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Atte.

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Saludos cordiales,

Comité Editorial.

Contenido

Las prácticas diplomáticas en la antigüedad

"Muchos soberanos, a consecuencia de su mala conducta, ha perecido con sus bienes, mientras que ermitaños han obtenido reinos por su cordura y su humildad".
Libro séptimo, Las leyes de Manú

Introducción

En este breve ensayo, abordaré la significación de las prácticas diplomáticas, específicamente de la India del siglo x al siglo v a.c. Distinguiendo a las mismas como parte de un proceso que viene acompañado de grandes pautas, las *Leyes de Manú*, uno de los textos fundamentales de la cultura jurídica-religiosa india, representa precisamente, una de esas pautas que han dado paso a la construcción de la diplomacia contemporánea, sujeta a convenciones internacionales, que sin embargo preservan parte esencial de estos prodigiosos precedentes.

India

La India, según la clasificación de los orígenes de la labor diplomática descritos en clase, comprende un primer periodo que se caracteriza por estar alejado geográficamente de los centros de poder tradicionales. El Imperio griego y romano más tarde, esta vez no protagonizan el objeto de estudio que nos ocupa. En cambio, es Egipto, China e India, quienes destacan en la conformación de ciertos principios fundamentales que se preservan aún en la costumbre, así como en el derecho internacional codificado.

Más importante aún, ya que así lo considero, es la introducción de un texto cuya importancia no tiene comparación. Respondiendo a un panorama proclive al enfrentamiento dentro del mosaico de reinos y repúblicas aristocráticas independientes que conformaban India en el siglo v a.c., las Leyes de Manú traen consigo, el apaciguamiento y equilibrio momentáneos, de las relaciones internacionales inmediatas que hasta su conocimiento, habías estado regidas por una sensación conjunta de desconfianza y lucha encarnizada.

Las leyes de Manú

"Voy a declarar los deberes de los reyes, la conducta que debe observar un monarca; diré cuál es su origen y por qué medio puede obtener la recompensa suprema". Es así como comienza el Libro Séptimo de las Leyes de Manú o *Manava-Dharma Sâstra*; sobre la conducta que deben observar los reyes y la clase militar.

Antes de destacar los puntos que más nos interesan, valdría la pena recordar siguiente: las Leyes de Manú, no son meramente un código conductual. En un sentido amplio, se refiere a todo el conjunto de conductas civiles y religiosas, que abarcan y reafirman, una cosmogonía propia, una metafísica elaborada, y una serie de preceptos que conducen al hombre y a su existencia. Se incluyen cuestiones referentes a las transmigraciones del alma, así como máximas morales, nociones de política y estrategias militares.[1]

Reveladas a Manú[2] por Brahama[1], el 'dios creador', las Leyes de Manú han sido conservadas desde que fueron redactas en verso, íntegramente quisiera pensarse. Localizando una fecha aproximada

[1] Loiseleur Deslongchamps Auguste-Louis-Armand, 1983, *Les Lois de Manou*, [Traducción], Paris.
[2] Uno de los siete personajes divinos que según los indios, han gobernado el mundo sucesivamente.

de su redacción, el primer traductor británico de la versión en sánscrito[2], William Jones, sugiere el año 1280 u 880 a.c.

Sobre las prácticas diplomáticas

En las Leyes de Manú, se identifican fácilmente, una serie de "artículos" -refiriéndome a ellos de esta forma por cuestiones prácticas-, que introducen y abrazan la importancia que en ese entonces tenían los embajadores, piedra angular de las relaciones diplomáticas entre los reinos y repúblicas aristócratas antes mencionados.

