the world is different because the value imputed should be proportional to the disparate income levels of the potential victims concerned. Developing countries have no -- or indeed negative -- responsibility for causing global climate change. Yet they are being blamed for possible future impacts, although historical impacts by industrialised economies are being regarded as water-under-the-bridge, or 'sunk-costs' in the jargon of these biased economists.

"To compound the problem, global damage assessments are being expressed in US dollar equivalent. Thus the monetary significance of the damages to developing countries is substantially under-represented. The damages caused to human beings, whether in developed or developing countries must be treated equally and cannot be translated in terms of currency exchange rate systems.

"Faced with this," the Indian Minister continues, "we feel that this level of misdirection must be purged from the negotiating process. The distributional issue of unequal-rights-by-income versus equal-rights-per-capital must be resolved to enable fruitful discussions about possible protocols to the Convention, proportionality of commitments and financial mechanisms."

"This is of immediate concern to us with regard to the AOSIS proposal," Kamal Nath continues. "We are wholly sympathetic to it and we would like to support it, along with all Parties to the Convention, since it is clearly aimed at the global common good. But there are attempts to modify the AOSIS proposal to an extent where it contradicts the very essence of the Rio Consensus and nullifies the spirit in which developing countries entered into negotiations to frame the Climate Change Convention. We strongly reject any suggestion of encumbering developing countries with obligations under Protocols, that they do not have under the Convention.

"The implications of faulty economic assumptions are manifold. when they are corrected to reflect a true and just position, and only then, would any talk of Joint Implementation and Adequacy of Commitments become meaningful," says Kamal Nath. "It is impossible for us to accept that which is not ethically justifiable, technically accurate or politically conducive to the interests of poor people as well as the global common good".

In an appeal to the developed country Environment Ministers, Kamal Nath says: "I am sure that you appreciate these issues which are causing India and several other developing countries much concern. We do not want to be driven to a situation wherein dialogue itself becomes directionless. The Rio process gave rise to several environmental Conventions. If the logic now being propounded in relation to Climate Change, also enters the interpretation of the other Conventions, we will have reversed all the gains of Rio -- the chief of which was a universal recognition of the principles of equity, and the inalienable right of all human beings to the fruits of development and 'environmental space' on an equitable basis."

INFORMATION CONCERNING GLOBAL COMMONS INSTITUTE (GCI)

a) - What is GCI?

The Global Commons Institute (GCI) is an independent group of people, mostly based in the UK. GCI's aims are the protection of the Global Commons. The group is currently working on the economic and political aspects of global climate change.

GCI was founded in 1990 after the Second World Climate Conference, and has been an officially recognised and highly active participant in the Intergovernmental Panel on Climate Change (IPCC) and Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC-FCCC) processes.

b) - What is GCI's current Mission?

The pursuit of economic growth and extended private property arrangements is now global in scale and intent and is driving the global community over thresholds of global ecological stability. GCI exists to explore and explain this. It also seeks to assist the counter-process - namely, finding effective and equitable arrangements for scaling down these socio-economic and industrial impacts on the global commons.

In this general context, GCI specifically focuses attention on; -

- the risk that current economic and industrial practices, may cause an irreversible enhancement of the greenhouse effect
- how the skewed distribution of the benefits of the practices, aggravates tensions between over-development and under-development in both North and South
- how the political consequences of this skewed distribution will themselves aggravate adverse global environmental consequences
- what actions are necessary to reduce these risks and how they could be equitably and lastingly shared by nations and by people.

c) - Acknowledgements regarding external support for GCI's Operations

GCI's contribution to the Intergovernmental Panel on Climate Change (IPCC) and the INC/COP has been possible as a result of voluntary donations from several concerned private and unaffiliated individuals, to whom we express our appreciation.

We also express our appreciation to the IPCC Bureau for their efforts to organise the IPCC's "*Second Assessment Report* (SAR) and their invitation to GCI to formally present ideas in that context.

Recommendations for GCI

African Centre for Technology Studies - Kenya

"You raise very interesting, challenging and controversial issues in the dilemma of the Framework Convention on Climate Change. The way you address "Global Benefit" is impressive. I agree with you that the concept - as understood by the financial lending institutions - is neither exhaustive nor participatory. The effort you make to generate some statistics is very appealing. With no doubt the points you raise on institutional reform and equity are important and require serious attention. Institutional frameworks of the IMF and OECD among others need to be counter-checked in order to conform to the commitments of the Convention. Will you make a presentation to ACTS in Nairobi?"

Patrick Karani, -
Climate and Africa Project
African Centre for Technology Studies (ACTS)
Nairobi

African National Congress - South Africa

"We thank you for your information about the GCI campaign. We are eagerly following your work and find the information very useful. A new democratic South Africa will be keenly interested in environmental issues and we are confident that your institute will play an important role in assisting us to deal with environmental issues in South Africa and internationally. Please continue to keep us informed about your activities."

