

**The International Tropical Timber
Agreements of 1983 and 1994: An
Assessment on Treaty Effectiveness**

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In the anarchical structure of international politics, relative treaty effectiveness has proven to be a difficult task to accomplish concerning environmental issues. Not only do the authors of these agreements face the challenge of negotiating a functional structure of rules and regulations amongst diversified interests, but they are also confronted with the undertakings of implementation and compliance. As each environmental issue varies in scope and urgency, the number of actors, the kinds of obligations, the type of monitoring, and their related responses fluctuate according to the distinct individual situation. Because of this oscillation, evaluating the overall effectiveness of these environmental treaties proves to be extremely complicated, as no two treaties are the same. Theory on successful regimes, thus, can only be achieved through the comparison of different agreements with similar treaty mechanisms. Through this type of analysis, political scientists hope to develop an increasingly comprehensive model for treaty effectiveness pertaining to environmental issues.

The International Tropical Timber Agreements of 1983 and 1994 were established with the hopes of lowering the deforestation rate of tropical timber without encumbering the market growth of developing member nations. This objective would be achieved through forest conservation and management efforts that would produce a growing market of timber from sustainably managed sources. After careful examination of these two treaties, one can conclude that the 1983 and 1994 Tropical Timber Agreements were both effective in altering member state behavior in the pursuance of decreased deforestation levels and increased sustainability in timber products. While the increased market transparency promoted in both agreements was successful in reducing member exports of tropical timber, the Bali Fund, established in the successor agreement,

encouraged the increased exportation of resources from only sustainably managed resources by the year 2000 through enhanced financial assistance. Together, the two International Tropical Timber Agreements gave consuming and producing parties strong incentive to decrease the rate of tropical timber deforestation.

BACKGROUND AND DEFINITIONS

The original International Tropical Timber Agreement (ITTA) was signed in 1983 and officially took effect in April of 1985. (Brown Weiss, 1998, 117) A successor agreement was later signed in 1994, becoming effective in early 1997. (Brown Weiss, 1998, 89) Addressing the concern of significant deforestation in tropical areas, these two agreements sought to provide a framework for a growing tropical timber market that derived its product from sustainably managed sources. (1994 Agreement, Article 1[e.1]) Signatory countries were divided into two categories: producing members and consuming members. The majority of the thirty-two producing members are considered to be developing countries from Latin America, Africa, and Asia. The thirty-two producing member countries include developing and industrialized nations from North America, Europe, and the far East. (Brown Weiss, 1998, 119) Together, these two groups accounted for ninety percent of the world tropical timber trade. (Brown Weiss, 1998, 119)

The term "tropical timber", in the case of these two agreements, refers to any "non-coniferous wood for industrial uses, which grows or is produced in the countries situated between the Tropic of Cancer and the Tropic of Capricorn." (1994 Agreement, Article 2, #1) This includes logs, plywood, sawnwood, and veneer sheeting. (1994 Agreement, Article 2, #1) "Producing members" qualify as any country "with tropical

forest resources and/or (is) .a net exporter of tropical timber in volume terms." (1994 Agreement, Article 2, #4) A "consumer member" is any country who becomes a party of the ITTA and has been approved by the "Council". This term refers to the International Tropical Timber Council, established in Article 6 of the Agreement. The Council consists of one representative from each member state and acts as the highest authority of the International Tropical Timber Organization.

GOALS

The 1983 and 1994 agreements on tropical timber were established with the primary aim of instituting sustainable sources of timber in a growing market. (Agreement, Article 1 [d]). To accomplish this goal, both of the International Tropical Timber Agreements attempt to: establish international cooperation in the timber market, advance research and development in forest management, encourage the development of national policies directed towards conservation and reforestation, and provide means for greater transparency in the market. (1983 Agreement, Article 1 [a],[c],[d],[h]) These two agreements diverge, however, in their use of finances and allotted time frames.

The Bali Partnership Fund, established in the 1994 agreement, is a special fund instituted by consumer countries as a "mechanism for the provision of new and additional financial resources and expertise needed to enhance the capacity of producing members to attain the objectives" (1994 Agreement, Article 1 [g]) of the agreement. This supplementary source of monetary assistance in developing countries proved to be essential in the respect that "a competitive market for timber generally mean(t) that renewal of forest resources is not economically feasible." (Sand, 1992, 107)

Compensation for this financial assistance came in the form of a pledge on the part of the

producing members to achieve the exportation of wood from only sustainably managed sources by the year 2000. (Agreement, Article 1 [d]) "For the producer countries, (this addition to the 1983 treaty) was expected to offer opportunities to expand and receive technical transfers and financial assistance from consuming countries. Consuming countries, in turn, were to enjoy expanded and stable supplies of tropical timber as well as increased esteem in the eyes of domestic constituents and international organizations." (Brown Weiss, 1998, 117). Whether this fund was successful in altering state behavior from the 1983 treaty is an important question in gauging the effectiveness of the 1994 agreement. This question will be addressed later in this study of treaty effectiveness.

DEPENDENT VARIABLE

The purpose of this paper is to assess the effectiveness of the 1983 and the 1994 International Tropical Timber Agreements. Effectiveness, in social scientists' terms, "measures an agreement's impact on behavior." (Goldschmidt, 2002) In order to assess the effectiveness of these treaties, then, one must determine whether the behavior of member states conformed with treaty regulations more than it would have otherwise. The difficulty in this case is that the ITTA's "reporting requirements relate to the international trade in tropical timber products rather than to forest management." (Jacobson and Brown Weiss, 1998, 516) Due to the fact that most data concerning member countries will pertain to the trade of tropical timber, the best way to measure the effectiveness of the two treaties is through the examination of market behavior in producing states. If the market of tropical timber exports in member states is seen to behave consistently prior to and after the treaty's ratification, one could assume that the agreement had no influence on state behavior and deforestation levels continued to increase. If the market increased

or decreased, on the other hand, the rate of deforestation can be inferred to change accordingly. Consuming member data will not be analyzed in this study due to the inability to discern whether imports of tropical timber are from member countries and sustainably managed sources.

