

REGIONAL STUDY ON FOREST POLICY AND INSTITUTIONAL REFORMS

ANALYSIS AND REVIEW OF ADB'S PORTFOLIO AND 1995

POLICY ON FORESTRY

by

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ABBREVIATIONS

ADB	-	Asian Development Bank
ADF	-	Asian Development Fund
CIFOR	-	Centre for International Forest Research
DMC	-	Developing Member Country
EIRR	-	Economic Internal Rate of Return
FAO	-	Food and Agriculture Organization
GDP	-	Gross Domestic Product
GEF	-	Global Environmental Facility
GNP	-	Gross National Product
HPH	-	Hak Pengusahaan Hutan (Indonesian) Forest Exploitation Right
KPHP	-	Kesatuan Pengelolaan Hutan Produksi (Indonesian) Production Forest Management Unit
MBI	-	Market based instrument
NGO	-	Non Governmental Organization
OCR	-	Ordinary Capital Reserves
PRC	-	People's Republic of China
RETA	-	Regional Technical Assistance
rwe	-	Roundwood equivalent. (product volumes converted to the volume of logs required to produce it)
SFM	-	Sustainable Forest Management
TA	-	Technical Assistance
UNDP	-	United Nations Development Programme
WB	-	World Bank

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EXECUTIVE SUMMARY

1. Although the study is nominally concerned with the ADB Policy on Forestry published in 1995, it is shown in this report, that the 1995 document, in fact, largely formalised a policy that had been in operation since 1989. In addition, projects and other activities in the forestry sector since 1995 have been too few, and are too recent to be able to draw any meaningful conclusions. This report therefore covers activities that have taken place since 1980 and examines them in the context of earlier statements on policy and strategic objectives, and the 1995 paper, in order to determine whether the 1995 paper appropriately addressed issues that earlier experience had brought to light.

2. One area in which the 1995 document differed from previous ones was in its **distinction between resource rich and resource poor Developing Member Countries, and the need for a different strategic approach for each broad group**. It advocated more concentration on slowing down the rate of deforestation in the resource rich countries, and greater concentration on providing a replacement resource in the resource poor countries.

3. This study shows from a combination of global, regional, country and provincial data for Indonesia, that the rate of deforestation increases as a country or province moves from being resource rich through a transition phase, to being resource poor. This and other studies has also shown that this decline in forest resource "richness", defined as the average area of forest per capita, is also strongly correlated with population growth. Because of the effects of compounding, a constant population growth rate means an exponential increase in the numbers of persons. Thus forest cover and population density show strong negative correlation, and the exponential increase in the latter are reflected **in an exponential (accelerating) resource depletion curve**.

4. Thus from a strategic point of view, countries that have already passed from being resource rich into **the transition stage, and are moving ever more rapidly towards becoming resource poor, are the ones where most attention needs to be paid to slowing down the rate of deforestation**. The Philippines and Thailand are both examples of such countries, and Indonesia is now also at the same stage, though the government has yet to admit it. Apart from the environmental and ecological consequences of increasingly rapid loss of forest, such countries are also characterised by large and rapidly growing populations, and are likely to become substantially more dependent on other countries to meet their basic needs for forest products.

5. The question may be asked; does it matter if a country loses all or most of its forests? It is not possible to give an unequivocal reply, but there are **strong links between forests, wealth and the quality of life**. Some small countries with large populations, like Singapore have little room for their own forests, and so they are dependent on other countries to at least meet their needs for forests products, but they also may suffer the environmental consequences of mismanagement of their neighbour's forests, such as air pollution from forest fires. Data on numbers, origins and expenditure by tourists from Singapore to Indonesia, would indicate that they also value the existence of forests in neighbouring countries for recreation and tourism. Data presented shows a strong positive correlation between average income (per capita GDP) for a country and the per capita consumption of wood products. The latter may be a consequence of the former, but wealthier people use more wood for construction, (better housing), paper, (education and business) and for furniture (domestic comfort), which are all considered as essentials for a better quality of life, rather than luxuries.

6. The conclusion is drawn from this overview, that **all countries, regardless of the state of their forest resources, need a policy for forestry, to establish the extent to which they can or should be dependent on their own resources, for both forest products and for environmental and other services.** Countries with a “surplus” need to consider the most effective and beneficial way of capturing the value in that surplus, and have a **strategy** for achieving it. “Deficit” countries, will need to determine to what degree they are willing to take the risk of being dependent on other countries; at least for forest products, and how much they are willing and able to invest to avoid greater deficits in the future in the face of a declining resource and an almost certain increase in demand.

7. It is not possible to give any precise measure of the impact of forests on economic growth and development, but there is a **strong correlation between “forest resource richness” and national per capita income**, so that – all other things being equal- the greater a country’s forest resources, the more wealthy (less poor) it’s population will be. How much of this is causal (the forests contributed towards economic growth) and how much an effect (less densely populated countries grew wealthier and so could afford to retain more forest) cannot be determined. The fact that the countries with the greatest amount of poverty, tend also to be the least well forested, suggests that the greatest focus of attention should be towards ways to prevent “deficits” growing further, or by initiating regional arrangements to promote some form of regional balancing of “surpluses” and “deficits”. Trade among ADB Member countries currently accounts for about 80% of the total trade in tropical forest products for the current “surplus” countries in the region.

8. The study covers the 20-year period between 1980 and 1999, during which the ADB invested a total of US\$1 billion in forestry projects throughout the region. The investment took place in two distinct phases, with the following characteristics: **Phase I)** 1980-85, US\$200 million in 10 projects and 8 countries. Average project US\$20 million. Core countries: Bangladesh, Indonesia, Laos, Nepal, Philippines, and Sri Lanka. Investments in Malaysia and Myanmar not repeated. 2 projects per year; average annual investment US\$40 million; and, **Phase II)** 1988-1996, US\$750 million in 23 projects in 9 countries. Average project US\$30 million. Core countries as Phase I plus Pakistan, PRC and Vietnam. 3 projects per year; average annual investment US\$90 million.

9. There was no identifiable change in emphasis in the projects between the phases, with the creation of industrial timber, fuelwood and soil conservation plantations predominating throughout, but a trend away from resource rich to resource poor countries can be discerned. Allowing for a two-year gestation period prior to the approval of a project, all of the above investment predates the 1995 Forestry Policy paper, and most of it was initiated prior to the 1989 policy guidelines paper.

10. The 11 DMCs that borrowed for forestry projects represent about a half of the total number that are potential borrowers based on considerations of the importance of their forestry sectors and their capacity to borrow and implement projects. For those countries that did borrow for forestry, the investment represented between 3 and 6% of their total borrowing from ADB, though overall ADB investment in forestry was only about 1.5% of the total investment over the same period.

11. The 1989 Sector Paper on Forestry, was the policy document most relevant to the design and implementation of these two phases of investment, and it had a number of important strategic objectives that can be summarized as: **promote increased forest**

productivity in order to gradually reduce ecological and economic threats to the region's forest resources; **take into account** degradation; Blend **the environmental goals and the economic objectives** to promote socially and environmentally sustainable forest development; incorporate ecological sustainability and economic issues related to forestry into **the legislative and decision making systems**; and **protect the interests of women and indigenous population** to ensure their access to the common resources and to which they have customary/traditional rights.

12. Although this policy statement is very general it indicates that an investment of about US\$ 250 million per year was the level with which the Bank would be "comfortable". This is about three times higher than the level of investment actually achieved during the second phase referred to above. The basis for the US\$ 250 per year is not clear, but had it been achieved it would have represented about 6% of the total investment being made by the Bank at that time. The second phase of investment in forestry had begun by the time the above paper was published, but the rate of investment began to decline, rather than increase to meet these targets, as might have been expected.

13. The reasons for this failure are not easy to determine, but it would have required an annual program similar in size and scope to the Phase I each year, in order to achieve it. It is likely that a combination of the Bank's lack of capacity to prepare and manage such a program and the DMCs' lack of capacity to absorb and implement new projects every 2 or 3 years made the whole strategy theoretical rather than practical.

14. Only in the Philippines was a comprehensive sector program developed in coordination with other donors, and this accounted for more than one-third of the investment in the five years following publication of the policy. Similar programs in every DMC would have been needed in order to have achieved the strategic objectives.

15. While the broad picture of the portfolio, in terms of the activities funded, is consistent with the 1989 policy guidelines, the evaluation of individual projects reveals that there are many problems with implementation. The major constraint seems to relate to land-tenure and "ownership" issues for both land and the forest crop. The projects that have supported individual farmers with clear land title seem to have been more successful than those working with communities with common ownership of the land and where the outputs will eventually be shared among several parties. There are also frequent references to institutional constraints affecting project implementation. Many aspects of governments' policy in other sectors bearing strongly on forestry and the way in which existing institutional arrangements function influence project implementation. This includes both the capacity and organization of government, private sector and civil society organizations to handle project activities and the legal framework within which the project must operate. The 1994 Sector Synthesis of Post-Evaluation Findings, makes reference to the need to consider the Executing Agency's capacity to manage in general and to handle projects in particular, and the consequent need for institution building and training, but it makes no specific reference for any need to adjust or adapt Organizational structures and functions to meet new challenges. This points to the need for project design stage to make provision for resolving such issues before project approval, rather than during implementation. This is likely to extend the time required for project design, and would suggest a longer pipeline of projects in order to maintain a viable program.

16. If countries are to borrow funds for developing their forest sector, they must be convinced that such investments are worth making. This requires, among other things, much more detailed analysis of the problems, and options for dealing with them, in order that all

stakeholders within the countries can be properly informed of the options and their impacts. Most DMCs do not have the capacity or the resources to carry out such work, and so ways need to be found to provide funding for such activities.

17. Most of the investment considered in this analysis was guided successively by the 1978 Working paper on the "Role of the Bank in Forestry and Forest Industries Development" and the 1989 "Sector Paper on Forestry". The impact of the 1978 Paper was reviewed in 1986 and published in January 1987 and concluded that the forestry sector was an important contributor to economic development throughout the region. The region was expected to become a net importer of sawnwood and paper and paperboard products and only retain the capacity to export plywood. It therefore recommended that there should be an initial strategic target to achieve self-sufficiency for the region as a whole. The Philippines, in the late 1980s, provided dramatic evidence of the justification for these projections, and this may have created the necessary preconditions for the establishment of a practicable program.

18. In the Philippines ADB has contributed about 30% of the total investment in the forestry sector over the past 20 years amounting to US\$ 313 million out of a total of US\$ 993 million. Thus the Philippines alone has received as much investment in forestry from all donors, as the ADB has invested throughout the region. An ADB Review of the forestry sector in the Philippines published in 1994 suggests that the Bank's involvement triggered far reaching policy changes. The most pressing challenge at the outset was to develop policies and institutional arrangements to halt the destruction of forest. There was some implied criticism that ADB had focused too much on large scale plantations by government and/or the private sector rather than on smaller community or farmer based schemes or on the management and rehabilitation of the remaining natural forest areas.