Aziz Pahad, - Deputy Head ANC Department of International Affairs.

Air and Waste Management Association - USA

"On behalf of the Conference Organising Committee, we are pleased to inform you that your abstract has been accepted for platform presentation at the Global Climate Change Conference - Science and Policy Implications - in Phoenix April 1994. In response to the 'call for papers' we received over 200 very good abstracts which made the selection process very difficult which in turn, has enabled us to arrange an exciting technical conference programme."

C V Mathai, -
Air and Waste Management Association Conference Committee.

Bariloche Foundation - Argentina

"I would like to congratulate you for the (Benefit/Disbenefit) research done and for its wide distribution. I would ask you to send us, as soon as possible, the complete version of your work."

Carlos E Suarez, -
Institute of Energy Economics, Lead Author on IPCC WG3 Second Assessment Report.

Biomass User's Network - King's College UK

"I recommend the Global Commons Institute as lead authors in the IPCC working group 3. I have been very impressed by the quality of GCI's work in developing comprehensive methodologies for conducting "benefit/disbenefit analysis", which seems the most appropriate first step in the development of genuinely sustainable solutions and policy formulation."

Dr Frank Rosillo Calle, - Biomass User's Network, King's College.

C-SERGE - UK

"GCI hi-jacked the conference. As result of their interventions, we ended up discussing things we otherwise would not have had to discuss."

David Pearce, - Director C-SERGE about GCI impact on first meeting of IPCC Working Group Three in Montreal."

Canadian Club of Rome

"Congratulations on your excellent letter to Guardian weekly. I wish you well as you urge global action."

Dr J Rennie Whitehead, - Canadian Club of Rome.

Climate Network Africa - Kenya

"Your intervention made it worth my coming here (UN climate negotiations). Thank God someone is calling a spade a spade."

Grace Akumu, - Co-Ordinator Climate Network Africa.

Commonwealth Human Ecology Council - UK

"Congratulations."

Zena Daysh, Executive Vice Chairman of Commonwealth Human Ecology Council (CHEC), acknowledging the influence of the GCI analysis and the success of the GCI strategy at the Partnerships for Change Conference Manchester. (The UK Government's conference had just supported a call for the GCI crafted CHEC statement to be adopted by the main conference).

Earth Council - Costa Rica

"I sincerely hope that we can stay in close contact and explore avenues of co-operation. The three documents you sent are particularly relevant for us in the design of the Earth Report. The information of "global benefit and disbenefit" and related themes for eg offers a very useful analytical approach as well as the trends of global industrial CO2 impact, GDP income and efficiency. The GCI abstract for the US Global Climate Conference offers a very interesting methodological framework for a systematic analysis. We would very much appreciate if you could continue providing these very useful documents and information on the trends of sustainable development."

Alicia Barcena - Executive Director Earth Council, Costa Rica.

Embassy of Western Samoa - Belgium

"Congratulations on your success co-organising the Commonwealth Partnerships Conference. I am truly stunned by the extent to which GCI's ideas were incorporated into the conference statements. Your analysis is clear, rigorous and very useful to us. We want to keep in touch with you."

H E Ambassador Afamasaga Toleafoa, - Ambassador of W Samoa to the EC.

Environment Ministry - India

"I had occasion to discuss with the Global Commons Institute, various important issues related to Climate Change and the Montreal Protocol during my visits abroad. Their outspoken views and in-depth knowledge in economic nalysis of the issues relating to equity, costs, benefits, disbenefits would go a long way in bringing out these important aspects in clear terms. Such analysis projected in the IPCC reports would certainly help the conference of the parties in arriving at an objective decision. I strongly recommend their names as lead authors for working group 3. I also will support any funding proposal they may care to submit.

Mr. Kamal Nath, - Chairman, Montreal Protocol Treaty negotiations, Indian Environment Minister.

Environment Ministry of Hungary

"You GCI people are very brave."

Tibor Farago Ministry of Environment Hungary, - at the IPCC, Working Group 3

European School - Belgium

"I feel that it is worth a concerted effort to finance the Global Commons Institute. GCI makes an important contribution balancing the key players from business, industry and government."

Jane Knott, - European School Brussels

Indira Gandhi Institute - India

"Thank you very much for keeping me informed about your work. Its nice to have your support in this battle."

Dr (Mrs) Jyoti Parikh, -
Lead Author on IPCC WG3 Second Assessment Report - Indira Gandhi Institute.