Data on Producing State Exportation

The data reflected in this study is generated through the isolation of seven comparable member and non-member producing states. This isolation attempts to equalize the potential variables that can exist within individual countries. The fourteen nations I have chosen for the study are representatives of Latin America, Africa, and Asia, and all are considered to be developing states. Data for the seven member countries represents Bolivia, Thailand, Equatorial Guinea, Colombia, Ghana, the Cote D'Ivoire, and Gabon. These countries were selected based on the similar number of votes allocated to them in Article 41 of the 1994 Agreement. (1994 Agreement, Appendix A) This equality in vote allocation led me to infer that these countries exported similar amounts of tropical timber. The data for non-member states represents Vietnam, Nicaragua, Laos, Suriname, Nigeria, Cambodia, and Guatemala. These countries were selected on the basis of their proximity to the chosen member states. By selecting neighboring member and non-member developing states, I hoped to compare geographically similar countries with analogous economic characteristics.

Examination of Tropical Timber Exports

In order to determine whether the two tropical timber agreements were effective in altering member state behavior, one must examine the exportation of these member states before and after the ratification of the 1983 and the 1994 agreements. This provides the study with a counterfactual that allows for one to predict what the rates of exportation in member countries would have been if the treaties had never come into existence. This counterfactual assumes the continued rate of exportation prior to 1983 and 1997. It is represented by the blue line in Table I.

(Refer to Appendix: Table I)

One can deduce from the blue shaded region in this table (the difference between the predicted counterfactual and actual trade) that both the 1983 and 1994 agreements potentially altered state behavior. Witnessed to be a relatively stable "up and down" cycle of trade in producing member-states, the rate of exportation after the ratification of the 1983 agreement is seen to decrease at an unnaturally steep rate. Exports are then seen to remain at consistently low levels for seven years. Only after the 1994 ITTA was ratified in 1997 did exportation rates prove to gradually increase once again. The observed changes in export behavior directly coincide with the ratification dates of the two ITTA treaties, leading one to believe that these two agreements had an effect on deforestation levels. While the 1983 Tropical Timber Agreement proved effective in decreasing exports of member states, the 1994 agreement is revealed to have increased member exports of this unite timber. This finding does not necessarily mean that the 1994 treaty increased deforestation levels, however, as the Bali Partnership Fund (established in this agreement) instilled mechanisms that would increase sustainable sources of tropical timber. This will be discussed further in the study.

When examining the behavior of states prior to and following the ratification of a treaty, one cannot assume that a witnessed change in behavior can be attributed to the structure of the International Tropical Timber Agreements of 1983 and 1994. By comparing the behavior of members to that of non-members, however, one can discount the theory that the change in exportation rates was an international phenomenon. This provides the study with a second counterfactual that allows one to predict member-states' exportation rates through the assumption that member exportation would have been similar to that of non-members. The purple line in Table I represents this counterfactual. *(Refer to Appendix: Tables I, II)*

One can conclude from the green shaded region in this table that the two tropical timber agreements did, indeed, affect state behavior. Instead of increasing dramatically in the years following the ratification of the 1983 agreement, the exportation rate of member countries decreased significantly over the same period of time. Following the ratification of the 1994 treaty in 1997, the exportation rates of members again contradicted the rates of non-members, increasing gradually as the non-member exports began to decline. This comparison of member and non-member countries eliminates the argument that a decline in tropical timber was encountered internationally. This claim is further supported in Table III, as the percentage growth of exports in member countries is observed to be significantly lower and less dynamic than that of non-members.

(Refer to Appendix: Table 17)

Through the comparisons of member exports to the hypothesized counterfactuals explained above, one could argue that the International Tropical Timber Agreements of 1983 and 1994 were successful in altering member state behavior. From exportation data

alone, it appears that the 1983 agreement significantly decreased deforestation in member countries while the 1994 agreement slightly increased member exports. Further research must be done, however, to determine whether other factors independent of the tropical timber agreements might be responsible for this change in exportation levels.

INDEPENDENT VARIABLES

Independent Variables Related to the Treaty

The creation of the 1983 and 1994 Tropical Timber Agreements established distinct mechanisms in the international system of tropical timber trade that potentially produced the witnessed effects on member exports revealed in Table I.

(Refer to Appendix: Table I)

These mechanisms include the increased transparency in the tropical timber market, the heightened financial aid provided by the Bali Fund, the establishment of a timeline for goal achievement, and the indirect initiation of illegal tropical timber exportation through regulation. Through the analysis of these devices, the argument that the tropical timber agreements of 1983 and 1994 decreased deforestation in member countries is corroborated.

Transparency in the Tropical Timber Market

Both the 1983 and 1994 International Tropical Timber Agreements encourage the improvement of "market intelligence with a view to ensuring greater transparency in the international timber market". (1994 Agreement, Article 1 [h]) Transparency, in the case of these two agreements, is the "adequacy, accuracy, availability, and accessibility of

knowledge and information about policies and activities of parties to the treaty." (Chayes, Chayes, Mitchell, 1998, 43) Authors of the treaties sought to achieve this increased transparency through the establishment of mandatory data reports, or sunshine methods. (Jacobson and Brown Weiss, 1998, 542) According to the stipulations of the agreement, all members of the ITTA are required to provide the Council with basic monthly data on the trade flow of tropical timber. (1994 Agreement, Article 29) The Council would then analyze the data to decide whether a country's timber industry was operating in a manner that would promote trade from sustainable sources. This analysis is released to the public in an annual international report and in the Secretariat newsletter, "enabling governments, industry, and nongovernmental organizations to monitor progress toward building local capacity to comply." (Jacobson and Brown Weiss, 1998, 549)