19. The Philippines and possibly Bangladesh are the only countries where the ADB appears to have developed a comprehensive sector program that aims to tackle all the elements that make up the Bank's own policy. In all the other countries, the investments are of a piecemeal nature. Since the basic causes of the underperformance of the forestry sector are multi-faceted, and are often outside the direct control of forest authorities, such as land tenure issues, a single project in the sector is unlikely to have sufficient impact to deal with the fundamental problems. The bigger the investment that a donor has in a sector the more influence that donor can bring to bear on the fundamental issues that are affecting the performance of the investment.

20. ADB, and the international community have increasingly enunciated the importance of forests for both forest products and environmental services, but so far very little hard evidence has been produced to demonstrate how forests and forestry contribute towards the reduction of poverty. The US\$ 1 billion investment by ADB in forestry could have created around 25,000 direct permanent jobs, plus additional temporary employment during the project life and an unknown amount of indirect employment. All of this would be off-farm rural employment, the expansion of which is considered vital to the reduction of rural poverty. Project evaluations do not provide any assessment of such benefits, and so vital evidence for promoting interest among DMC governments and donors is not available. ADB raised its lending for forestry from about 1.2% of the total lending to around 2% briefly during the mid 1990s, but it has fallen back to around 1% at the present. Other multi-lateral and bi-lateral donor agencies have followed a similar pattern. This situation is not entirely within ADB's control since there is an apparent reluctance of DMCs to borrow for forestry, which is probably related to their general perception that forestry brings low returns and does not justify an increase in their debt burden. The continuing degradation of the region's forest resources is an indication that DMC governments

give a lower priority to forestry matters than to other sectors of their economies. Those countries that still have resources have not been maximizing the benefits as a consequence of poor management, and have been diverting most of whatever capital they have realized to other sectors.

21. An alternative strategic approach for ADB is recommended that would entail the concentration of a high proportion of its investment in **a few priority countries**, such as it has done in the Philippines, so that it can have some real influence, rather than scattering relatively small investments over many countries. An **element of competition for these funds can be created**, if such a strategic approach is widely advertised, so that the countries most committed to change are the recipients, and those countries that are unable or unwilling to take some difficult decisions must wait until they are in a position to address the problems. Such an approach would be more efficient for the ADB staff, and would enable a far more thorough analysis of what is really needed, and what the real returns from investment is likely to be.

22. Ways have to be found of breaking the cycle of low perception of the role of forests in development and poverty reduction, leading to low investment in the sector, leading to further decline and deterioration of the resource base. A multi-pronged approach is recommended that deals with:

- understanding the role and value of forests in order to generate realistic perceptions at all levels of society,
- providing **adequate funds on appropriate terms** to enable the necessary action to be taken,
- improving capacity of the country, not just governments, to properly manage forest resources and the funds that are invested,
- establishing institutions and mechanisms for dealing with inter-sectoral issues that affect forest resources and the way they are perceived at present.

(The last of these refers to such issues as common access to resources, the operation of the market for environmental services, and rights of access and use of resources).

23. The key elements in a lending policy for forestry are encapsulated in the words “adequate” and “appropriate terms” used above. How to determine what is adequate? and how to determine what are appropriate terms? It is not possible at this stage to suggest a detailed answer to **what is adequate** in absolute terms for ADB, and how much it should allocate to investment in forestry related activities, as this will require a thorough analysis. However in principle it should be related to the potential of the forestry sector to contribute to the goal of poverty reduction as, or more cost-effectively than other sectors with the medium term aims to meet the “needs” for forest goods and services for the next generation to enjoy improved living standards and providing sufficient forest to create a robust environment.

24. An analysis of the needs for forest goods and services will have to look at the alternatives of achieving self-sufficiency within the region and importing products from other regions of the world. The goods and services evaluated must cover the full range, including the creation of new markets for as many as possible of the hitherto “intangible” benefits such as clean water. It will have to examine the role of wood for energy, including possible on-site generation of electricity with wood-fired boilers, and will therefore entail looking at the whole energy sector, and establishing the most appropriate role for wood in comparison with other energy sources. One service that can benefit from the existence of forests is tourism, which many DMCs are increasingly dependent on as a source of foreign exchange earnings, and this

potential also needs to be built into the analysis. Environmental protection cannot be imported, and substantial areas of forests will be needed to prevent soil erosion and water supplies, control floods, and conserve biodiversity.

25. The answer to the second question of **appropriate** terms will depend on the answer to the first. Because of the importance of intangible environmental benefits, the investment in many forestry projects will not generate cash returns in the future that can be used to service and repay loans. It may be possible to devise mechanisms for creating markets for such services as carbon sequestration and clean water, while the insurance industry may be interested in paying to reduce the risks of damage to infrastructure and property associated with flooding and erosion where this can be shown to be related to forest cover or its removal. Therefore a package of measures including loans, grants and a series of Market Based Instruments (MBI) may be the most appropriate solution.

26. Borrowing funds, does carry with it a certain discipline in the use of the funds, but the short time horizons of most governments weakens this effect, as the problem of repaying can be left to others in the future. Grant funds do not have the same element of discipline, and therefore there is a tendency for them to be used less efficiently, and they can create a dependency that encourages a short-term perspective. Some countries have used grant systems effectively to create and maintain forest resources, where the levels of grant are carefully set to offset the difference between commercial and economic returns, and are related to specific outputs.

27. ADB's ADF and ORC funds have established criteria for eligibility to use, and these are currently related to country criteria rather than sector criteria. There are Grant funds available from the GEF, and these have been used for co-financing of projects. The most effective way to package funds from these sources needs to be examined in relation to the objectives of a Policy, and, as part of the process of improving the ADB's capacity to implement it's policy.

I. INTRODUCTION

1. The forestry sector is recognized as being economically important in the Asia Pacific region, but concerns have been raised regarding the rate at which the forest resources in the region are being depleted, and hence the effectiveness and relevance of the *Bank's Policy on Forestry* published in 1995. Evaluations of recent project lending in the forestry sector have produced ratings of "partially successful", which indicate problems with project design and implementation.

2. There has been growing recognition; both at the Bank and among the Bank's DMCs that poverty and environmental degradation are strongly linked. Therefore the internationally agreed development objectives to reduce poverty that have been adopted by the Bank, must be supported by measures to avoid or reduce further environmental degradation. In the 1995 Policy on Forestry, the emphasis is on the forests; on the way they are managed and protected, so that they can provide goods and services. The policy clearly recognizes the importance of the macroeconomic issues of poverty, population growth and the need for rural development, but it tends to be concerned with the impact of these issues on the forest, rather than the reverse. Much of the Policy is concerned with the promotion of "best practice" in forest management and conservation.

3. The **Policy objective** is nowhere clearly stated. The implied objective is to "promote the management of forests in the region for the optimum combination of benefits to be obtained through the **protection** of forests for their conservation, environmental and **production** values through the **participation** of all stakeholders". (the so called three Ps principle)

4. Although this implies that it seeks to promote the management of forests for economic and environmental benefits, that would be expected to have some positive impacts for the poor, it makes no provision to ensure that the poor are the principle beneficiaries.

5. The fundamental principle of forest management is that the "Objectives of management" are clearly defined. These will determine all the decisions and actions that are subsequently carried out. The three "**P**"s highlighted in the policy are not objectives, but are the means by which objectives could be achieved. Without clear objectives it is impossible to determine what is the optimum combination between protection, production and participation. It is also impossible to answer such questions as "how much forest should be protected?" or "to what degree should a DMC or the Region be self-sufficient in forest products?" or "do all stakeholder groups have equal rights when it comes to striking a balance between conflicting demands?"

6. Forests, as a natural resource, have the unique characteristic that the principle product that is exploited economically itself creates the habitat for millions of other species. A forest without trees is not a forest, but a lake without fish is still a lake. Therefore forest management involves a balancing between the economic benefits of resource exploitation and the environmental costs of resource depletion. Many DMCs have been experiencing increasingly severe and frequent flooding, much of which is attributed to deforestation, and this has led them to introduce more conservative forest policies.

7. The overall purpose of the study is to continue the development of the ADB forest sector policies and strategies for improved livelihood systems and poverty reduction through sustainable forest resource development and management. The immediate objective of the TA

is to revise the ADB forest policy and sector strategy so that it is consistent with and reflective of the needs of the DMCs, recent thinking and initiatives at the global and regional level and developments in the sector, and align the policy with ADB.

8. The study is in support of a process that will be carried out over a period of more than a year. The process is not linear, but iterative or circular, with continual additions of information and ideas and revisions of concepts and presentation, as a result of discussions among the Forestry Sector Working Group, outside stakeholders and DMC representatives. As a result this report is not a definitive or final document, but should be treated as a “State of play” document as at the end of the year 2000. The final section indicates a number of important issues that need further study, and these will be undertaken and reported on in due course.

II. PLANNED SCOPE OF THE STUDY

9. It was expected that the study would be implemented in two phases over a 15-month period, under the strategic guidance of the Forest Sector Working Group (FSWG). The tasks to be undertaken during each phase were expected to be as follows.

Phase I.

- Preliminary study to analyze ADBs forest sector experience over the last 10 years, including documentation of the lessons learnt and identification of key policy issues and constraints.
- A review of forest sector experiences jointly with major agencies and partners concerned with forest sector development, including beneficiaries, government agencies and specialized institutions inside and outside the region,
- Preparation of four country case studies that describe forest policy and institutional reform trends and issues including inter-sectoral incursions,
- Documentation of major lessons learnt in policy and institutional reform in the sector with special reference to ADB’s forest sector portfolio,
- An outline of the sector priorities and operational strategies to enhance the poverty reduction impact of ADB’s forest sector portfolio,
- Identification of human, capital and technological resource requirements,

Phase II.

- The dissemination of the findings of phase I through publications, including workshop proceedings and country case studies,
- Development of the ADB forest sector policy and strategy based on the findings of Phase I and consistent with ADB’s overall strategic development objectives, especially the long-term strategic framework,

- An expert review of the draft forest sector policy and strategy document,
- A participatory process approach to policy and strategy formulation including the organization of regional consultation to critique and improve the draft forest sector policy and strategy document,
- The preparation, publication and dissemination of regional consultation proceedings, country case studies, and an ADB forest policy and sector strategy document.

10. This paper addresses the first two and the fourth of the tasks planned for Phase I, to analyze ADB's forest sector experience, especially with its lending portfolio over the last 10 years, review forest sector experiences in the region and document major lessons learnt in policy and institutional reform in the sector.

III. SECTOR PERFORMANCE

11. This section will look at the general situation in the forestry sector, and some of the most important issues that are affecting its performance in relation to economic development. The following section will look more specifically at the Bank's experience sector wide, and in the section after that at the portfolio performance.

12. The 1995 policy for forestry distinguished between **resource rich** and **resource deficit** countries, and adopted a different strategic approach for each. For the former, the emphasis was to maximize the area kept as functioning forests, with adequate areas set aside for harvesting, conservation and other functions. For the second group of countries, the emphasis was on creating more domestic wood supplies through plantations and improved forest management.