Recordando que los siguientes artículos son consejos para el soberano, el artículo 63 menciona: *Que escoja un embajador perfectamente versado en el conocimiento de todos los Sastras[3], el cual sepa interpretar los signos, el continente y los gestos; sea puro en sus costumbres é incorruptible, hábil y de nacimiento ilustre.* Es decir, un embajador que posea un vasto acervo y formación académica; uno que haya vivido lo suficiente para no perdérsele en el calendario y geografía una fecha, una montaña o un mueca engañosa; uno que antes lo ojos del soberano, y de la comunidad, sea digno del reconocimiento, tanto por su ejemplaridad como por sus capacidades al servicio del reino.

El artículo 40 continua: *Se estima el embajador de un rey cuando es afable puro, mañoso, dotado de buen memoria, muy al corriente de los lugares y de los tiempos, de buena presencia, intrépido y elocuente*. Se refiere a las cualidades de un embajador: adulador ante el soberano pero virtuoso al momento de verse ante el par de quien sirve, poseedor de una excelente memoria pero guardando en ella momentos y lugares clave para el desarrollo de su labor diplomática, y por último, dado de una gran elocuencia que para los fines que ha sido encomendado habrá de transformarse en persuasión.

El artículo 65, a mi parecer el más florido y contundente, recita: *De un general es de quien depende el ejército, de la justa aplicación de las penas, de lo que depende el buen orden; el tesoro y el territorio dependen del rey; la guerra y la paz, del embajador*. Haciendo una distinción entre general, rey y embajador, Brahama delega la responsabilidad de las dos máximas de las relaciones internacionales, la guerra y la paz, no al ejército regular, ni siquiera a un voz centralizada que podría personificar el rey, sino al embajador; el versado, mañoso, intrépido y elocuente embajador.

El por qué de comisionarle la guerra y la paz a un embajador, es brevemente explicado en el artículo 66: *En efecto, el embajador es quien realiza el acercamiento de los enemigos, quien divide a los aliados, pues se ocupa de los asuntos que determinan una ruptura o la buena inteligencia.* En efecto, un embajador tradicional, no es sólo quien vincula a los reinos separados geográficamente –incluso dudaría de este vocación-, sino quien determina 'la buena inteligencia', quien estratégicamente aparece y reaparece ante las autoridades enemigas y aliadas, quien arriesgando la vida, supone la mejor arma que tiene una ciudad-estado.

Aún dado su carácter de administrador del reino, la figura del emperador es simbólicamente perdurable. Sobre ello, el artículo 67 sostiene: *Que en las negociaciones con un rey extranjero, el embajador adivine las intenciones de éste por ciertos signos y los gestores de sus propios emisarios secretos, y que sepa los proyectos de este príncipe abocándose con consejeros ávidos y descontentos.* Es el embajador, no el ejército sino el embajador, quien asegura la vida del rey, quien valiéndose de sus mañas, adivina el pensamiento del enemigo, previniendo a su soberano del peligro potencial que enfrenta.

Contribución a la diplomacia contemporánea

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[1] Parte de una trinidad: Brahama, Siva y Visnú.
[2] Lengua en la que está escrito originalmente el Libro de Manú.
[3] La palabra Sastra significa *libro, ciencia*; designa las obras sobre religión, leyes, ó ciencia que se considera que tienen origen sagrado.

Primeramente, y aún cuando pueda entenderse el rol primario del embajador en un tiempo y contexto totalmente diferentes a los que presenciamos, no es igualmente fácil explicar la caída cualitativa que ha tenido la práctica diplomática, si hablamos específicamente de este representante del Estado.

En las Leyes de Manú, pareciese que hablamos de otro ser humano, de otro funcionario estatal que lleva en sí, una aureola de divinidad. Es incluso más importante que el soberano, titular del ejecutivo si lo trasladamos a nuestro tiempo, más importante que el ejército, que si lo trasladamos aún mantiene sus mismas funciones. Es quien guarda la guerra y la paz como si fuesen tesoros.