The use of sunshine methods by the two ITTAs proved to be successful in encouraging member countries to comply with treaty objectives through the transparency of deviations. This transparency has the potential to subject delinquent member countries to "diffuse negative reactions from (other) states and other groups with a stake in the treaty regime." (Keohane, 1986, Cited in Chayes, Chayes, and Mitchell, 1998, 45) Non-governmental organizations play a large role in pressuring members to comply by bringing violations to the attention of the secretariat, fellow member governments, the media, and in turn, the general public. (Jacobson and Brown Weiss, 1998, 545) This role essentially makes NGOs the "watch dogs" of treaty implementation by exposing, shaming, and motivating public responses. (Chayes, Chayes, and Mitchell, 59) In the case of the 1983 and 1994 Tropical Timber Agreements, sunshine methods of reporting act as "indirect sanctions" (Jacobson and Brown Weiss, 1998, 549) against violators of

the agreement. This has been witnessed to increase compliance to treaty regulations, as "some of the country studies demonstrate that even fear of negative reputational impacts and diffuse reciprocity (are) adequate" (Keohane, 1986, Cited in Chayes, Chayes, and Mitchell, 1998, 45) in deterring defiant nations. Transparency in the tropical timber market, thus, promoted member compliance and decreased the levels of deforestation in member countries. Non-member countries, on the other hand, would be less likely to adhere to the regulations established in the two tropical timber treaties, as witnessed in Table II.

(Refer to Appendix: Table II)

Since they are not required to report data concerning their trading behavior, the actions of non-member states are less transparent to the international community. Even if high deforestation rates among non-member nations were internationally transparent, the adverse affects of sustainable development of these nations' economies would probably trump their concern for a positive international reputation.

The Bali Partnership Fund

The establishment of the Bali Partnership Fund in the 1994 International Tropical Timber Agreement is another treaty mechanism that potentially encouraged member countries to decrease their rates of deforestation. As discussed earlier, this fund addressed two key problem.- that arose from the implementation of the 1983 agreement: the need for higher funding in developing producer countries and the need for an increasingly explicit strategy for achieving sustainable development in the timber industry.

1. INCREASED FINANCIAL INCENTIVES

Following the ratification of the original International Tropical Timber Agreement, member countries decreased their exportation of tropical timber.

(Refer to Appendix: Table I)

They also, however, lost revenue that was essential to most member countries' economy.

(Refer to Appendix: Table IV)

Although the total value of exports for member nations appears to be a consistent "up and down" trend over the analyzed period of time, the counterfactual generated by comparison to the economic growth of non-member countries leads one to believe that the 1983 agreement hindered member countries' export revenue. This economic loss in a nation dedicated to development provides little incentive for countries to comply to lower deforestation levels. "For parties to implement and comply with accords, they must feel that the obligations imposed are equitable... (In the case of the original International Tropical Timber Agreement), burdens were disproportionately imposed upon producer countries." (Jacobson and Brown Weiss, 1998, 523-524)

To address this problem of inequitably-imposed obligations on the part of the 1983 agreement, authors of the successor agreement in 1994 established the Bali Partnership Fund. This provided producing member countries with financial incentive to comply with treaty regulatic Is. The fund was "designed to finance the 'incremental costs' of compliance, including not only operating projects but also education, training of national enforcement officials, improvement of scientific facilities, assistance in planning departments (and) enhancement of data systems." (Chayes, Chayes, and Mitchell, 1998,

53) Overall, this addition to the 1983 agreement gave producing members more administrative capacity to coincide with their intentions to comply. (Jacobson and Brown Weiss, 1998, 538.) The success of this fund can be determined in Table I.

(Refer to Appendix: Tables 1)

Prior to the ratification of the successor agreement in 1997, exportation rates of tropical timber had remained consistently low. This suggests that deforestation rates were lower as a result of the 1983 agreement, but the economic impact of this deforestation proved to be harmful in the growth of the timber industry. Non-member nations continued to see a rapid growth in the value and quantity of tropical timber exports, while member countries' exports remained stagnant. Following the ratification of the 1994 agreement, however, the quantity and value of exported timber is seen to increase. This could imply higher rates of deforestation, but it could also imply that the Bali Partnership Fund was successful in assisting member nations with the development of sustainably managed trade. I was unable to acquire sufficient data on forest management practices, but one could hypothesize that an increase in financial and technical assistance to developing nations would not increase deforestation rates. This hypothesis would imply that the Bali Partnership Fund succeeded in encouraging sustainably managed exports, and thus, decreased the rate of deforestation in member countries.

2. INCREASINGLY EXP: ICIT STRATEGY FOR GOAL ACHIEVEMENT

Prior to the establishment of the Bali Partnership Fund in 1994, the International Tropical Timber Agreement proved to be difficult in assessing implementation and

compliance. Article 1 (h) of the 1983 treaty states that the objectives of the agreement is to

Encourage the development of national policies aimed at sustainable utilization and conservation of tropical forests and their genetic resources, and at maintaining the ecological balance in the regions concerned.

The ambiguity of this objective leaves fulfillment of treaty obligations open to interpretation, permitting countries to adhere to treaty requirements less than other countries would have deemed necessary. (Jacobson and Brown Weiss, 1998, 524-525) The Bali Partnership Fund, in response to this problem, established a specific date (the year 2000) in which all producing member countries were expected to export tropical timber from sustainably managed sources. Adherence to the treaties is thus hypothesized to have increased following the ratification of this fund based on the "conventional wisdom...that the more precise the obligation, the easier it is to assess and promote compliance." (Chayes and Chayes, 1992, cited in Jacobson and Brown Weiss, 1998, 524.) This increased compliance by member states implies the existence of lower deforestation levels, making the Bali Partnership Fund significant to the ITTAs effect on state behavior.