IPCC Bureau - Geneva

"We would like to invite you (to the IPCC Workshop on Equity and Social Considerations - Nairobi, 18/23 7 94) to make a presentation entitled 'Unequal Use of the Global Commons: Consumption Patterns as Causal Factors in Global Change'. We know that with your widely recognised expertise in this field, you would make an important contribution to the work of the IPCC. It is very much hoped that you will respond positively to this invitation"

Bert Bolin, Chair - Intergovernmental Panel on Climate Change (IPCC)
James P Bruce and Hoesung Lee Co-Chairs - IPCC Working Group Three (WG3)

IPCC Working Group Three - Geneva

"While it is our normal practice is to encourage authors of relevant articles to contact lead authors directly, I have asked the IPCC WG3 Technical Support Unit to send the GCI "Global Benefit/Disbenefit" paper to the WG3 lead authors. It does present the data on CO2 emissions, in relation to economic and demographic factors in an interesting way, that further reinforces the work of WG3 lead authors Parikh, Goldemburg Reddy and Mintzer."

James P Bruce: -
Co-Chair IPCC Working Group Three (WG3)

Joint International Monetary Fund/World Bank Library - USA

"Please may we order the full 'Equity and Survival' series of GCI publications."

Korea Institute for Human Settlements - Korea

"It was a great pleasure to receive your paper - "Equity and Survival - Who provides global benefit; who causes global disbenefit?" This paper will be very useful for my section."

Sung Woong Hong, - Korea Research Institute for Human Settlements.
Lead Author on IPCC WG3 Second Assessment Report.

Malaysian Embassy - UK

"We intend to disseminate the information in your booklet as widely as possible."

Riza Selahettin, - Malaysian High Commissioner's Office, London.

Movement for Compassionate Living - UK

"I feel your work could make a significant difference to our chances of survival, in view of the environmental crisis."

Kathleen Jannaway, - Movement for Compassionate Living, Surrey UK

Network Foundation for Social Change - UK

"We're very pleased your organisation is around doing what it is doing. Its a very interesting approach you are taking. We are very pleased to support you financially."

Network Foundation for Social Change.
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OECD Environment Directorate - Paris

"Your intervention here was braveand not the sort of thing we are used to hearing here. I agreed with everything you said."

Gerard Dorin, - Head Administrator of the OECD Environment Directorate,
at the OECD "Economics of Global Climate Change Conference"

OECD Resources Allocation - Paris

"GCI should be very pleased with the influence they have already had on the economists at IPCC's Working Group 3."

Peter Sturm, - OECD Economist, Head of Division "Resource Allocation"

Organization for Latin American Energy Users - Ecuador

"Your texts are excellent reference sources for orienting the Latin American and Caribbean region's policies and strategies. We would appreciate you keeping us informed about your publications, database and other important initiatives in this area of mutual interest, and wish you continuing success in your work"

Gabriel Sierra, - Executive Secretary, Organization Latin American Energy Users.

Oyani Christian Rural Services - Kenya

"We formally request a copy of your publication "Equity and Survival - Climate Change, Population and the Paradox of Growth." This document is vital to this agency as a resource material on our awareness education on climate change and population growth - matters which globally affect mankind. Please will you inform us on all your priority areas and provide any relevant documentation. May God bless you in your service to his people."

Rev Peter A Indalo, - Programme Director, Oyani Christian Rural Services, Kenya.

Peace Studies - University of Bradford UK

"A quite excellent analysis and superb graphics. I'm impressed yet again by the concise way in which you tackle the subject in hand. I only hope it has the same impact on the UN Climate negotiations!"

Dr Julian Salt, - Department of Peace Studies. University of Bradford.

Saudi Arabian Delegation for IPCC WG3

"With regard to the intervention by the Global Commons Institute, my delegation wishes to support every word of what they have just said."

Mohammed S al Sabban, - Head of Saudi Arabian Delegation to the IPCC - concerning the GCI rebuttal of the case made by the World Bank representative for measuring the incremental costs for protecting the global environment.

Scientists for Global Responsibility - Cambridge UK

"Thank you for the GCI materials. They are both useful and interesting. I am hoping you can speak at the Second "Science for the Earth" forum in Cambridge. Your perspective on the role played by economists in addressing global environmental problems would be interesting. We like the questions you pose."

Tim Lenton, - Scientists for Global Responsibility.

"GCI are the best campaigners for non-industrialised people that we know."

Tom Wakeford, - Scientists for Global Responsibility.

South Centre - Geneva

"The paper on climate change, population and growth is most interesting. It will be very useful for our future work on post-UNCED strategies for the South."

Branislav Gosovic, - Director, the South Centre

TATA Energy Research Institute - India

“I did hear from the Intergovernmental Panel on Climate Change Working Group Three secretariat about your paper on “Global Benefit”. I think you should be very pleased at the response, because you have very effectively made the point that you intended.”