El embajador ya no responde a los mismos designios de Brahama. Si bien se le encarga la representación estatal, ya no tiene funciones estratega –no en la misma medida-, ya no posee el monopolio de la guerra ya la élite militar lo ha suplantado, mientras la paz la conceden sólo los mandatarios. Sin embargo, y aún cuando pueda acusársele de mantener una pasividad preocupante, los embajadores contemporáneos aún preservan, por lo menos eso quisiese pensar, un sentido de denominarse versados y ligeramente intrépidos, preparados perfectamente para sostener negociaciones tal vez no trascendentales pero significativas para el ejercicio y la consecución sana de los intereses estatales.

Conclusión

Las Leyes de Manú, siembran un referente en la diplomacia internacional. Se sabe de su influencia en otros códigos similares, pero es clara su poca vigencia en el derecho positivo occidental y por ende, en el derecho internacional que se dice universal. En cambio, y para regocijo de los propios indios, estas conductuales jurídico-religiosas, junto con otros libros sagrados, aún preservan y alientan, su vida en sociedad. Una vida que transmigra, pero que conserva valores encomiables, que en sus prácticas diplomáticas, podríamos intentar recuperar; hoy que las palabras dichas a Manú, están en nuestras manos, y en la manos de quienes hacen y experimentan con la política exterior.

CONTINUOUS IMPROVEMENT IN MEXICO: AN UPDATED AND COMPARATIVE SURVEY

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ABSTRACT
Two surveys were conducted in Mexico City. The first one was conducted in 2002, and the second was conducted in 2004. In 2002, 400 questionnaires were sent to the respondents, with 102 answers were received. In this updated version, 300 questionnaires were sent and 96 answers were received. The respondents were directors, managers, and professionals from MBA courses. This paper examines and analyzes the data of the two surveys, compares the results, and presents several conclusions.

Keywords: continuous improvement, operations strategy, technique applications

INTRODUCTION
Continuous improvement is an endless journey. Companies have to ascertain effectiveness doing many strategic options in order to drive the company to its objectives.

Continuous improvement describes an approach to quality assurance which stresses the importance of creating a culture in which concern for quality is an integral part of the product/service delivery (Collins & Porras, 1994).

Companies are using many techniques and tools to: first, stay in business, and secondly, to increase their market share. Those techniques that are in use include Total Quality Management, Lean Manufacturing (JIT), ISO 9000-2000, Six-Sigma Approach, and Award Criteria items.

The authors of the present article conducted a survey in Mexico City between June and August of 2004. From 300 questionnaires, 96 answers were compiled after rejecting 23 because they did not meet the researchers' requirements. This survey is an update of another survey conducted between August and October of 2002, when 400 questionnaires were sent out and 102 answers were compiled after rejecting 17 questionnaires (Borges & Munoz, 2003). In both surveys, the respondents were directors, managers, and professionals from MBA courses.

This paper examines and analyzes the data of the two surveys, compares the results, and presents several conclusions.

TECHNIQUES
Organizations are using several techniques and tools that aim to improve processes. The same techniques and tools were used in both surveys, with the exception of the ISO 9000 certification. The reason for that was because at the time of the first survey the ISO 9000:2000 was in thebeginning of its process, and the previous versions of the ISO-9000 were focusing more on documentation than on continuous improvement.

The techniques and tools were total quality management, statistical quality control, quality control tools, design of experiments, kaizen, lean manufacturing, six-sigma approach, and empowerment. Some of the national award criteria such as customer focus, strategic planning, information & analysis, and process analysis were introduced in the questionnaire.

Total Quality Management – TQM

The quality philosophies of Deming (1982, 1986); Juran (1964, 1988, 1989); Ishikawa (1986, 1990); Feigenbaum (1951); Crosby (1979) are based on customer focus. According to Stephanou and Spiegel (1992), the total quality management process was based on Deming's principle, Juran's approach to quality improvement, and Feigenbaum's company-wide approach to quality control. Ishikawa (1986, 1990) added some contributions in Japan such as the Cause-and-Effect diagram and quality control circles. Crosby (1979) introduced the "zero defects" concept. Howe et al (1995) state that, despite some successes, TQM has shown that 60-70% of the programs fail to achieve their stated objectives.