Illicit Trade of Tropical Timber

The illegal trade of tropical timber is an indirect treaty mechanism that potentially altered member state behavior in exportation as witness in Table I.

(Refer to Appendix: Table 1)

This graph is a representation of authorized tropical timber exports from 1978 to 2002. As I have been arguing throughout the study, the decrease in member exports following the ratification of the 1983 agreement could indicate that deforestation rates were declining in accordance with treaty regulations. This decrease in exports could also indicate, however, that the legal trade of tropical timber was decreasing while the illegal trade of tropical timber was increasing. The World Bank estimated that governments worldwide lost approximately ten billion US dollars in revenue to illegal logging in 2002. (Richards, 2003) "In many forest rich countries, particularly those in the developing world, illegal logging exceeds legal operations." (Trade and Sustainable Forest Management Report) Large countries that have agreed to international obligations often face difficulties in extending the authority of the central government to isolated areas. Countries with expansive borders experience significant impediments when attempting to control interstate smuggling, and governments with multiple levels of authority face complications in coordinating these levels to achieve a common goal. (Jacobson and Brown Weiss, 1998, 532) Overall, illicit trade is a common occurrence that derives from trade restrictions on demanded products. (Richards, 2003) While this certainly alters the exportation data used in this study, one can hypothesize that the extent in which this has an impact is minimal. The value of tropical timber exported in 2002 was approximately 700 million dollars for the seven isolated countries in this study alone (the two largest exporting countries being excluded). Considering that thirty-four producing countries comprise the ITTO, the loss of ten billion dollars internationally on all types of timber seems too insignificant to affect the levels of exportation in such a dramatic fashion as

witnessed in Table I. While the illegal trade of timber is important to consider in the study of deforestation levels through member exports, it is not a key player in explaining the change in state behavior that is being analyzed in this paper.

Independent Variables Unrelated to the Treaties (Rival Hypotheses)

In order to prove that the treaty mechanisms explained above were responsible for altering state behavior, one must discount variables independent of the two treaties that could have decreased the exportation levels of member countries as seen in Table I. The three rival hypotheses that I will attempt to disregard are: decreasing forest coverage, decreasing population, and decreasing demand of tropical timber. The exclusion of these outside factors as viable causes of decreased exports will be achieved through the comparison of member states to non-member states.

Decreasing Forest Coverage

A potential rival hypothesis to the argument that the two ITTAs caused member exports in tropical timber to decrease is the contention that there was a lack of available timber sources available to the exportation market. If member countries logged more trees than could be grown in a year, their ability to increase trade would be hindered by the lower amount of product in the market.

(Refer to Appendix: Table 1);

If you examine the forest coverage in Table V, the rate of deforestation in member countries is parallel to that of non-member countries. If the depletion in resources was a variable that decreased exports of tropical timber in member countries, then the same

decrease in exportation would be expected in non-member countries. Instead, the exportation rates of member countries decreased while the exportation of non-member countries increased significantly. One could refute this claim by arguing that member countries were more likely to be in more advanced stages of resource depletion. Generally, this assertion would be valid due to the fact that countries who are more ecologically vulnerable are more likely to be advocates for the creation of an environmental agreement. In this case, however, the seven isolated member and non-member states have similar percentages of total deforestation. While forest coverage in member countries comprised 54.7% of the total land area within a country, forest coverage in non-member countries comprised 56.9%. From the analysis of forest coverage in member and non-member states, the idea that resource depletion was responsible for the decrease in member exports in the evaluated time period can be discounted.

Decreasing Population

Another rival hypothesis to the theory that the two tropical timber agreements caused a decrease in member exports is the argument that a decreasing population in member countries would hinder a nation's ability to produce, and thus, export timber products. The population of a state can be directly related to the trading industry of that country through its ability produce. If the population in member countries decreases over a period of time, it can be expected that the production of exporting countries will be hindered, assuming that better technology does not replace the ability of man. After

examining the population trend of member and non-member nations, however, the population of both groups is witnessed to increase at similar rates.

(Refer to Appendix: Table VI)

This augmentation in population discounts the theory that population diminution caused the decrease in member exports of tropical timber.

Decrease in demand

The final rival hypothesis that could disregard the argument that the International Tropical Timber Agreements decreased member exports is the supposition that the demand for tropical timber decreased in the world market. As technology has advanced in the past three decades, cheaper alternatives to tropical timber have been presented to consumers. This would automatically lower the demand for this distinctive wood. The argument that decreased demand caused such an unnaturally steep decline in member exports, however, does not sustain itself when non-member exports are analyzed.

(Refer to Appendix. Table II, IV)

As seen in the graph of non-member exportation quantities and capital, countries that were not parties of the International Tropical Timber Agreements continued to export products and create revenue in the same time period that the member countries' exports decreased. Although the demand might not have been as high as it had been in the past, there was obviously still a large market for the exportation of tropical timber. This fact eliminates the rival theory that a decreased demand for this unique wood was responsible for the decrease in member nations' exports in the examined time period.

THE FUTURE OF THE ITTA

The 1994 International Tropical Timber Agreement is set to expire in December of 2006. Negotiations at the United Nations Conference on Trade and Development (UNCTAD) in the beginning of 2006, however, have generated a new treaty to replace the 1994 agreement. This treaty addresses the problem of an increasing illegal trade that has emerged as a result of increased regulation established in the 1983 and 1994 ITTAs. To counter this growing problem, authors of the new agreement have created a voluntary system of certification. (Agence France, 2006) "Certification" refers to the labeling of tropical timber products with tags that indicate to consumers that the wood came from sustainably managed sources. (Agence France, 2006) This new mechanism attempts to lower the amount of lost revenue that illicit trade inflicts on developing nations. Just as the 1994 agreement resolved the introduced financial problems of the 1983 agreement, this new treaty hopes to be the solution to the growing illegal trade of tropical timber.