A. Resource wealth

13. The criteria used for differentiating between resource rich and resource poor countries is not clear, but taking Indonesia as intuitively one of the most resource rich countries in the region, it has about 51% of its land area forest covered and an average of 0.51 ha. of forest per person. Twelve other countries in the region have either a higher proportion of their land covered in forest and/or more forest area per person and therefore could be considered as also being resource rich:

- Vanuatu, Papua New Guinea, Solomon Is., Mongolia, Lao PDR, Bhutan, Cambodia, Fiji, Malaysia, Samoa, Myanmar, Taipei, China and Indonesia.

14. The Philippines and Thailand are referred to as being in **transition from resource rich to resource deficit**, but five other countries could be considered as being in the same situation according to the above criteria:

- Nepal, R.of.Korea, Vietnam, PR.China, Sri Lanka, Philippines and Thailand.

15. The **resource poor group** can itself be divided into two sub-groups, one being the relatively large and populous countries:

- Afghanistan, India, Pakistan and Bangladesh.

16. The other being small island states:

- Cook Is., Hong Kong, Kiribati, Marshall Is., Maldives, FS Micronesia, Nauru, Singapore, Tonga and Tuvalu.

Table 1: Summary of population, forest area and deforestation rates for Resource-rich, Transition and Resource-poor countries in the Asia-Pacific region.

Group Type	No. countries	Population ('000 persons)	Forest area ('000ha.)	Deforestation (ha./an)	Deforestation rate (%)	Population density (persons /km ²)
Resource rich	13	278.719	239,435	2,636	1.10	50
Transition	7	1,410,915	171,578	1,358	0.79	132
Resource poor-large	4	1,109,346	55,574	521	0.94	245
Resource poor-island	10	7,879	14	0	0	128

17. The conclusions that will be drawn from an assessment of the performance of the forestry sector will depend very much on the criteria and indicators used to evaluate the performance. The Bank's 1995 Policy for Forestry, was largely driven by concerns over the rate of degradation and destruction of the tropical forests in the region, and the growing fear that the declining resource base would be unable to meet the anticipated growth in demand for goods and services from the sector in many DMCs. The consequences of the loss of forest cover were considered to be increased risk of soil erosion leading to siltation of reservoirs, and negative impacts on irrigation systems and hydropower generation, loss of habitat and biodiversity and disruptions to the livelihoods of forest dependent communities. The World Bank's Forestry Policy published in 1991 was based on similar concerns at the global level.

18. It is interesting to note that these same concerns were driving the formulation of forestry policies in most European countries and the United States of America (Mather 1990) at the beginning of the 20th century, but it took almost 50 years before the trends were reversed, though the rate of decline was halted almost immediately. (Fraser in print).

B. Destruction and degradation of forest wealth

19. Looking at the sector purely from the perspective of declining forest area and degradation of the remaining forests is not particularly informative, because there is a large degree of inevitability about the process. It has been going on since humans first invented tools and learnt how to use fire, and because of population growth is only likely to stop when the productivity of other sectors competing for land has risen sufficiently to be able to meet the needs of the increased population, without the need to increase their area. The forest policies of most European countries that were introduced in response to the extent of deforestation

“succeeded” in reversing the trend and expanding the area of forest largely because agricultural productivity increased rapidly. This, combined with the movement of population from rural to urban areas had the effect of reducing the value of land for agriculture, and thus reducing the cost of incentives to landowners to plant trees.

20. The 1995 policy implicitly acknowledges that deforestation will continue, and aims to reduce the rate of deforestation and mitigate the adverse impacts, but it gives no indication as to what rate of deforestation might be appropriate, or how to determine such a rate. It says nothing about the circumstances that could provide justification for some deforestation, where the land can be put to economically better use and what might or should be done with the capital value realised from the forest clearance. A combination of measures are referred to in the policy for reducing deforestation covering on the one hand, measures to identify, delineate and secure forest areas, and on the other hand measures to reduce the pressure to clear forest by promoting intensification of agriculture and providing alternative livelihood opportunities.

21. According to a recent review of the causes of forest decline by CIFOR (Contreras-Hermosilla 2000) it is due to complex socio-economic, cultural and political factors that interact in different ways in different times and places. The causes can be divided into those which impact directly on the forest, such as shifting cultivation and logging, and the underlying causes which may impact through a long chain of interaction. Among the latter causes are population and economic growth, which stimulate the demand for forest products, and related to this, poverty, which stimulates people to collect and sell forest products, often illegally. Poverty itself may be the result of lack of recognised rights of access to resources, related to political power structures, which makes use of the resource technically illegal. It is frequently also exacerbated by environmental factors such as drought and floods, which in turn is one consequence of forest decline.

22. An important point is that deforestation is mainly the consequence of a large number of decisions made by individuals and groups based on self-interest, rather than a collective or political decision on the best way to utilise the resource for present or future benefits. A poor farmer may feel that there is plenty of forest, and that clearing a little bit will bring him more benefits from the food that can be grown on the land, than he obtains from the forest. He does not receive any benefit now from the soil and water conservation or carbon sequestration functions performed by the forest, and only rarely does he receive any benefit from biodiversity. Thus the land has a greater value to him for farming than it does covered in forest.

23. Similar arguments apply to legal and illegal logging, since the logs can be obtained at a very low price, and sold for a large profit, and it makes more sense for individuals to take advantage of this when they can, rather than leave the trees for either later generations or for someone else to cut. The classic “tragedy of the commons” which will inevitably lead to continued destruction of forests.

24. The element that is missing at the present time is a collective (“political”) decision at country level on how much of the country’s forest resource should be liquidated for what purpose in order to derive the greatest possible collective benefits. In many of the resource rich countries, access to rights to exploit the forest is highly politicised, and the beneficiaries have little interest in the wider economic benefits that forests can provide. If forest has a benefit to sections of the community to mitigate flooding, then society at large should bear the cost of protecting the forest. This may mean providing an incentive to those who would clear forest to intensify and/or diversify their existing activities, rather than extensify into more forest.

C. Strategic choices

25. Some hard choices need to be made by many countries. These choices can be encapsulated in a few titles as being between basically

- “business as usual”,
- “using our wealth wisely” and
- “saving for the future”.

A. “Business as usual”:

26. This is a continuation of the *laissez-faire* approach, and accepting the inevitable consequences of continued rapid depletion of forest resources. As the resource is depleted and the demand rises, more and more of the forest capital must be consumed and this means that the growth that is needed to maintain the capital is also reduced, and the rate of depletion accelerates. This point has been reached already in a few countries that were resource rich in the past, such as Thailand and the Philippines, but is still a few years away in the remaining resource rich countries in the region.

Deforestation

27. In the absence of a decision by governments to adopt a different strategy towards their forests, and “business as usual” continues, the rate of deforestation will gradually increase over the next 10-15 years, as more and more of the currently resource rich countries reach the turning point where the removals exceed growth. But it is not just the resource rich countries that are affected. The data in **Table 1** tends to support this hypothesis, as it shows that although the countries in the transition stage appear to have a lower rate of deforestation than the resource rich countries the group average is depressed by PR China with a deforestation rate of only 0.2%, while both Thailand and the Philippines are more than 4%. The deforestation rate is higher in the large resource poor countries, which is almost certainly a function of the enormous population pressure. In fact the average figure of 0.94% deforestation rate for the group is also depressed by India’s relatively low rate of 0.15%, which conceals the high rates of over 4% in the other three countries. It is informative to compare the Regional situation in Table 1, with data for Indonesia in **Table 2** below, which is based on a Provincial analysis, aggregated by groups of Resource rich (8 provinces), Transition (8 provinces) and Resource poor (9 provinces).

28. The Indonesia data shows remarkably similar trends to the regional one, with a strong negative correlation between population density and forest cover. This may be more a function of soil fertility, with populations expanding where agricultural production can be high. However both data sets show that although the absolute area of deforestation decreases as forest area declines it is not decreasing fast enough to keep the rate constant. This is a graphic illustration of the classic exponential depletion curve.

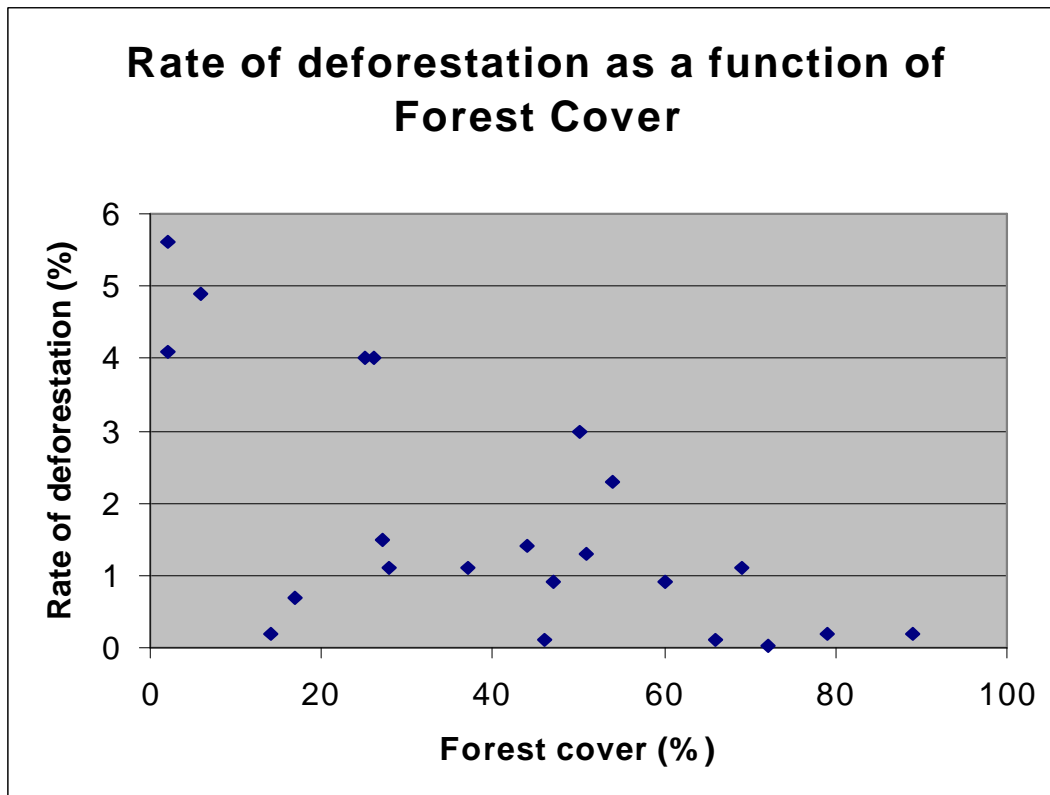
Table 2: Summary of population, forest area and deforestation rates for the Provinces of Indonesia, grouped into resource rich (>50% forest cover), transition (30-50% forest cover) and resource poor (<30% forest cover)

Group Type	No. Provinces	Population ('000 persons)	Forest area ('000ha.)	Deforestation (ha./an)	Deforestation rate (%)	Population density (persons /km ²)
Resource rich	8	16,770	75,557	635	0.86	14.9
Transition	8	36,561	15,170	480	3.16	90.6
Resource poor	9	136,677	7,144	300	4.20	471.1

29. The fact that both India and China have apparent rates of deforestation well below the average for the group in which they fall, based on the proportion of forest cover, may be the consequence of several factors. It could be because the national average conceals large variations within the country as demonstrated by the Indonesia example, to under-recording of the true rate of deforestation, to the possibility that almost all forest on land suitable for other purposes has already been cleared or it is possible that policies to reduce the rate of deforestation are actually having some impact. This point warrants further investigation.