Dr R K Pachauri, - Director TATA Energy Research Institute, India.
Lead Author on IPCC WG3 Second Assessment Report.

The ECOLOGIST - UK

"We strongly recommend to you the Global Commons Institute as lead authors for your report on the socio-economic framework for decision-taking concerning the economics of climate change. GCI includes a network of authors who are both literate and numerate in this debate. They have been involved with these matters at the UN and beyond over several years. They have built up a considerable reputation doing cross-cutting socio economic analysis. This has had a clear focus on benefits and disbenefits and who it is who provide these and who suffer these. This effort has been successfully challenging short-sighted economic theory still typical of the pro-growth lobby in the industrial countries. GCI has successfully been providing a focus for those who express a more globally responsible view. Support for their work is considerable and widespread."

Nicholas Hildyard and Larry Lohman, - the Ecologist Magazine.

UNESCO Catalunya - Spain

"We are very pleased to endorse the Global Commons Institute as lead authors for the IPCC working group 3 workplan."

Dr Felix Marti and Dr Josep Puig, -
UNESCO Catalunya and Grace Akumu, Co-Ordinator Climate Network Africa.

University of East Anglia - UK

"Your papers are a real treasure. I enjoyed the graphs enormously."

Prof. Tim O'Riordan, - University of East Anglia Environmental Sciences Department and Associate Director CSERGE.

University of Nigeria

"You are so well-informed, so coherent, so intellectually challenging, so honest and so effective; - if only we had more people like you doing what you are doing."

Chris Ugwu, - University of Nigeria
at the UK Partnerships for Change Conference, Manchester.

Wuppertal Institute - Germany

"The Global Commons Institute is one of the few places in the world giving the necessary emphasis to a radical questioning of short-sighted economic theory. GCI's approach is rational and compassionate. Their voice must be heard & should be further elaborated in the international debate on global warming & other global ecological challenges. Their papers are stimulating. The characterisation of countries' socio-economic efficiencies particularly, is quite original. It would be highly desirable to have them on board for future work on equity in the IPCC context."

Dr Ernst von Weizacker, - Director Wuppertal Institute for Energy, Climate and Transport, Germany.

WWF-UK

"The principles of international equity that are embodied in sustainable development require that the industrialised countries recognise the global impact of their consumption patterns, and provide development opportunities for poorer countries. Recent papers provided new perspectives on the importance of the international dimension . The Global Commons Institute have highlighted the accumulated debt in terms of over-use of the atmosphere, and calculated an estimated debt value that vastly exceeds the financial debt owed by the South."

Barry Coates, - Policy Development
WWF-UK - to UK Climate Action Network Conference on Transport & Global Warming

I have read several times GCI's submission to IPCC WG3. I have always been sympathetic to per-capita emissions allocation, but have never seen such a clear and persuasive explanation of why such an allocation is needed both for ethical and practical reasons. Also, I liked very much your point that climate policy analysts should make explicit the ethical positions and values inherent in their work. So much of the debate on tradable emissions quotas and JI avoids the crucial issue of allocation.

I also agree with you that the Climate Action Network should discuss this issue more.

My group is participating in a newly formed network of East Asian NGOs (Atmosphere Action Network for East Asia (AANEA)) working on atmospheric issues. I want everyone in this network to read your paper, because we as a network need to develop a common position on the issue of equity, and your paper is the best base for discussions I know.

Dwight Van Winkle,
Citizens Alliance for Saving the Atmosphere (CASA),Osaka, Japan

Atmosphere Action Network for East Asia (AANEA)
A new network for regional cooperation

Current AANEA member organisations:

China:	Friends of Nature
Hong Kong:	The Conservancy Association
	Hong Kong Environment Centre
Japan:	Citizens Alliance for Saving the Atmosphere and the Earth (CASA)
	Japan Acid Rain Monitoring Network
	The Japan Air Pollution Victims Association
	Peoples Forum 2001, Global Warming Study Group
Mongolia:	Mongolian Association for Conservation of Nature and Environment (MANCE)
Russia:	Geographical Society
	The Wildlife Foundation
South Korea:	Center for Environment and Development, Citizens Coalition for Economic Justice (CCEJ)
	Green Korea
	Korean Federation of Environmental Movements
Taiwan:	Climate Action Network Taiwan
	Taiwan Environmental Protection Union

"We offer great thanks for coming to the Fourth IRNES (Interdisciplinary Research Network on Environment and Society) Conference and delivering such a stimulating and powerful talk. Your presentation was the highlight of the whole conference in terms of its clarity, directness and passionate delivery. I really think you made people think that evening. GCI could not have a more eloquent and dedicated advocate than yourself."

Peter Newell
Co-Organiser IRNES conference 1995.