CONCLUSION

In the anarchical system of international politics, the creation and maintenance of effective environmental agreements is hard to achieve. After closely analyzing the 1983 and 1994 International Tropical Timber Agreements, one can conclude that these two treaties are rare examples of successful international cooperation surrounding a broad environmental quandary. While the increased market transparency promoted in the ITTAs instigated lower deforestation levels on the part of member countries, the establishment of the Bali Partnership Fund in the 1994 agreement enhanced the trade of tropical timber from sustainably managed sources. After performing a more politically-

based analysis of this study, one can conclude that environmental treaties with strong financial incentives, explicit treaty objectives, and high behavioral transparency prove to be more effective in encouraging member countries to comply. While these political policies do not apply to all environmental predicaments present in today's global environment, they did prove to be effective measures in promoting compliance of parties to the 1983 and 1994 International Tropical Timber Agreements.

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Appendix

Total Member Exports of Tropical Timber

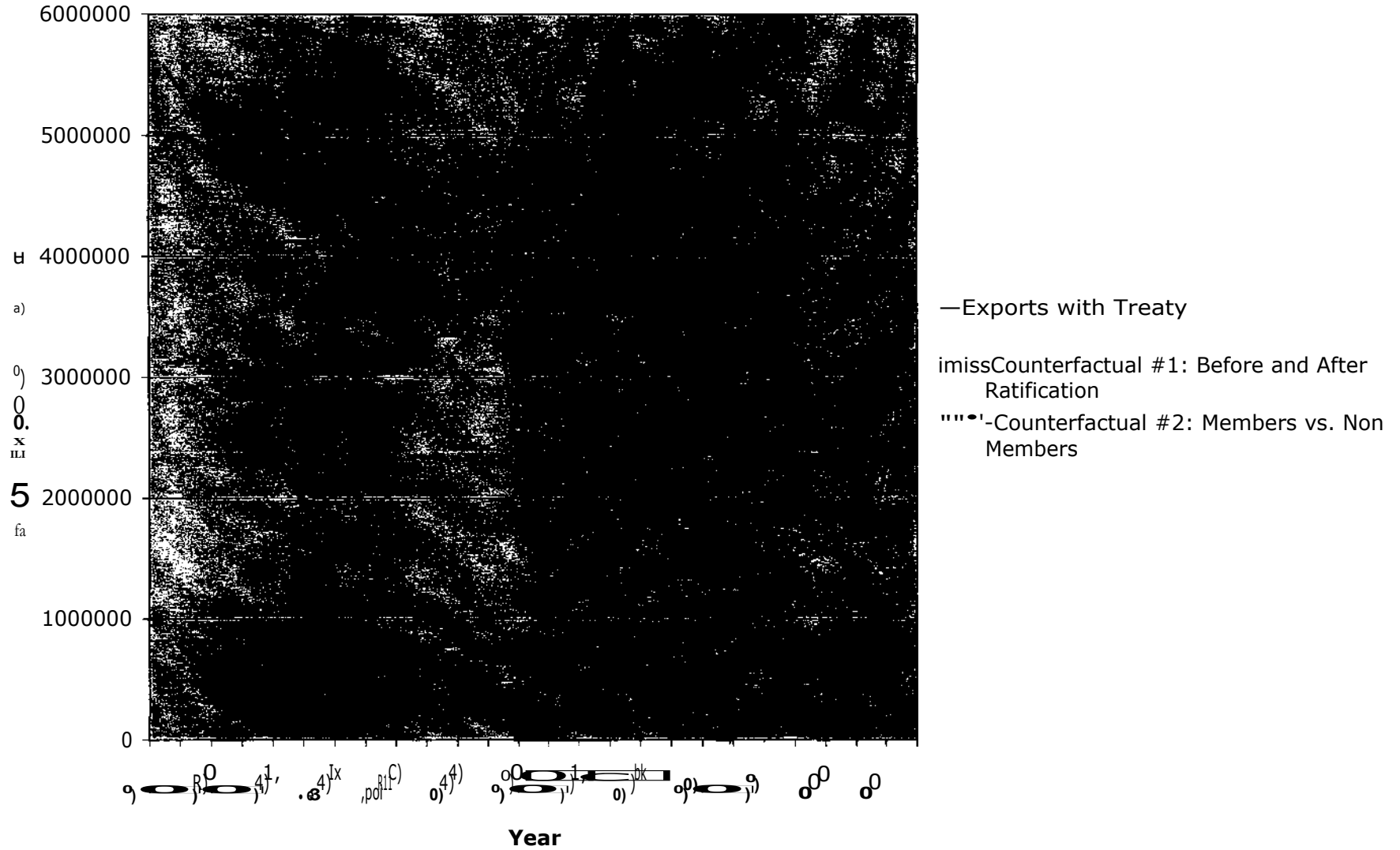
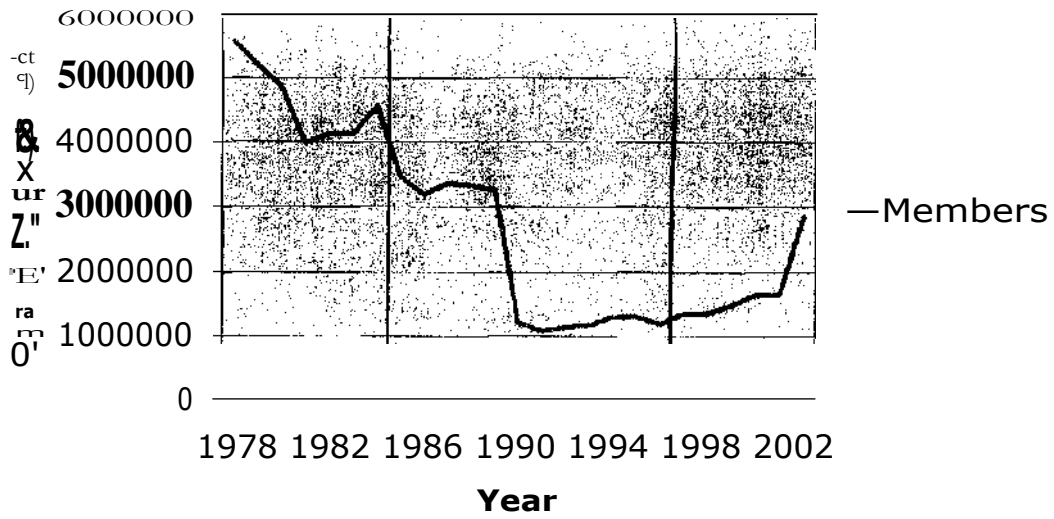
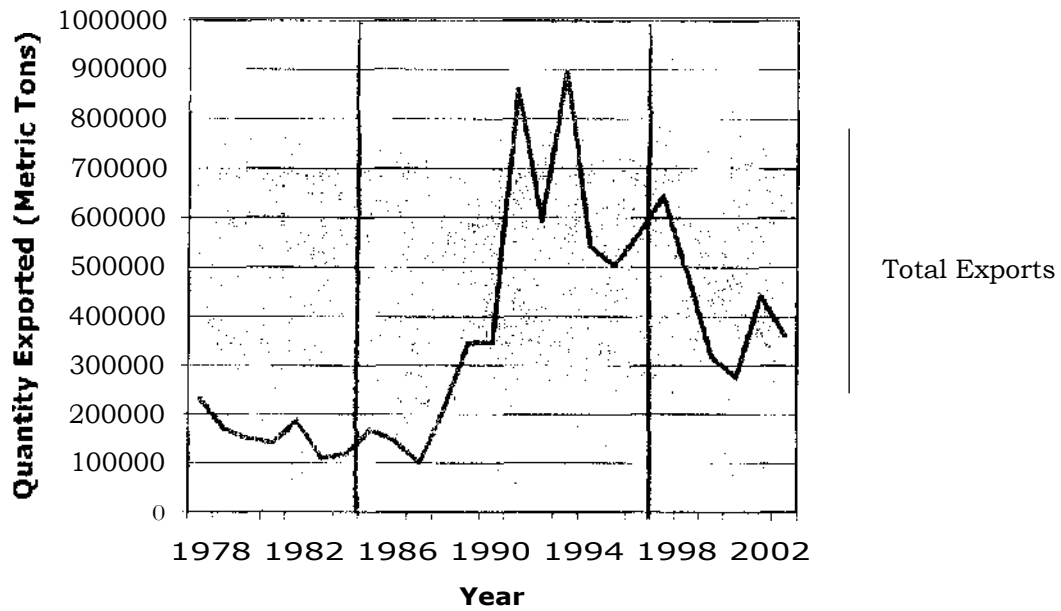