30. **Figure 1 below**, shows graphically the relationship between the rate of deforestation, using the most recent available figures that refer to the late 1980s and early 1990s, and the reported forest cover at the same period. The general trend is for the rate of deforestation to increase as forest cover decreases, which is mainly a function of the absolute area deforested declining more slowly than the residual area of forest. However there are some 6 to 8 countries with much lower rate of deforestation than the general trend. These are: India, China, Fiji, Nepal, Sri Lanka and Vietnam, with Laos and Myanmar being marginally below the general trend.

Figure 1: The relationship between the rate of deforestation and the proportion of the land area covered by forest for 23 countries in the Asia-Pacific region.



31. Using the rate of deforestation on its own as an indicator of the success of a forest policy is therefore likely to be inappropriate as it is almost bound to increase as the forest capital declines, but comparing a country's rate of deforestation with the general trend may be more informative. The Indonesia analysis showed that the rate of deforestation more than doubled after 1984, compared to the rate prior to that point in time.

32. It has also been estimated in Indonesia that a total of US\$28 billion of value has been destroyed over the period 1984-1996. This has been calculated by comparing the difference in the value of the forest resource at the start and end of the period with the value of goods produced during the same period from the amount of timber represented by the difference in the standing stock. The reduction in the capital value of the forest amounted to US\$96 billion, and the present value of the future income from the area of forest lost was estimated at a further US\$6 billion, giving a total of US\$102 billion, while the value of the products produced during the same period was only US\$74 billion. (ITFMP Final Report 1999).

33. Most of the remaining resource rich countries in the region are steadily dissipating their inherited wealth, and yet are seeking outside investors, including ADB to finance development projects. This is not the best solution for them, since it increases indebtedness and also passes control of sectors of the economy to citizens of other countries, who may not feel the same commitment as a national of the country would when the going gets tough.

Economic development

34. Economic growth generally requires more resources, and more efficient use of existing resources, and the forestry and wood products sector cannot escape from this. **Table 3** below shows that the average per capita consumption of wood products among the Resource rich countries is six times higher than the Resource poor countries and four times higher than the Transition countries. It is about the same as the Newly industrialized group of countries, but only about 28% of the Regional Industrialized Member countries.

Table 3: Comparison of per capita consumption of wood products, (sawnwood, panel products and paper) for country groups.

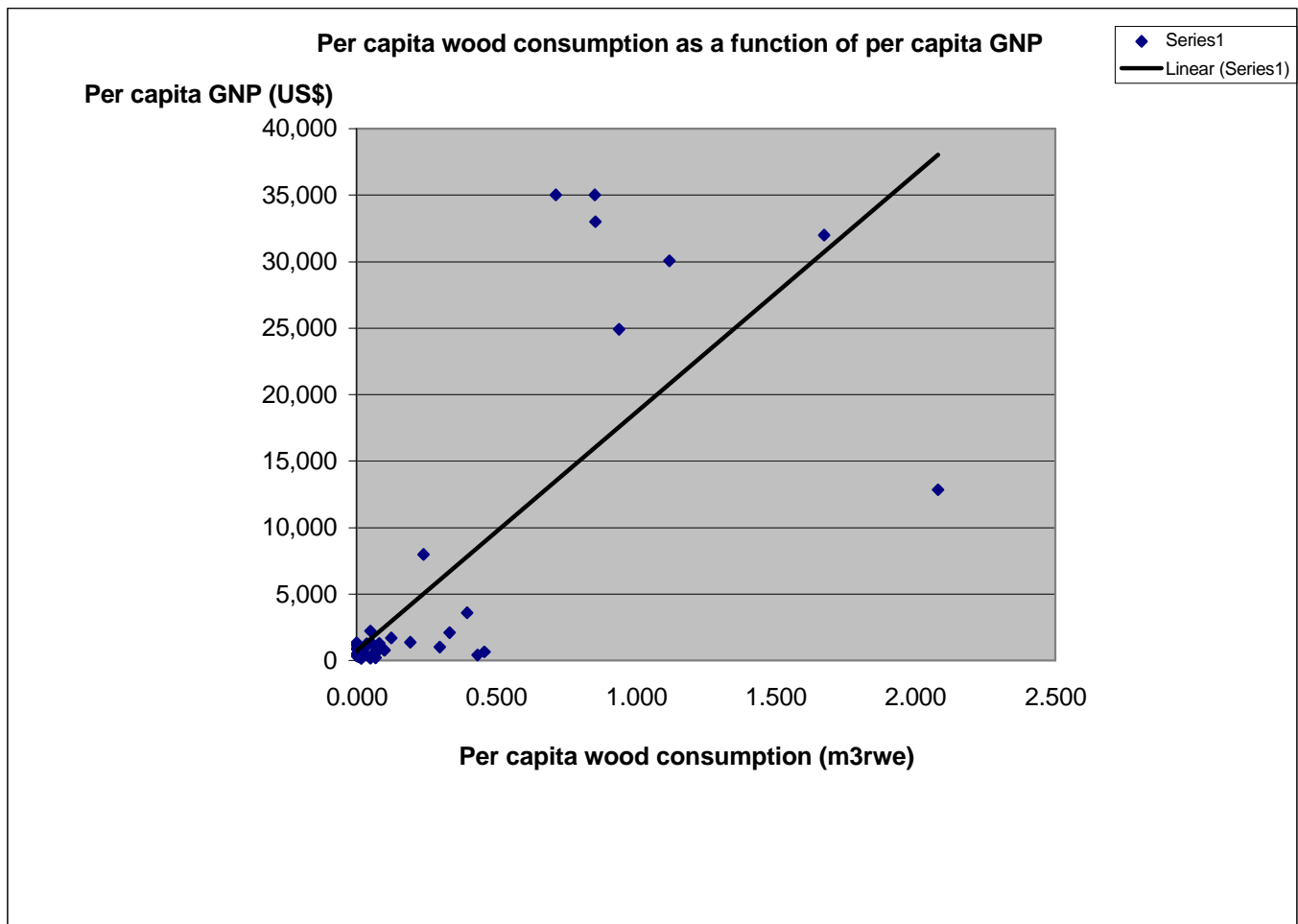
Country Group	Per capita consumption (m ³ rwe/cap)
Industrialized Regional MCs	0.854
Newly Industrialized MCs	0.295
Resource rich DMCs	0.301
Transition DMCs	0.070
Resource poor DMCs	0.053

35. In addition to being able to consume higher quantities of wood products, which contribute to quality of life through building and construction, furniture, paper products and a wide range of tools and utensils, these resource rich countries also benefit from foreign exchange earnings, employment and the capital realized when forests are exploited. It will clearly be very difficult for the Resource poor and the Transition countries to enjoy the same Quality of Life as the Resource rich countries in terms of the availability of wood products.

36. However as the Transition countries are showing, it is relatively easy to move from being resource rich to resource poor when forest policy is in effect “business as usual” regardless of any published policy statement, and this soon shows up in declining consumption of wood products. A 1975 study by FAO in Thailand, found consumption of wood, excluding fuel, at that time to be around

- 0.35 m³rwe/person/year, which may be compared with:
- 0.05 m³rwe/person/year- the current apparent consumption in Thailand , and
- 0.035 m³rwe/person/year current figures for the Philippines, and
- 0.394 and 0.234 m³rwe/person/year for Malaysia and Indonesia, respectively.

Figure 2: Per capita wood consumption as a function of per capita income



37. As a country moves into the **Transition** stage from being resource rich to resource poor, the prices for wood products begins to rise, from a combination of the drying up of sources of cheap illegally felled logs and the need to turn to imports which are generally more expensive. (The price of sawn wood on the domestic market in Indonesia is 50% of the international price). Initially part of this price rise can be absorbed by more efficient processing and economizing on the use, but most substitutes for wood (e.g. Steel and aluminum) are more expensive and perhaps more important, are environmentally less friendly, because of the amount of energy required to process them.

38. It would require some major research to determine what impact wood shortages have on economic growth rates, but with so much paper being consumed in education, government and commerce the impact is likely to be detrimental, both in the short and the long-term. As **Figure 2** shows increasing wealth leads to considerably increased consumption of wood products. It is difficult to say how much of the increased consumption is essential to growth, and how much is

a consequence of growth with increased incomes enabling people to purchase non essential but useful items such as furniture.

39. The “business as usual” choice is basically that of the person who receives an inheritance and dissipates it all over a few years, with little regard for his or her own or their children’s future. Without a decision by DMC governments to adopt a different strategy towards their forest resources, the “business as usual” approach will lead to accelerated rates of deforestation and growing deficits of timber products for more and more countries, as well as a general deterioration in the environment.

B. “Using our wealth wisely”.

40. The **large resource poor countries** would seem to have a more urgent need for some decisions than the resource rich countries, because it would seem that for most of them their few remaining forests are disappearing at an alarming rate. The problem being faced by these countries is particularly severe because of the enormous population pressures that are placing unbearable strains on their forest resources. These countries with very limited forest resources and large populations need to consider how they can meet the increased demand for forest products and environmental services that will come about as a result of the combination of increased population and incomes (assuming that development continues to raise per capita incomes) and whether they are prepared to bear the costs of environmental deterioration.

41. There are a number of options for dealing with the potential increase in timber demand, including importing timber products, establishing plantations, improving the efficiency of utilization by reducing waste, promoting the processing of composite materials to use waste and unconventional woody material and promoting substitution with alternative materials, if such exist. These options are not mutually exclusive, and there would seem to be an important role for the Bank to play in assisting the countries to determine the most efficient combination and the best investment strategy.

42. As earlier comments on the situation in Europe at the opening of the 20th Century have indicated, improving the efficiency and productivity of agriculture can probably do more to save forests than any measures directed purely at forestry. Countries need to find the optimal solution for using their land to produce both agricultural and forest products and maintain their environment in as healthy a state as possible. The solution will vary from country to country, but it requires a pro-active approach and an evaluation of the alternatives.

43. Reference has already been made to the “tragedy of the commons” being an important factor in both forest clearance and forest degradation through illegal logging, and a strategy to use a country’s wealth wisely will need to find ways of breaking the cycle of ruin which applies when there is open access to resources. In terms of the strategic goal of development this means that the resource poor countries need to find ways of sharing the resources in such a way that wealth is not destroyed.

44. The **resource rich countries** need to start viewing their forests as part of their national capital assets, and making decisions on how best to use it. There may be a justification for liquidating some of it to raise capital for investment and use the land more efficiently for some other purpose, but the question arises as to whether governments or the private sector will make the best use of the capital that is realized, and how it should be distributed among

stakeholders. Up to now, neither the private sector nor governments have given much ground for optimism that they can make good use of the capital.