Seven Quality Control Tools

According to Ishikawa (1986, 1990), the Seven Quality Control tools are Check sheets, Pareto Diagram, Cause-and-Effect Diagram, Histogram, Scatter Diagram, Run Charts, and Flow charts. These tools are very well known and were used even before the quality movement and, some of them such as Pareto Diagram used in the ABC purchasing policy, in different areas.

Statistical process control

Ishikawa (1990) states that the main areas of application of statistical process control (SPC) are for control, for analysis, for adjustment, for inspection, and for a useful graphical representation of the data. Periodic samples of the output of a production process are taken, and then compared with the control limits to see whether the process is in control or out of control.

Design of experiments

Design of experiments consists of all efforts to use analysis of variation, in many cases applying experimental designs and Taguchi techniques. According to Montgomery (1997), the application of experimental design techniques early in process development can result in (a) improved process yields, (b) reduced variability and closer conformance to nominal or target requirements, (c) reduced development time, and in (d) reduced overall costs. Moreover, it can be used to evaluate and compare basic design configurations and material alternatives.

The National Quality Award criteria

Mexico formally started to encourage continuous improvement by creating its National Quality Award soon after the Americans created the Malcolm Baldrige National Quality Award. The authors chose the following criteria items for the survey:

Customer Focus - Market and customer requirements, expectations and preferences.
Human Resources - Training and Motivation to reach the worker's maximum potential.
Strategic Planning – The development and deployment of objectives and action plans.
Information and Analysis - Systems management for performance measurement.
Processes - Process development management for operation units.

Kaizen

Imai (1986) states that a Kaizen workshop deals with ongoing improvement involving everyone, from top to middle management; from supervisors to workers. Kaizen seeks to encourage the active participation of all department members involved in a process within a non-blame company culture. It is a problem solving process approach used to obtain gradual improvements. Immediate actions are carried out and follow-up meetings are scheduled for the more time-consuming suggestions.

Lean Concepts

Jones (1992) proposes that lean production emphasizes five elements of plant organization: (i) the delegation of responsibilities to front-line workers; (ii) their organization into work teams; (iii) employee involvement in continuous improvement; (iv) the use of visual factory controls; and (v) the use of just-in-time to eliminate in-process buffers and waste.

Six-sigma Approach

Pande et al (2000) state that the six-sigma approach, based on the statistical theory, was launched by Motorola and popularized by Jack Welsch, GE's C.E.O. It consists of the application of DMAIC – Design,

Measure, Analyze, Implement, and Control – projects supported by a consistent training basis and applications aimed at reducing defects and improving process productivity.

Empowerment

Empowerment consists in giving responsibility and allowing participation in the decision-making process to lower levels of employees. Rayner (1994) states that many U.S. corporations are trying to increase the level of workforce participation and involvement in the decision-making process. Employee empowerment aims at the development of the capability of the workforce. In doing so, the organization can be more flexible and prepared to adapt to change.

METHODOLOGY

The methodology consisted of the analysis of data collected from two surveys in Mexico City with almost the same construction and similar scales. For the comparison the researchers did an adaptation to reflect the same purpose as follows.

The surveys involved some general questions about the companies' location, age, products, size, and nationality (whether they are regional or international). In both surveys, the respondents were directors, managers, and qualified professionals from MBA courses.

The 2004 questionnaire (see Appendix) asked about techniques and tool applications on a scale from 1 to 5, with 1 meaning successful application, 2 meaning implementing waiting for results, 3 meaning implementation planned but in the future, 4 meaning not successful, and 5 meaning no interest in applying. The techniques and tools were: total quality management, statistical quality control, quality tools, design of experiments, kaizen, lean manufacturing, six-sigma approach, ISO 9000, and empowerment. The Award criteria were customer focus, human resources, strategic planning, information and analysis, and process.