Table II

Total Member Exports of Tropical Timber



Total Non-Member Exports of Tropical Timber



Percentage Growth of Tropical Timber Exports (Quantity)

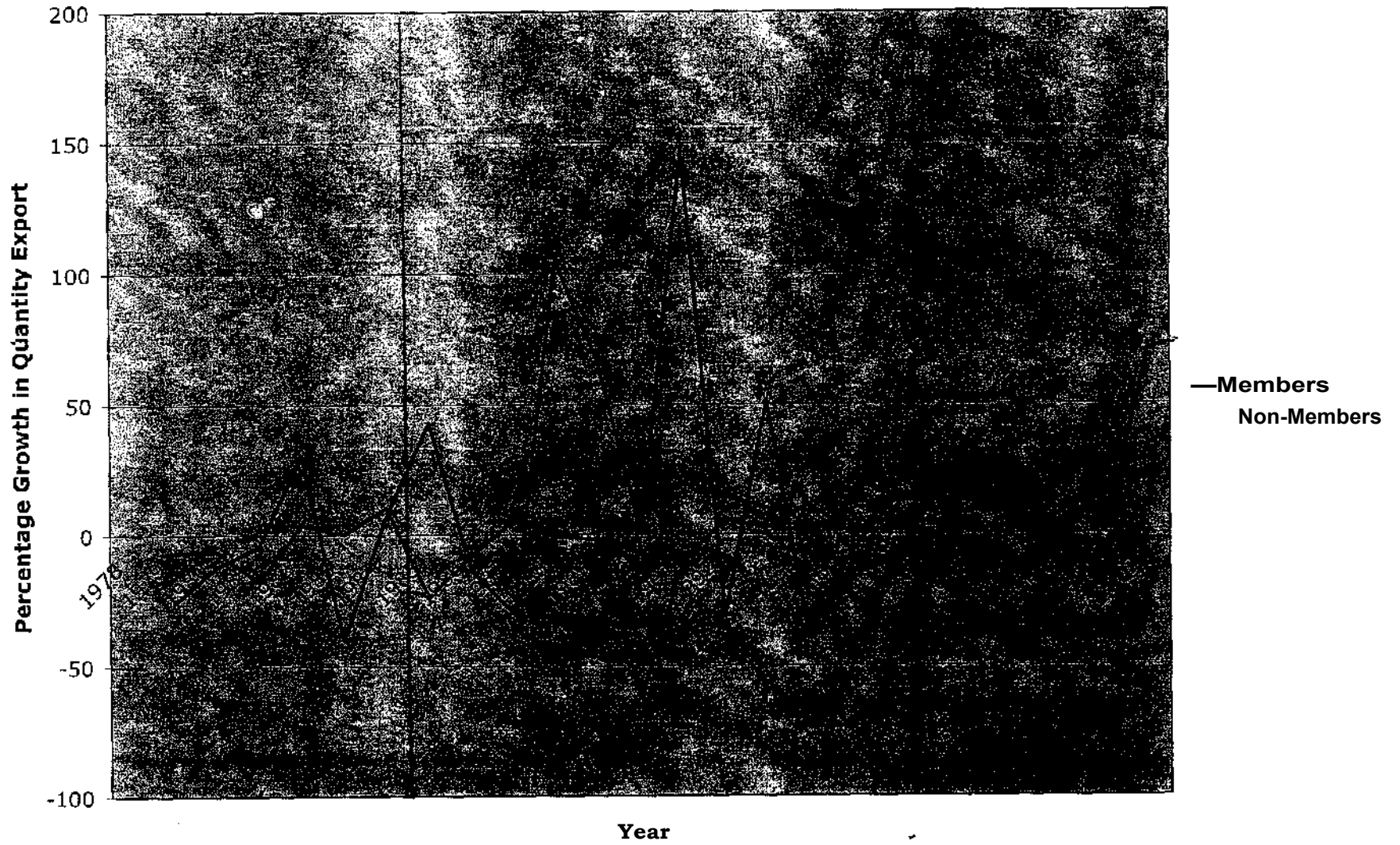
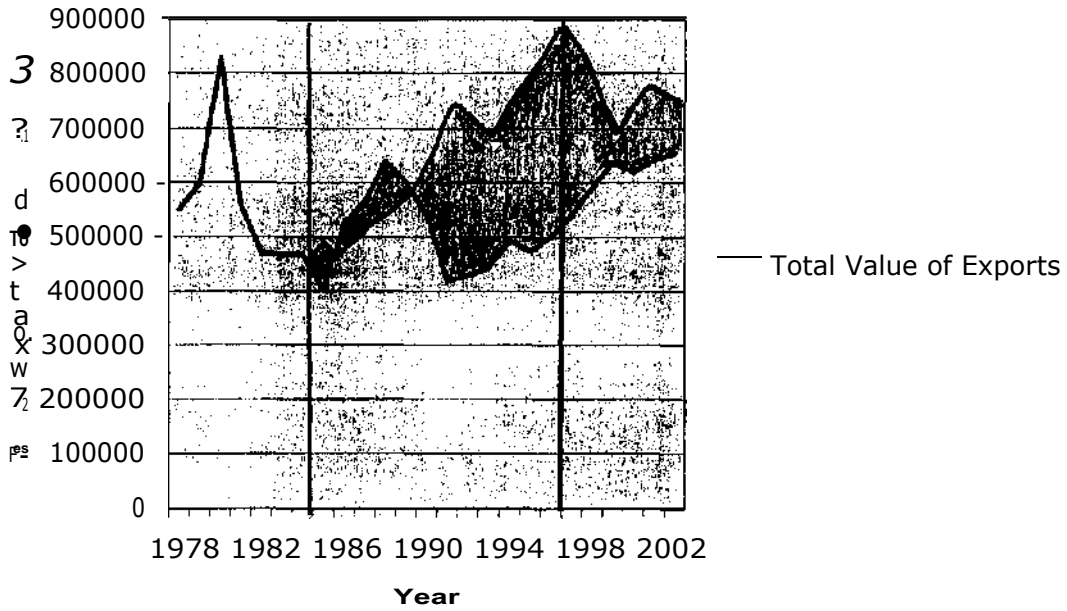