45. If wisely invested, the capital that the forest represents can be invested in other wealth creating sectors and make a major contribution to economic development. This involves converting those areas of forest where the greatest net gain is made between what is lost from removing the forest, and what is gained from the replacement.

C. "Saving for the future".

46. This is a highly conservative strategy, that is advocated by many environmental and conservation groups. It is particularly relevant to those countries with forests having a rich biodiversity, which may contain plant or animal species that might prove useful to mankind at some time in the future. It also means managing forest resources for capital growth rather than income, so that there is more capital available at some future date to either deal with emergencies or some particularly good new opportunity that arises. The Bank's 1995 Policy for Forestry established the strategic approach towards resource rich DMCs as being "to maximize the area kept as functioning forests and press for adequate areas to be set aside for harvesting, habitat, catchment protection, plantations and forest-dwelling communities".

47. This strategy is particularly relevant in the context of developing a forestry sector that could meet the demands likely to be placed upon it by future generations. To some extent future generations will have to make do with what is left, and technology will help to overcome some of the deficiencies. The biggest argument in favor of adopting this strategy relates to the conservation of biodiversity, since once a species is extinct the chances of recreating it are considered to be non-existent. Species extinction is a fact of nature because it is the "survival of the fittest", but the destruction of habitats has a much wider impact because of its effect on the whole food chain and not just on a limited number of species.

48. Climate change is still a topic of great debate, and we know that the world's climate has changed dramatically, even over the past 20,000 years since the end of the last ice age. As the climate warmed, species of both plants and animals were able to migrate from various refuges and colonize previously inhospitable areas. If the current trend of global warming, whatever it's causes, continues mankind will need to accelerate the adaptation of many species in order to maintain food crop production. A large number of commercially important crops, such as oil palm, cocoa, coffee, rubber and many fruit are domesticated forest plants, and the wild varieties will be an important source of genetic variation for breeding programs.

D. Conclusions

49. Deforestation is not a consequence of things going wrong in the forestry sector, but is primarily the result of the impact of other sectors, particularly agriculture, which prefer to increase output by extension rather than intensification, and commerce which prefers to grab cheap capital from liquidating a resource rather than suffering the discipline of saving or borrowing against a well planned investment strategy

50. Measuring the performance of the forestry sector should therefore look at both the capital and the current accounts in order to determine whether the resource is being used in the most efficient manner possible.

51. The Bank as an investor, lender and a development agency must be concerned as to whether it's DMCs are using their own resources to their best advantage, so that Bank interventions can be additional to, rather than substitutes for domestic capital. This would imply that any project that the Bank may consider supporting in any sector should take account of the possibility of domestic funds being made available through better management of the forestry sector. The Bank needs to be prepared to assist DMCs to examine the strategic choices referred to above, and decide whether "business as usual" is the most appropriate.

IV. PERFORMANCE IN THE REGION

A. Bank lending

52. Since the Bank started, it has lent some US\$990 million to the forestry sector in 11 DMCs, and has provided technical assistance funding amounting to a further US\$41 million extending to an additional seven countries. **Table 4** below gives a summary of the distribution of these funds by countries and projects. An examination of the investment portfolio according to the resource status of the recipient countries, reveals some interesting differences, although almost all the loans were committed before the strategic approach on the basis of resource status was established.

Table 4: Breakdown of ADB lending to DMCs for forestry sector projects, by country, resource status and project.

Resource status	Country	Total value of loans (US\$mil.)	Number of Projects	Lending per country (US\$mml.)	Average size of project (US\$mil.)
Resource rich	4	192	9	48	21.2
	Indonesia	93	4		23.2
	Malaysia	55	2		27.5
	Myanmar	25	1		25.0
	Laos	19	2		9.5
Transition	5	542	16	108	33.9
	Philippines	311	7		44.4
	PR. China	77	1		77.0
	Nepal	66	3		22.0
	Sri Lanka	47	3		15.5
	Vietnam	40	2		20.0
Resource poor	2	265	8	132	36.5
	Bangladesh	167	5		33.7
	Pakistan	98	3		32.7
Total	11	999	33	91	30

This way of presenting the portfolio illustrates two features of interest:

- the size of the projects was largest in the Resource Poor countries, and smallest in the Resource Rich countries.
- and a higher proportion of the Resource Poor (50%) and Transition countries (71%) applied for and were provided loans, than from among the Resource Rich countries (31%).

53. It has already been pointed out that the Resource Poor have the highest rate of deforestation, so that a higher investment would seem to be justified, but it will also mean that if the government is adopting the “business as usual” approach, the chances of achieving any impact on deforestation are very small, and there are likely to be greater problems with implementation because of land pressure and the other factors that have contributed to resource poverty. There is also the question of a country’s capacity to absorb large amounts of funding, if institutional capacity is weak, and this may be particularly applicable in the Transition countries, and particularly the Philippines, which received almost 30% of all loans at a time when it had just about finished liquidating its resource.

54. The smaller proportion of the Resource Rich countries that received investment may be purely coincidental, because the other resource rich countries were either embroiled in wars and political unrest through much of the period, or are the relatively sparsely populated Pacific island countries, that were probably not in need of investment funds, but this does not really explain why the projects were so much smaller.

55. An alternative way of looking at the investment is to consider the timing, which shows that it took place in three distinct phases. These are shown in Table 5 below, which indicates that average project size and investment per country increased substantially from the first to the second phase, but then declined slightly in the third phase. The average investment each year increased from the first to the third phase, though the higher level of investment was only sustained for two years.

Table 5: Magnitude and distribution of ADB investment phases, by country and project between 1980 and 1999.

Period	Investment (US\$ million)	Number of countries	Number of projects	Average investment per country (US\$ million)	Average investment per project (US\$ million)	Average investment per year (US\$ million)
1982-5	200	8	10	25	20	50
1988-92	450	5	7	90	64	90
1994-6	200	3	4	67	50	100

56. For some reason the Philippines received both a much higher total investment and much larger projects than almost all other countries, and if it is excluded from the average of the Transition countries, the remaining countries in the group had an average lending per country of only US\$51 million, and an average project size of US\$ 25 million which is very similar to the Resource Rich countries. The question therefore is; did the two Resource Poor countries and the Philippines warrant a substantially higher level of investment than the other nine countries?

57. **Table 6** below looks at the forestry sector borrowing for the nine countries that borrowed after 1990 in relation to the net transfer of funds from the Bank to the country, the size of the national foreign debt and GNP. These are taken respectively, as indicators of total borrowing from the Bank; the country's existing indebtedness and therefore its ability to service further debt, and its general wealth to compare the size of the forestry debt with the relative contribution of the forestry sector.

58. The table shows that the borrowing for the forestry sector is a relatively high proportion of net borrowing from the Bank for all the countries. This would explain why the proportion of total Bank lending to the forestry sector is relatively high at 1.5%, when only about one third of the DMCs borrowed for forestry projects.

59. For Nepal and Bangladesh, the additional borrowing for forestry projects is more than 1% of the existing National foreign debt, and for Nepal in particular it is almost 1% of GNP. For all the other countries the borrowing for forestry only amounts to a very small proportion of total debt, though for Laos it also represents a significant proportion of GNP.

Table 6: Forestry sector borrowing by ADB DMCs in relation to total borrowing from ADB, national debt and GNP.

Country	Forestry Loans (US\$mil) 1990-99	1990-99 Net transfer of funds from ADB (US\$mil.)	ADB forestry lending as % of net transfer of funds	National debt out standing 1998 (US\$mil.)	Forestry loans from ADB as % of GNP	Forestry loans as % of out standing national debt
PR. China	77.0	3,399	2.27	154,599	0.009	0.05
Bangladesh	110.4	2,195	5.03	16,376	0.270	1.01
Pakistan	84.2	2,111	3.99	32,229	0.143	0.31
Sri Lanka	37.5	974	3.85	8,526	0.269	0.44
Nepal	40.0	592	6.75	2,646	0.995	2.52
Vietnam	33.0	516	6.40	22,359	0.135	0.18
Laos	11.2	447	2.51	2,437	0.754	0.79
Indonesia	32.6	366	8.91	147,475	0.002	0.04
Myanmar	0	-86	-	5,680	-	0.44
Philippines	125.0	-439	28.5	47,817	0.191	0.65
Malaysia	0	-561	-	44,773	-	0.12

60. Statistics on total forestry sector contribution to GNP or GDP are not readily available, and most that are published are not comprehensive, taking account of the economic and environmental contribution. However FAO published statistics on the value of forestry production as a percent of GDP for 1991. (More up to date statistics will be available shortly). From this data the countries can be put in three groups:

- 8-15%, Nepal, Laos, Indonesia, Vietnam, People's Republic of China,
- 1-8%, Bangladesh, Philippines, Sri Lanka,
- <1%, Pakistan.

61. The above figures include fuelwood and energy, which explains both the high percentages for poor countries such as Nepal and Laos, and also the low percentage for Pakistan, where wood only accounts for 20% of energy consumption.

62. On this analysis the Philippines does not appear anomalous, compared with the other countries that borrowed for forestry, except for the fact that it was entering a period of high debt servicing costs for previous loans and its per capita GNP had already reached the point where economic growth should be sustainable. Thailand which had a forestry sector in a similar position did not borrow for forestry projects, and Malaysia did not increase its borrowing for forestry after 1988.

63. India stands out because of its absence from the list of borrowing countries, but this appears to be due to a combination of some perceived differences between India's Forest Policy, and that of the Bank at the time of a fact-finding mission in 1994 (prior to the publication of the Bank's Policy for Forestry in 1995), and the fact that India does not have access to ADF funding. Other countries might reasonably have been expected to consider borrowing to develop their forestry sector, but have not so far done so, but taking 5% of borrowing from ADB as an average proportion for forestry projects, based on the pattern of existing borrowers, and an average size of project as US\$ 20 million, would suggest that any country that has borrowed around US\$ 400 million or more, is a potential borrower for forestry. On this basis at least

- Cambodia, India, Kazakhstan, Kyrgyzstan, Mongolia, Myanmar, Papua New Guinea, and Thailand,

are all potential borrowers if they saw investing in forestry as contributing towards economic development.

B. Conclusions

64. The Bank has invested a significant proportion of its portfolio and substantial funds in the forestry sector of the region. 87% of the investment was committed before the 1995 Policy on Forestry, and the balance of 13% made up of four projects approved since then is in countries that were already borrowers. These projects may show some impact of the policy on project design, which will be discussed later, but they are too few and too new to demonstrate any shift in strategic direction.

65. The analysis shows a tendency for the total investment and project size to be rather larger in resource poor countries, but the countries concerned are among the biggest borrowers from the Bank, and the forestry sector portfolio does not represent a higher proportion of total borrowing than in other countries.