The data were collected between June and August of 2004. From 300 questionnaires, 96 answers were compiled after rejecting 23 because they did not meet the researchers' requirements.

The 2002 questionnaire was conducted by Borges & Munoz (2003) between August and October of 2002, when 400 questionnaires were sent and 102 answers were compiled after

rejecting 17 questionnaires because they did not satisfy the researchers' requirements. That survey used the same techniques and tools applications with the exception of ISO 9000 certification, on a scale from 1 to 7, with 1 meaning successful application and still applying waiting results and standardized, 2 meaning successful application and standardized, 3 meaning applying waiting for results, 4 meaning to implement in the future, 5 meaning not successful but still applying, 6 meaning not successful and discontinued, and 7 meaning no interest in applying. The researchers grouped the items 1 and 2 in the 2002 questionnaire into 1 in the 2004 questionnaire, and the items 5 and 6 into 4 in order to compare the two surveys, according to Table 1.

Table 1. Scale Conversion

2002 Survey	2004 Survey
1	1
2	1
3	2
4	3
5	4
6	4
7	5

Besides, the surveys presented a short definition for each and every one of the techniques and tools, in order to facilitate the understanding of them. Therefore, the authors could identify whenever there were inconsistencies in the application of the above mentioned techniques.

RESULTS

From the valid answers, 58% were from manufacturing companies, 39% from service companies, and the rest were from retail companies. Due to the random nature of the survey, there was no a predominant sector: 8.5% from the food industry, 5.4% each from electric, pharmaceutical, and auto related sectors and 4.3% from chemical companies.

From the total of respondents, 54% were big companies (more than 250 employees), 16% were medium-sized companies (101-250), 29% were small (11-100), and only 1% (less than 11 employees) representing the micro companies. One can assume that managers of big companies are more inclined to respond to technical questionnaires.

48% of the companies were international companies and 52% were Mexican. Although the percentage of international companies is almost the same as that of big companies, it is not valid to say that all big companies are international because some of them have a small or medium-sized subsidiary in Mexico.

As it is seen in Table 2, not a majority of companies are applying the techniques in one of the scale classification 1 and 2. The majority of them, however, are not interested in getting the ISO-9000 certification. More than 43% of the respondents are successful in the ISO 9000 certification, and it is safe to assume that the same companies that had the ISO-9000:1994 received the ISO- 9000:2000 certification. More than 40% of the respondents have implemented, and are implementing and waiting for results in strategic planning (45%), in customer focus (43%), human resources (42%), and Information & Analysis (40%) – all from the Quality Award criteria, and TQM (40 %).

It is worth noting that another item of the quality award criteria process has been applied in 39% of companies. Moreover, statistical process control and the seven quality control tools have 34%, and empowerment has 31%. Many companies are interested in implementing some of the techniques in the future, such as Six sigma (46%), Design of Experiments (39%), Kaizen and lean concepts (36%), and Statistical Process Control (34%).

Some correlation tests between the size of the companies and the techniques were performed and in all cases the median were statistically similar, but SPC was "on the fence" (p-value equals 0.06).