Table TV

Total Member Exports fo Tropical Timber



Total Non-Member Exports of Tropical Timber

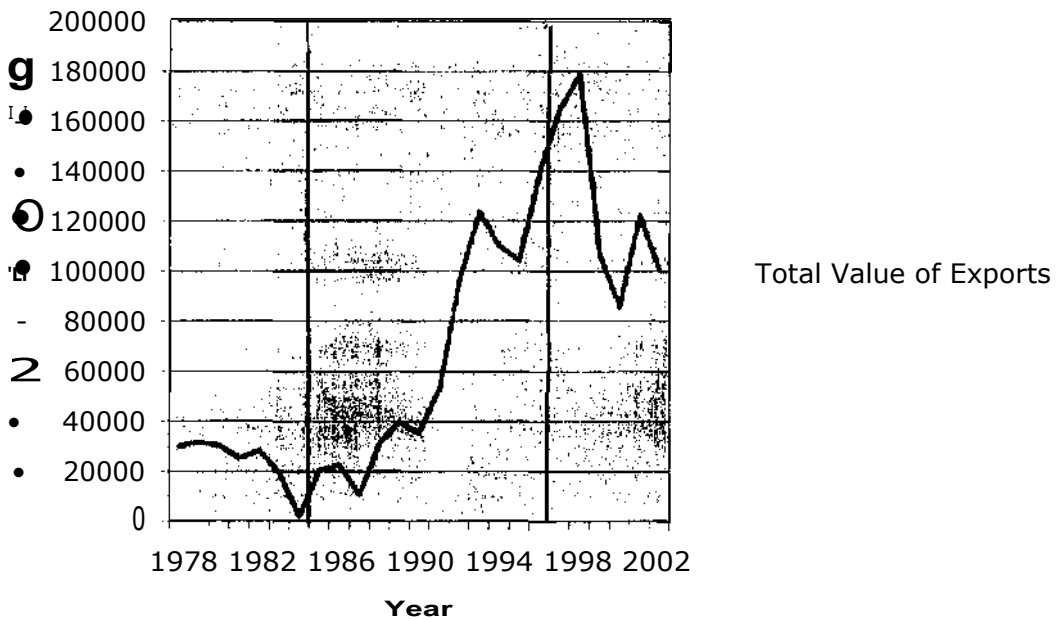


Table V

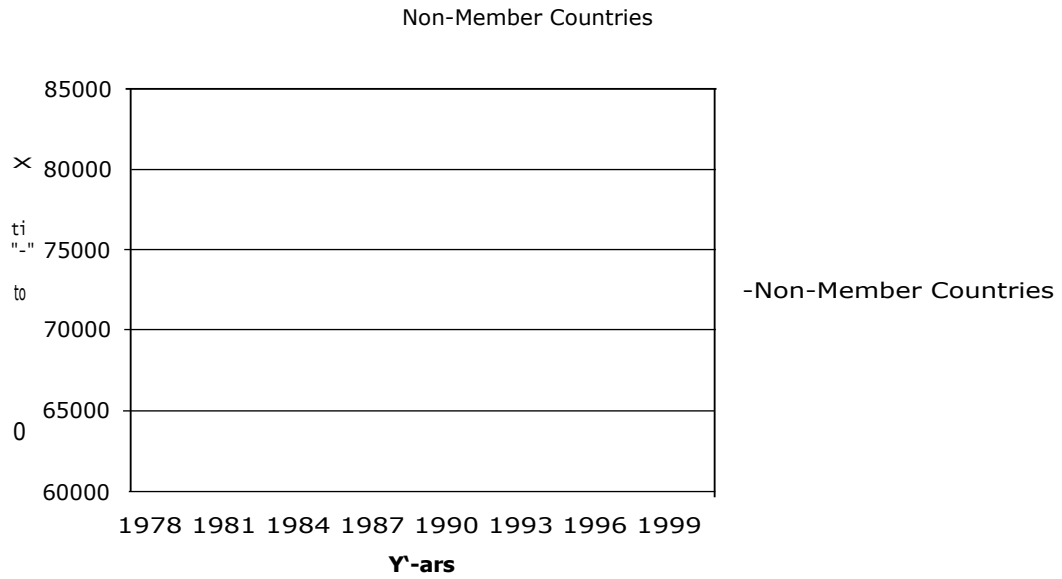
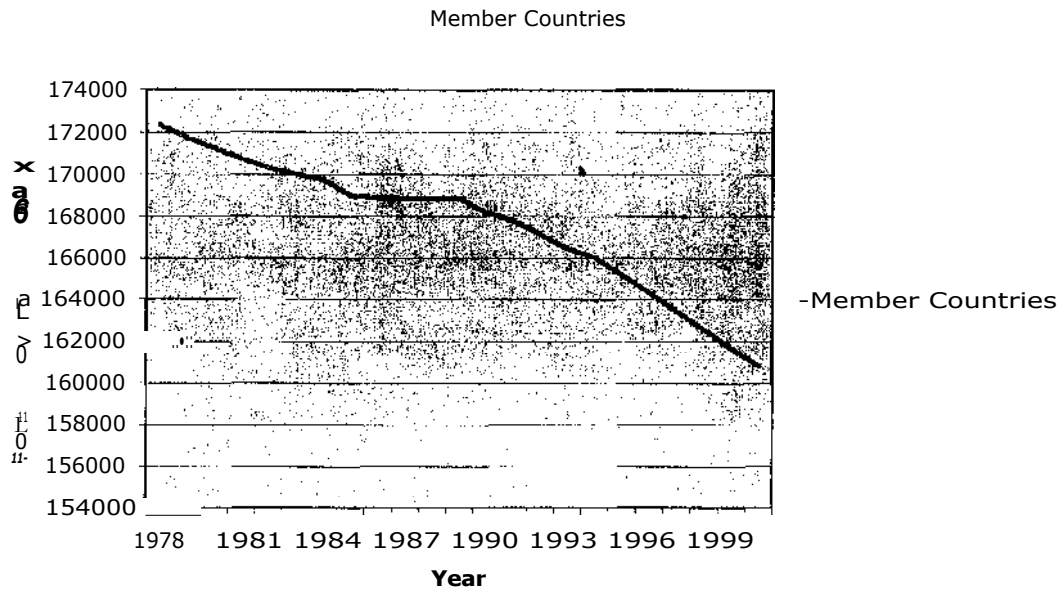
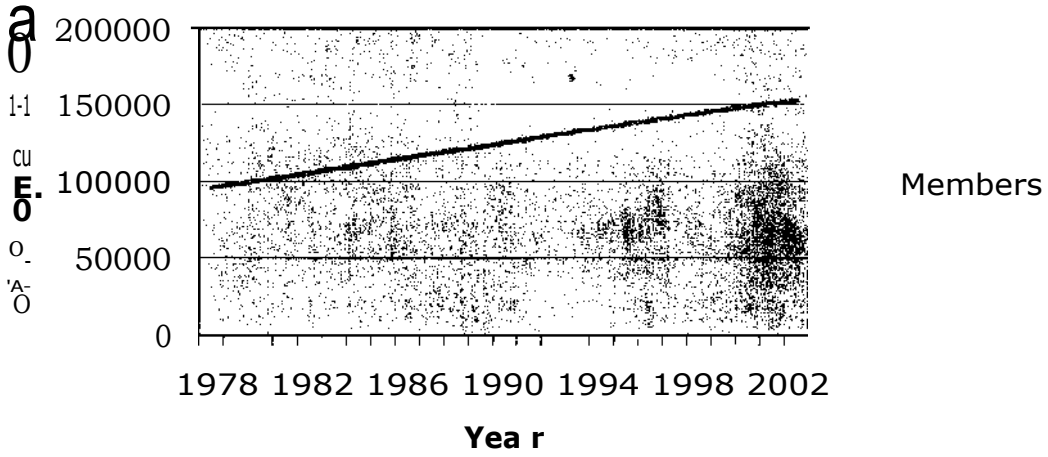


Table VI

Population of Member Countries



Population of Non-Member Countries