66. Since 1980, eleven countries have borrowed for forestry sector projects, and according to the Sector Synthesis of Evaluation findings, this lending has been guided by the 1978 Working Paper on "The role of the Bank in Forest and Forest Industries Development" and by the 1989 Sector Paper on Forestry. This latter guided implementation of the Bank's lending to forestry through country specific comprehensive Master Plans for forestry development, which among other things attempted to coordinate donor aid for forestry development.

67. With this emphasis on country specific priorities for investment, it is not surprising that no overall pattern of investment for the sector should be apparent, but it would indicate that the resource poor countries gave forestry a higher priority than the others, because they borrowed

more and had larger projects. For all the countries that borrowed, the proportion of their total borrowing from the Bank allocated to forestry was substantially higher than the proportion that forestry loans represent of all loans by the Bank.

68. At least eight countries meeting the same criteria as those that borrowed for forestry, in terms of the importance of forestry to their economies and their capacity to absorb the amount of funds involved in a project, as indicated by the magnitude of their borrowing for other sectors, did not take on forestry loans. The reasons for this are unclear, and need to be further investigated.

69. The Bank has a dual role, both as a source of development finance and as a promoter of development. The investments made in forestry from a regional perspective could be considered as satisfactory, since around 57% of the potential borrowing countries actually took out loans for their forestry sectors. These loans represented about 5% of their total borrowing from the Bank, but overall the Bank's lending to forestry was only about 1.5%. Because the lending strategy has been determined mainly by national priorities, rather than any strategic regional objective the portfolio of projects has a somewhat haphazard appearance, and it is difficult to judge whether it will have any region-wide impact.

C. Performance from the Bank's perspective

70. Eleven of the 32 projects have been evaluated, and the summary report for the sector says that the overall performance of the forestry projects has been better than many other sectors. Only one of the 11 projects was considered to have been a failure, and the others were either partially or generally successful, though none were rated a complete success. The one unsuccessful project was a relatively small project in Samoa to create plantations but it was badly damaged by cyclones, as well as having technical problems.

71. This performance was judged on the basis of the implementation, the degree to which the objectives and physical targets were achieved and the overall economic impact. The latter was determined principally on the basis of the estimated EIRR on project completion, compared with that calculated at appraisal.

72. **Table 7** below gives a summary of the main components of each of the 33 projects referred to in Table 4 above. Where two or more loans refer to projects that have the same name and general purpose, they have been grouped together and referred to as I, II etc.

Table 7: Forestry sector projects funded by ADB by country, with brief description.

Country	Title	Main components
Bangladesh	Upazila Afforestation & Nursery: (1989)	
	Community Forestry: (1981)	
	Coastal greenbelt: (1995)	
	Forestry Sector: (1996)	Plantation establishment (70,000 ha.) and management of production forest (40,000 ha.) and conservation forest (36,000 ha.) with community participation and conditions on Inst. & legal reform.
	Sundarbans Biodiversity conservation: (1998)	Biodiversity conservation through community management of reserved forest
Indonesia	Forestry Development: (1985)	Establishment of commercial plantations (36,000 ha.) and soil conservation plantations (2,400 ha.)
	Timber plantation: (1989)	Industrial forest plantations (51,000 ha.)
	Biodiversity conservation in Flores and Siberut: (1992)	Biodiversity conservation through, surveys, protected areas, participation and income generation.
	Mangrove rehabilitation in Sulawesi: (1993)	Planning and management of 50,000 ha of mangroves with community participation and rehabilitation of degraded mangroves (1,500 ha.)

Laos	Industrial tree plantation: (1993)	Fuel and industrial wood plantations (9,000 ha) + policy and institutional dev.
	Forestry Development: (1984)	Increase veneer production for export and utilize residues, including charcoal plant from residues.
Malaysia	Compensatory Forestry I & II: (1984 & 88)	Establishment of commercial plantations (35,000 ha.)
Myanmar	2nd Forestry: (1982).	Increase production of teak and other hardwoods.
Nepal	Sagarnath Forestry Development: (1977)	
	Hill Forestry Development: (1983)	
	(1985)	
Pakistan	Sindh Forestry Development: (1991)	
	Forestry Sector I & II: (1995 & 96)	
Philippines	Forestry development: (1983)	Commercial plantations on degraded forest (13,734 ha.) and community woodlots (2,800 ha.)
	Forestry Sector Program I,II,III & IV: (1988 &92)	Community based forest rehabilitation and plantation establishment (170,000 ha)
	Low income upland communities: (1989)	Community based rehabilitation and plantation establishment (15,000 ha.)
	Industrial forest plantations: (1991)	Industrial tree plantations with private sector (30,000 ha)

PR China	Yunnan-Simao Forestry and Utilization: (1994)	Construction of pulpmill with harvesting of residues and waste and rehabilitation of natural pine forest. (6,500 ha.)
Sri Lanka	Community Forestry: (1982).	Woodlots (1,262 ha.) and plantations (9,000 ha.) for timber, by communities.
	Participatory forestry: (1992)	Woodlots for commercial timbers by communities (15,000 ha.)
	Forest Resource Management Sector: (1999)	Participatory SFM of forest areas, agroforestry on degraded areas & institutional strengthening.
Vietnam	Forestry sector I & II: (1997)	

73. The majority of the projects (81% of the loan finance) were for the establishment of plantations, either mainly:

- commercial species for timber production (53%),
- fast growing species for fuelwood and timber for local use (16%),
- local species for soil conservation in river catchments (12%).

74. A substantial proportion (64%) was designed to be implemented by, or with various forms of participation of local communities in plantation management, forest rehabilitation, and the management of natural forest and conservation areas.

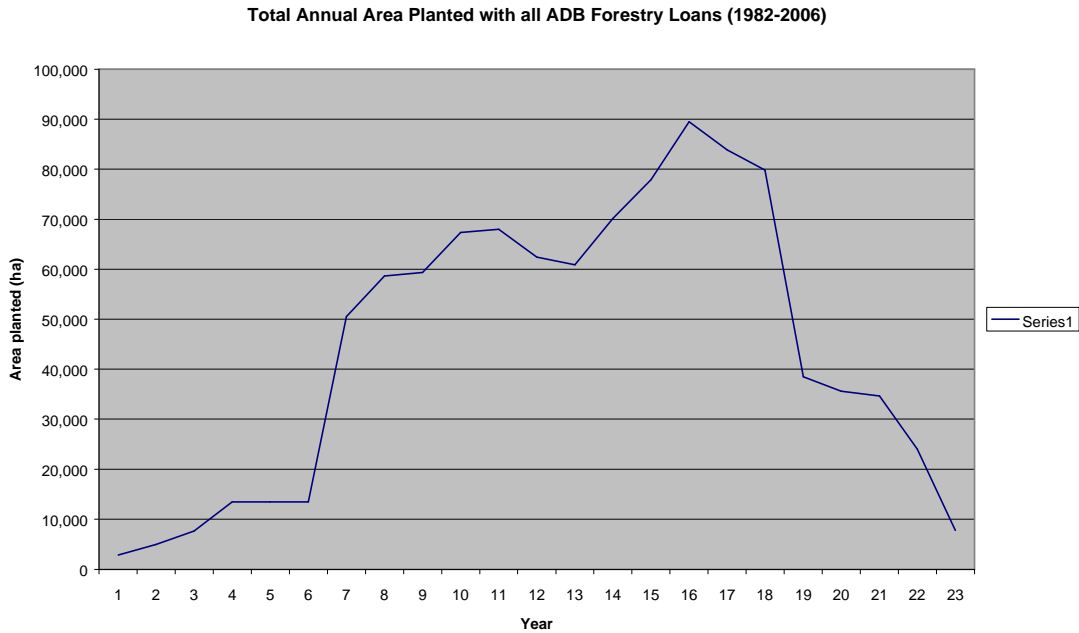
75. Of the projects that were not aimed at afforestation, or reforestation,:

- three (8% of loan finance) were for the management of conservation areas
- two (11% of loan finance) were for the construction or rehabilitation of industrial wood processing facilities.

76. The combined target for area to be planted by all the projects is 1,024,000 ha. if they are all achieved made up of 775,000 ha. of primarily commercial plantations, 190,000 ha. of watershed protection and 57,727 ha. of fuelwood plantations.

77. **Figure 3** shows the total area that would be planted region-wide with the ADB funded projects if all the targets are achieved.

Figure 3: Trend of the Planned Total area planted annually 1982-2006 throughout the region, with all ADB Forestry Projects.



78. From this it can be seen that the planting funded to date will have peaked in 1997 at around 90,000 ha. and is now declining sharply. Unless more projects are approved, there will be no further planting after the year 2005.

79. With an estimated annual loss of forest cover of between 4 and 5 million ha. the maximum annual planting area represents only about 2% of the area of forest lost. Even with plantation productivity being substantially higher than natural forest, possibly as much as ten times higher, the planting program will have to be expanded considerably to compensate for the current losses. However the Bank's contribution to sustaining a resource is very significant.

80. This review of the projects funded by the Bank, indicates that the 1995 Policy on Forestry merely formalized the direction of a program that was already established in the lending program, with the exception of putting more emphasis on the management and protection of conservation areas. It is clear from the analysis that participation of local communities and farmers has been a strong element in the program for many years.

D. Conclusions

81. The Bank's lending has clearly focused mainly on sustaining the resource, both for industrial use and for energy, rather than on resource utilization or on environmental protection and nature conservation functions, and to that extent it has been somewhat imbalanced.

82. The main feature of the portfolio that stands out is the imbalance of the lending, both between countries and between the many forestry functions that provide economic benefits. This is probably due in large measure to the fact that the portfolio reflects individual country's priorities, rather than a wider set of regional priorities.

83. However, this constrains the potential impact of the portfolio, if it precludes activities that might be economically more efficient that do not figure in country priorities, for reasons of lack of understanding or analysis of alternatives, local institutional limitations or even political expediency.

84. (An example of such a possibility is the recovery and utilization of forest residues and waste; this figures in the project in China, as an important component in providing raw material for the pulpmill being constructed with ADB funding, but in Indonesia, where such an approach would be highly desirable it is not considered by the government, because it is contrary to existing regulations for the Indonesian Selective Cutting System for harvesting natural forests)

85. However most of the Project documents stress the wider economic benefits that the projects are expected to bring, especially employment creation in rural areas. Forestry is particularly suited to this, because it is relatively labor intensive, and generally takes place in rural areas. If a labor input of 150 man-days per ha. is assumed for the establishment and maintenance of plantations, the whole portfolio will have generated around 150 million man-days, or the equivalent of full-time employment for around 24,000 persons, over the 25-year period.

86. Considering that the portfolio has included a number of activities not directly related to plantation establishment such as management of protected areas, institutional development, training and the improvement of industrial processing capacity the total investment of around US\$ 1 billion for 1 million ha. of plantations, is very much in line with the international norm of US\$1,000 per ha.

87. While the broad picture of the portfolio, in terms of the activities being funded, is consistent with policy, the evaluation of individual projects reveals that there are many problems with implementation. The Bank's projects are notable among donor funded development for having included various forms of community participation for more than 20 years, but it is clear from the evaluation of projects prior to 1995, that a formula that works well had not been found. The major constraint seems to relate to land-tenure and "ownership" issues relating both to land and to the crop. The projects that have supported individual farmers with clear land title seem to have been more successful than those working with communities with common ownership of the land and where the outputs will eventually be shared among several parties.