Table 2 – Survey results in %

Evaluation	1		2		3		4		5	
Techniques/Tools	2002	*2004*	2002	*2004*	2002	*2004*	*2002*	*2004*	*2002*	*2004*
TQM	**49**	*25*	24	***40***	10	***25***	1	***5***	**16**	*5*
SPC	**50**	*22*	27	***34***	10	***34***	**3**	*1*	**10**	*9*
QCTools	**44**	*21*	23	***34***	15	***31***	**4**	*2*	**14**	*12*
DOE	**30**	*12*	16	***21***	21	***39***	**10**	*4*	**23**	*22*
Customer Focus	**54**	*26*	26	***43***	10	***20***	2	***6***	**8**	*5*
HR	**39**	*28*	30	***42***	17	***20***	**7**	*4*	**7**	*5*
Strategic Plan	**45**	*27*	29	***45***	15	***23***	**4**	*2*	**7**	*3*
Information	**42**	*24*	27	***40***	16	***26***	**6**	*4*	**9**	*6*
Process	**49**	*27*	21	***39***	12	***23***	**6**	*3*	**12**	*8*
Kaizen	**21**	*15*	**22**	*20*	23	***36***	6	***8***	**28**	*20*
Lean Mfg	**28**	*8*	23	***30***	15	***37***	**12**	*6*	**22**	*20*
6-Sigma	**16**	*9*	**21**	*13*	26	***46***	**6**	***6***	**31**	*26*
Empowerment	**40**	*24*	27	***31***	20	***29***	**1**	*6*	12	***13***
ISO-9000-94	-	*43*	-	*3*	-	*0*	-	*0*	-	*54*

ISO-9000-2000	-	43	-	3	-	0	-	0	-	54

In the 2002 survey (Borges & Muñoz, 2003) a total of 56% were large companies, 18% were medium sized, 22% were small sized, and the remaining 4% were micro companies. One can assume that there is a tendency that managers of big companies are more inclined to respond to technical questionnaires and/or due to the sample target big companies are more interested in training in both cases, since they have advanced degrees and continuing education.

57% of the sample was international companies, and 43% were local. Although the international companies have almost the same value as the big companies, it is not valid to say that all big companies are international because some international companies have a small or medium subsidiary in Mexico (Borges & Muñoz, 2003).

There were 53 companies from the metal-mechanic sector, 31 from all other manufacturing sectors and 32 from service companies. Nevertheless, due to the random nature of the survey but with a slight focus on the metal-mechanic sector, this sector represented 46%.

The 2002 survey presented the results shown in Table 2. It can be assumed that there is a majority of companies that consider themselves successful (54%) in customer focus and a great number successful in SPC (50%), TQM (49%), Strategic Plan (45%), and Quality Control Tools (44%).

When the surveys are compared (the Table 2 shows in bold the greater values of each item and scale), it seems clear that they were from different populations, since there was a decline in the number of successful companies applying all the techniques from 2002 to 2004. However, this "loss" is compensated by the number of the companies applying and waiting results.

On the other side of the scale, more companies in the 2004 survey are interested in applying most of the techniques in the future (see scale 5).

Table 3 presents the two choices of implementation of techniques and tools combined, meaning 1 and 2 together. As one can see there is still predominance in applying the techniques and tool of continuous improvement in the 2002 sample.

Table 3. Companies that implemented continuous improvement techniques in %

Techniques/Tools	**2002**	**2004**
TQM	**73**	65
SPC	**77**	56
QCTools	**67**	55
DOE	**46**	33
Customer Focus	**80**	69
HR	69	**70**
Strategic Planning	**74**	72
Information	**69**	64
Process	**70**	66
Kaizen	**43**	35
Lean Mfg	**51**	38
6-Sigma	**37**	22
Empowerment	**57**	55

The researchers conducted Chi-square tests to verify whether the differences are significant or not. The hypotheses were:

H_0: There is no difference between the 2002 and 2004 surveys

Ha: There is a difference between the 2002 and 2004 surveys

There were only differences between the use of statistical quality control (p-value = .002) and six-sigma (p-value = .004). Design of experiments and lean manufacturing were "on the fence" with p-value = 0.06,

as well as customer focus with 0.074, and quality control tools with 0.82. The remaining techniques presented values that we cannot reject the null hypothesis.

CONCLUSIONS

One could assume that it should be encountered some increase in the percentage of companies applications the various techniques. It did not happen that way. The 2002 and 2004 samples were different. Therefore, they presented different results. The reason for that might be because the survey in the year 2002 had a majority of the companies in the metal-mechanic sector. It was not the case of the 2004 survey, where there was no majority of any industrial sector.