88. This emphasizes the need to look very closely at the implementation of projects, and suggests that the Bank needs to consider the design stage with some care, so that such issues are fully resolved during the design stage, rather than during implementation. This is likely to extend the time required for project design, and would suggest a longer pipeline of projects in order to maintain a viable program.

V. PORTFOLIO PERFORMANCE

89. A complete analysis of the portfolio performance will depend on the results of the country studies, which will be able to look in detail at individual projects and how they have contributed to the local economy. This will provide an insight into 18 projects in four countries, that together account for two-thirds of the funds invested in forestry and the three largest recipient countries. It will also include projects started before and after the publication of the 1995 Policy document.

A. Prior to the Bank's 1995 Policy on Forestry

90. The previous evaluation of the portfolio was published in 1994, and was based on an examination of 10 projects in 7 countries. The objective of the evaluation was to identify the key issues and lessons learnt for designing and implementing investment projects in the sector. Since the evaluation was based on individual performance reports for each project, it did not examine the wider issue of whether the project objectives and approach were appropriate and effective in relation to achieving the Bank's overall policy goal.

91. The many lessons learnt from this study were predominantly related to problems of implementation rather than policy, though they imply that many aspects of host government's policy outside forestry have an important bearing on implementation.

92. The Bank's policy for the sector has broadly shifted slightly from Production in 1978, to Production and Participation in 1989 to Protection, Production and Participation in 1995. The composition of the portfolio over time follows this general pattern, which would indicate that the policy as presented has been effective in guiding investment.

93. The 1989 Sector Paper on Forestry, which was the policy document under which these projects were designed and implemented was based on the following strategic objectives:

- a) promote increased productivity within a sustainable development frame and seek to gradually reduce ecological and economic threats to the region's forest resources.
- b) Facilitate an integrated broader-based approach to forest development taking into consideration the link between poverty, deforestation and environmental degradation.
- c) Ensure a viable forestry development strategy that blends the environmental goals and the economic objectives to promote socially and environmentally sustainable forest development.
- d) Incorporate ecological sustainability and economic issues related to forestry into the legislative and decision-making systems in recipient DMCs.
- e) Intensify efforts in semi-arid and arid-zone forestry and in desertification control.
- f) Discourage destructive timber extraction and encourage improved wood processing practices in DMCs.
- g) Protect the interests of women and indigenous population to ensure their access to the common resources and to which they have customary/traditional rights.
- h) Encourage overriding externalities as factors in the investment decisions of the Bank's forestry projects.
- i) Ensure a broader concern for all humid tropical forests, giving priority to maintaining biological diversity, conserving tropical forest ecosystems- including mangroves and wetlands, and finding alternatives to encourage conservation of tropical forests.
- j) Encourage private sector involvement in forestry, including NGOs,
- k) Enable the Bank to play a lead role in coordinating donor efforts in its DMCs.

94. This policy statement is very general and does not give any quantitative assessment of how much the Bank proposes to invest in each of the activities, nor what it expects to achieve, and therefore it is not possible to say how effective the portfolio as a whole has been. The above list certainly represents a "tall order" for an investment of about US\$ 250 million per year, which was given as the order of magnitude with which the Bank would be "comfortable". An Appendix to the Paper suggests that a total investment required of about US\$5.4 billion is needed for the whole sector region-wide, and this could be achieved if that level of spending was spread over 20 years.

95. In the event, the amount invested between 1990 and 1995 was US\$ 424 million; an average of US\$ 85 million per year, or only about one-third of the indicative figure in the 1989 Paper and 2% of the total annual investment by the Bank in all sectors. The basis for saying that US\$ 250 per year is a comfortable figure is not clear, but had it been achieved it would have represented about 6% of the total investment being made at that time. Thus the policy seems to have temporarily raised the level of investment in forestry but it failed to achieve the level of investment indicated as being considered appropriate. The investments that were made did not relate in any way to the Investment requirements indicated in the Appendix, either by country or by sub-sector.

96. The reasons for this failure are not easy to determine, but an important one may be the lack of sector staff. As indicated in the earlier analysis, an average investment of about US\$ 20 million per project seems appropriate for most DMCs, and so an annual investment of US\$250 million annually would require about 10-12 new projects annually. With 13 projects being implemented, and an average of 2 projects being approved each year at that time, this would have expanded the workload fivefold. Even allowing for some economies of scale and improvements in efficiency, the number of staff was never increased sufficiently to develop a program of this magnitude.

97. The policy statement, as with so many national forest policies, said all the right things about what needed to be done, but it was not backed up by the necessary institutional and human resources to make it happen within the Bank. It is possible that, had the Bank recruited a team of 8-10 staff and told them to go out and develop a sound investment portfolio to bring the maximum possible return, in line with the policy objectives, and that they could invest up to about US\$ 250 million per year, that a portfolio capable of having a real impact could have been created.

98. Only in the Philippines was a comprehensive sector program developed in coordination with other donors, and this accounted for more than one-third of the investment in the five years following publication of the policy. Had similar programs been developed in all the other target countries, the policy might have achieved a genuine impact.

99. An examination of the actual portfolio assembled in response to this policy shows that most of the projects broadly contributed towards objectives a), b) and c). One project was consistent with objective f) and four projects were consistent with objective i).

100. The 1989 Sector Paper did envisage that the Bank would facilitate and actively support policy dialogue based on pertinent policy studies in DMCs. The paper recognized the important need for Regional, National, and local policy studies on a wide range of issues in order to better inform stakeholders and decision-makers. The Bank supported the development of Forestry Master Plans in several countries, but there is little evidence that this was followed up with any form of participatory process to develop a policy that commanded widespread support for implementing the Plans.

101. The evaluations of the projects indicate that in all countries important issues such as land tenure and broad economic policy and its impact on the way in which the market operates have had an adverse impact on project implementation. There are also frequent references to institutional constraints affecting project implementation. This points to the need for project design to examine in more detail all aspects of government policy that bear on forestry as well as the way in which existing institutional arrangements function and how they will affect the

project. This includes both the capacity and organization of government, private sector and civil society organizations to handle project activities and the legal framework within which the project must operate. The 1994 Sector Synthesis of Post-Evaluation Findings, makes reference to the need to consider the Executing Agency's capacity to manage in general and to handle projects in particular, and the consequent need for institution building and training, but it makes no specific reference for any need to adjust or adapt Organizational structures and functions to meet new challenges.

102. (Experience in Indonesia suggests that in some circumstances this can be a crucial factor in project implementation and sustainability. A specific example of this type of problem is provided by the major attempt by many donors, and ostensibly the government, to introduce permanent Forest Management Units (KPHPs) to replace the old concession (HPH) system, which had been rendered unworkable for sustainable forest management by many changes that had taken place since its introduction. Despite a Ministerial Decree establishing the KPHP as the basis for forest management, the organizational structure of the Forestry Department was determined by the needs of administering the existing HPH system, which was not abolished. The job descriptions for all the many officials that would need to be involved in the process of introducing the new system were not modified, and so made no reference to KPHPs. Because of the rigidities in the bureaucratic system this created many difficulties, but the government apparatus only allowed changes to the organizational structure every five years to coincide with a new Minister's term of office. It therefore took six years for the situation to be rectified since the government could not make sufficient changes when the first opportunity arose)

B. The last five years

103. This section will be completed after the results of the country case studies are available, but one of the issues to be addressed is the apparent decline in lending to the forestry sector since publication of the 1995 Policy.

104. Since the Bank's portfolio is based mainly on country priorities, the decline in lending recently may indicate a downgrading of forestry in DMC's priorities. This will need to be tested during the country case studies, but there are a number of possible reasons for this being the case:

- declining impact of Rio as time passes and other international political issues assume priority such as Trade and communications.
- An increasing number of DMCs becoming ineligible for ADF, and an unwillingness to use the more costly OCR funds for forestry.
- A perception that environmental costs don't really exist because they can't be marketed, and therefore an unwillingness to borrow against intangible benefits,
- DMC's priorities may not have changed from Production, but because Protection was put first in the 1995 policy, Bank staff may have interpreted this as meaning highest priority to Protection, even though the policy called for optimization. This would need an investigation of projects turned down by the Bank, to verify.
- Reduced capacity within the bank to develop new projects, because of the high workload monitoring the existing portfolio with a smaller number of forestry specialists

VI. LESSONS LEARNED

105. This section will depend on the outcome of the country case studies, which should not be prejudged, but the following are a few initial comments based upon the review described above.

A. Policy issues

106. The 1995 Policy for Forestry aimed to change the emphasis of the Bank's lending for the forestry sector more towards Protection, Production and Participation, with an increase in the priority afforded to environmental functions of forests.

107. It is clear that prior to 1995, the emphasis had been more towards Production and Participation, addressing the issue of a declining resource base as a source of timber and fuelwood. Most of the portfolio represents investment in the creation of plantations to compensate for the loss of these products from natural forests. This was very much in line with the 1978 and 1989 Policy papers.

108. The Rio Conference in 1992 represents the turning point when the environmental role of forests began to be recognised politically, and although foresters had for long talked about multiple use management of forests, and had endeavoured in many countries to strike a balance between the production, conservation and environmental functions of forests, efforts in this direction were constrained by the fact that no one was willing to pay for environmental services or for conservation. The market did not, and still does not have a mechanism for valuing and pricing soil protection, clean water, biodiversity, landscape, wilderness and the many other intangible benefits that forests provide.

109. Governments in the Asia Pacific region have by and large been preoccupied with economic growth, and as the earlier discussion has shown, they have mostly failed to manage their forest resources to maximum economic advantage. Forest Departments in most DMCs are weak and lack political influence, and the ability to resist commercial pressures for profit. In the resource rich countries, forest management decisions are most strongly influenced by the profits that can be made from forest exploitation, and this encourages a short-term perspective. Forest Departments are expected to generate revenue and officials become subject to corrupt practices, when rent seekers gain political influence.

110. In the resource poor countries, forestry is usually relegated to a junior position and has difficulty in attracting high calibre people who might have the political influence to promote proper management of whatever resources the country has, and to make provisions for investment in forestry to meet future needs of the country.

111. Perhaps the most fundamental problem for forestry in the region is the matter of resource ownership. Most forest land is nominally state owned, but this has different meaning to different stakeholders. The government tends to view this as meaning that the forest is a branch of the central bank that can be used as a source of revenue and patronage to achieve political objectives. Some groups, especially environmentalists, may see "state ownership" as some form of stewardship of the land on behalf of the nation, with the government merely acting as the agency that organises its management on behalf of everybody. Local communities may see state ownership as meaning that it belongs to everyone as some form of common land, which they have as much right to use as anyone else. Their ancestors may have traditionally

used the forest without interference from any centralised bureaucracy and as a result they may feel that this has established some form of right to the forest.

112. It is also clear that the Bank must give serious consideration as to **how** it will implement its own policy. This must cover appropriate staffing levels as well as the methods that can be used to gain acceptance in DMCs for the changes that the Bank, as an independent but interested outsider feel are needed to deal with the urgent problems facing most countries.

113. If countries are to borrow funds for developing their forestry sector, they must be convinced that such investments are worth making. This requires, among other things, much more detailed analysis of the problems, and options for dealing with them, in order that all stakeholders within the countries can be properly informed of the options and their impacts. Most DMCs do not have the capacity or the resources to carry out such work, and so ways need to be found to provide funding for such activities.

B. Strategic issues

114. The Bank's investment in the forestry sector has been guided successively by the 1978 Working paper on the "Role of the Bank in Forestry and Forest Industries Development" and the 1989 "Sector Paper on Forestry". The impact of the 1978 Paper was reviewed in 1986 and published in January 1987.

115. This review concluded that the forestry sector was an important contributor to economic development throughout the region. It saw the region remaining as the world's leading exporter of tropical hardwood plywood, but beyond that, the region was expected to become a net importer of sawnwood and paper and paperboard products. It therefore recommended that there should be an initial strategic target to achieve self-sufficiency for the region as a whole. The review was very heavily biased towards the production function of forests and recommended a 20 year investment programme amounting to US\$36 billion, of which about one third would be for resource management and harvesting and two thirds for expanding processing capacity. This is substantially more than the US\$ 5.4 billion adopted for the 1989 Policy, but may have represented the proportion of the total that the ADB felt it was appropriate for the Bank to support. This point is not argued in the Policy Paper.

116. At around the same time the growing pressure from environmentalists had led the World Bank, UNDP and FAO, together with other donors to prepare the Tropical Forestry Action Plan. A similar but parallel exercise preparing Forestry Master Plans for individual countries was also initiated, sponsored by a number of other donors, including several in the region supported by ADB.

117. The Bank's 1989 Sector Paper, which effectively became policy emphasised using the country Master Plans as a basis for Bank investment in the sector. These Master Plans provided a strategic framework for developing the sector and indicated investment priorities as well as the institutional support needed. In many countries, the implementation of the Master Plan was supported by several donors, both multi-lateral and bi-lateral, which avoided duplication and unnecessary competition between donors.

118. In the Philippines the Bank has contributed about 30% of the total investment in the forestry sector over the past 20 years amounting to US\$ 313 million out of a total of US\$ 993 million. Thus the Philippines alone has received as much investment from all donors, as the ADB has invested throughout the region.

119. A Bank Review of the forestry sector in the Philippines published in 1994 suggests that the Bank's involvement triggered far-reaching policy changes. The most pressing challenge at the outset was to develop policies and institutional arrangements to halt the destruction of forest. There was some implied criticism that the Bank had focused too much on large scale plantations by government and/or the private sector rather than on smaller community or farmer based schemes or on the management and rehabilitation of the remaining natural forest areas.

120. The Philippines and possibly Bangladesh are the only countries where the Bank appears to have developed a comprehensive sector programme that aims to tackle all the elements that make up the Bank's own policy. In all the other countries, the investments are of a piecemeal nature. Since the basic causes of the underperformance of the forestry sector are multi-faceted, and are often outside the direct control of forest authorities, such as land tenure issues, a single project in the sector is unlikely to have sufficient impact to deal with the fundamental problems. The bigger the investment that a donor has in a sector the more influence that donor can bring to bear on the fundamental issues that are affecting the performance of the investment.

121. With this in mind, an alternative strategic approach for the Bank would be to concentrate a high proportion of its investment in a few priority countries, such as it has done in the Philippines, so that it can have some real influence, rather than scattering relatively small investments over many countries. An element of competition for these funds can be created, if such a strategic approach is widely advertised, so that the countries most committed to change are the recipients, and those countries that are unable or unwilling to take some difficult decisions must wait until they are in a position to address the problems.

122. Such an approach would be more efficient for the Bank staff, and would enable a far more thorough analysis of what is really needed, and what the real returns from investment is likely to be. The impact of this approach in the Philippines will be studied during the country case study, but judging from the ADB 1994 study of the forestry sector in the Philippines, there are encouraging signs that major investments by the Bank and other donors are beginning to have a positive impact.

C. Lending issues

123. The successful implementation of the Bank's policy on forestry is dependent partly on the Bank's own internal capacity and will to carry out the necessary actions, and to a greater extent on the capacity and will of DMC governments to adopt and implement appropriate policies. Sustainable management of forest resources requires investment in human resources, infrastructure and technology. Resource rich countries should be able to utilise some of the capital value of their forests to finance such investment, but realising the capital needs initial investment.

124. The earlier discussion has indicated that resources rich countries have been dissipating the capital value contained in their forest resources and have not been reinvesting an adequate proportion to ensure sustainability. The continuing degradation of the region's forest resources is an indication that DMC governments give a lower priority to forestry matters than to other sectors of their economies. Those countries that still have resources have not been maximising the benefits through poor management, and have been diverting most of whatever capital they have realised to other sectors.

125. The Bank, and the international community have increasingly recognised the importance of forests for both forest products and environmental services, but this has not yet been translated into any noticeable change in the priority afforded to forestry in multi-lateral funding for development. The Bank raised its lending for forestry from about 1.2% to around 2% briefly during the mid 1990s, but it has fallen back to around 1% at the present. Other multi-lateral and bi-lateral donor agencies have followed a similar pattern.

126. One reason for this failure to raise investment in forestry is the apparent reluctance of DMCs to borrow for forestry, which is probably related to their general perception that forestry brings low returns and does not justify an increase in their debt burden. In view of the debt crisis facing most developing countries this is perhaps a reasonable position to take. Although the principle beneficiaries from a well-managed forestry sector are the countries that possess the resources, there is an international dimension. As world population expands, the burden of meeting the world demand for forest products will fall increasingly on the remaining resource rich countries and the richer countries will have to provide increasing financial assistance for dealing with poverty and environmental disasters. A substantial element in poverty is related to environmental degradation and declining access to resources.

127. Thus ways have to be found of breaking the cycle of low perception of the role of forests, leading to low investment in the sector, leading to further decline and deterioration of the resource base.

128. This needs a multi-pronged approach that deals with:

- understanding the role and value of forests in order to generate realistic perceptions at all levels of society,
- providing adequate funds on appropriate terms to enable the necessary action to be taken,
- improving capacity to properly manage forest resources and the funds that are invested,
- establishing institutions and mechanisms for dealing with inter-sectoral issues that affect forest resources and the way they are perceived at present.

129. The last of these refers to such issues as common access to resources, the operation of the market for environmental services, and rights of access and use of resources.

130. The remainder of this section is primarily concerned with the second of the above issues, but it cannot be dealt with in isolation.

131. The key elements in a lending policy for forestry are encapsulated in the words “adequate” and “appropriate terms” used above. How to determine what is adequate? and How to determine what are appropriate terms?

132. It is not possible at this stage to suggest a detailed answer to what is adequate in absolute terms for the Bank, and how much it should allocate to investment in forestry related activities, as this will require a thorough analysis. However in principle it should be related to medium term aims for meeting the “needs” for forest products for the next generation to enjoy improved living standards and providing sufficient forest to create a robust environment.

133. An analysis of the needs for forest products will have to look at the alternatives of achieving self-sufficiency within the region and importing products from other regions of the

world. It will also have to examine the role of wood for energy, as the quantities of wood involved are potentially enormous, and are not so readily transported large differences. This will therefore entail looking at the whole energy sector, and establishing the most appropriate role for wood in comparison with other energy sources. The other direct benefit from forests that can benefit from the existence of forests is tourism, which many DMCs are increasingly dependent on as a source of foreign exchange earnings, and this potential also needs to be built into the analysis.

134. However environmental protection cannot be imported, and substantial areas of forests will be needed to prevent soil erosion and water supplies, control water, and conserve biodiversity.

135. The answer to the second question of appropriate terms will depend on the answer to the first. Because of the importance of intangible environmental benefits, the investment in many forestry projects will not generate cash returns in the future that can be used to service and repay loans. Reduced costs of dealing with the consequences of environmental damage, and income foregone because of the loss of a resource do not show up on the debit side of national accounts in the way that loan repayment and debt service costs do. This may be a strong inhibiting factor in DMC decisions on whether or not to borrow for forestry projects.

136. Borrowing funds, does carry with it a certain discipline in the use of the funds, but the short time horizons of most governments weakens this effect, as the problem of repaying can be left to others in the future. Grant funds do not have the same element of discipline, and therefore there is a tendency for them to be used less efficiently, and they can create a dependency that encourages a short-term perspective.

137. Some countries have used grant systems effectively to create and maintain forest resources, where the levels of grant are carefully set to offset the difference between commercial and economic returns, and are related to specific outputs.

138. The Bank's ADF and ORC funds have established criteria for eligibility to use, and these are currently related to country criteria rather than sector criteria. There are Grant funds available from the GEF, and these have been used for co-financing of projects. The most effective way to package funds from these sources needs to be examined in relation to the aims of a Policy for forestry, as part of the process of improving the Bank's capacity to implement its policy.

VII. CONCLUSIONS AND THE WAY FORWARD

139. The performance of the Bank's forestry related activities has been disappointing, when seen against the expectations raised in the 1989 Forestry paper, and so far there are no signs that the 1995 Policy for forestry has improved the situation. The main indicator for this is the failure to achieve anywhere near the indicative level of investment considered appropriate in 1989, after a fairly thorough review of the sector.

140. The reasons for this underperformance lie partly within the Bank and its failure to develop its capacity to implement the policy that it had set itself, and partly in DMCs, where a lack of understanding and perception of the forestry sector had inhibited investment and failed to create the environment for political and institutional reform.

141. The piecemeal approach to forestry projects seems to have failed to create the “critical mass” needed to bring about the reforms needed in governance in DMCs to ensure that any forestry policy is properly implemented.

142. The Bank's 1995 Policy on Forestry is adequate as a statement of the issues that need to be addressed in relation to the way forests are managed, but it gives no indication of what objectives are to be achieved through the policy. Furthermore, as a result of this lack of a clearly defined objective, it fails to establish priorities, and more important define how it will be implemented. This covers creating the capacity within the Bank to implement the policy, and determining the amount of the funds that will be allocated, how they will be distributed and the terms under which they will be made available. The lack of clear guidelines such as these makes it difficult both to judge the performance of the portfolio and policy implementation, and to monitor progress of the sector as a whole, as opposed to individual projects.

143. The way forward requires a focusing on policy implementation, rather than the policy itself. A good starting point for this would be to update the 1989 review of the sector throughout the region, and some intense dialogue with DMCs to develop a common purpose and a clear strategy for achieving some specific goals within a defined time-frame. The outcome of such a dialogue would determine the capacity needed within the Bank, to play it's part in the process and would also determine the most appropriate investment modalities, as well as the strategic direction for investment between concentrating resources in a limited number of countries, possible in conjunction with other donors, to achieve a critical mass, as opposed to spreading the investment thinly over many countries.