Both surveys had in common that they can be used to get a picture of the use of the continuous improvement techniques right now, and identify some room for improvement in both samples. In that case, techniques such as kaizen, design of experiments, and six sigma approach are the ones that are not used very often.

Even the most utilized techniques such as the quality award criteria items, total quality management, and statistical process control can still be used. The ISO 9000:2000 is another avenue that companies can explore in order to improve their results. Companies must look into their operation strategy options to make that kind of decisions.

Besides, the 2002 survey pointed out that 90% of the subjects believe that the competition is very strong in their sectors against 79% of the 2004 survey, although only 30% in 2004 think that it will become worse, compared with 30% in the 2002 survey.

88% of the 2002 survey respondents agree that there will be more cooperation in the future against 93% in the 2004 survey. The 2002 survey also shows that 72% of the subjects believe that the self-organization is possible in their companies, compared with 63% in that of the 2004.

In the light of the results presented in this paper, the authors can conclude that a good way to continue this work is to get a pool of companies to do a new survey, and try to coordinate a follow-up plan periodically. In the meantime, these companies must commit to continuous improvement by establishing training and application objectives of the adequate techniques according to their strategic planning.

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Oil ceased to be a strategic resource?

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Nowadays it is common for some media, businessmen, politicians, etc... [2], to refer to oil as a raw material that is no longer strategic, that is inexpensive, readily available and that its use as an energizer has decreased. All these assertions, however, are not scientifically substantiated. Talking about Mexico and other countries that still maintain state ownership, this is sometimes used to mitigate and reduce its ideological importance and to convince various social sectors that its industrial character is now "obsolete" and thus achieve its privatization.

However, reality shows that, oil's replacement as an energy base is still a distant prospect, and the economic and industrial basis at the international level still depends heavily on this energy. Analysis indicates that the strategic nature of oil as an energy base will remain for at least twenty years. Prospective studies by the U.S. Department of Energy - for example - note that in those years, oil will remain the main source of energy at an international level, and most importantly, in all countries consumption will grow significantly [3] (see table 2 and 3).

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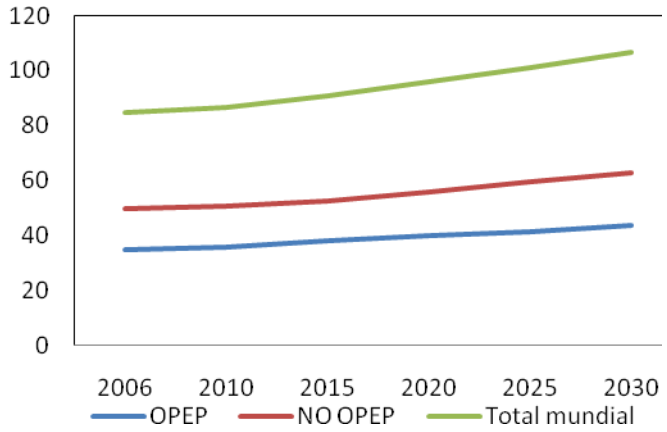
[2] I am talking about politicians, for example, Vicente Fox, who repeatedly has referred to oil as follows: "(...) nowadays to have human capital is more strategic that if we have natural resources. At this time, oil is less strategic (...) oil is no longer the strategic resource that it once was" see "Selling Pemex, oil ever", La Jornada, July 17, 1999.

[3] Such is the case of the USA, which is the largest oil consumer in the world and whose consumption will grow 0.9% annually through 2030. Source: Annual Energy Outlook 1996 with Projections to 2015, Energy Information Administration, U.S. Department of Energy, Washington D.C., 2010.

TABLE 2

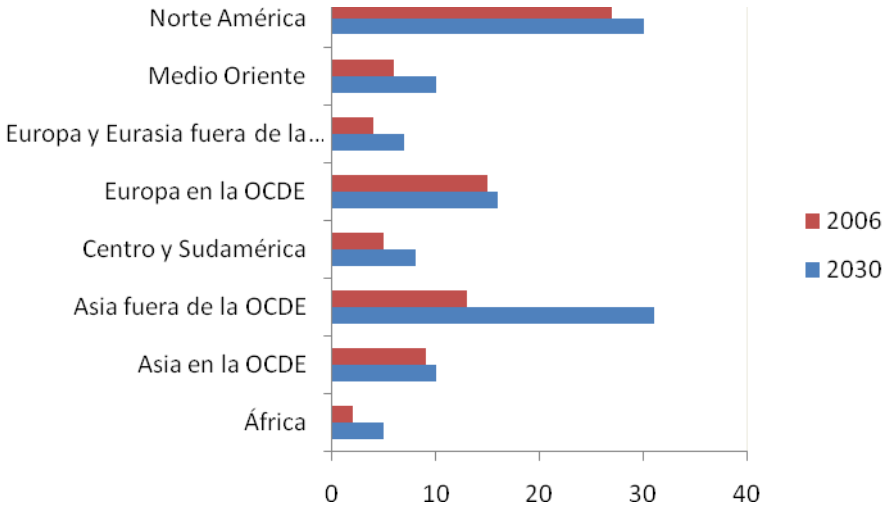
Worldwide Oil Projection 2006-2030
(Millions of barrels per day)



Source: Energy Information Administration. *Official Energy Statistics from the US Government. International Petroleum (Oil) Production*. [On line] [26 of March 2009] [Available on: http://www.eia.doe.gov/oiaf/ieo/pdf/liquid_fuels.pdf]

TABLE 3

World oil consumption by region and group of countries
2006 and 2030
(million barrels per day)



Source: Energy Information Administration. Official Energy Statistics from the US Government. International Petroleum (Oil) Production. [On line] [26 of March 2009] [Available on: http://www.eia.doe.gov/oiaf/ieo/pdf/liquid_fuels.pdf]

In the last decade, even with price fluctuations, oil consumption worldwide has increased significantly. Table 4 shows that from 22 selected countries only 2 reduced their consumption over the period 2002-2007: Russia, which faces serious economic problems primarily in the industrial sector, has reduced its consumption considerably; this is not however as a result of replacing and saving oil, it´s about closures and restructuring its companies.

Germany is another country which has reduced its oil consumption, though in this case by using new energy sources, increasing the efficiency of its use, and recycling products made from petrochemicals and developing technology which can save more energy and reduce oil consumption.

However, even with this reduction in consumption, oil is the main energy source in Germany. Worldwide most countries are highly oil dependent, with oil being their main energy source. It is also worth mentioning that in most cases the oil consumed is imported.

All industrialized countries without exception consume large quantities of crude oil, their industrial infrastructures are designed for performance and development based on this energy, and, as established by the U.S. Department of Energy, this situation will not change in short term. Energy replacement will need time and resources to materialize.

TABLE 4
WORLD PETROLEUM CONSUMPTION,
(2002-2007)
(Thousand barrels per day)

Rank	Country	Consumption 2002	Consumption 2007	Annual Average
1	United States	19,761.30	20680.38	4.65%
2	China	5,160.71	7565.00	46.59%
3	Japan	5,317.22	5006.66	-5.84%
4	Russia	2,636.41	2820.00	6.96%
5	Germany	2721.64	2456.00	-9.76%
6	India	2,263.44	2800.00	23.71%
7	Canada	2,087.41	2367.35	13.41%
8	Brazil	2,131.60	2400.00	12.59%
9	Korea, South	2,149.15	2214.09	3.02%
10	Mexico	1,950.11	2119.13	8.67%
11	Saudi Arabia	1,676.25	2210.00	31.84%
12	France	1983.25	1949.95	-1.68%
13	United Kingdom	1,738.64	1740.48	0.11%
14	Italy	1870.13	1701.74	-9.00%
15	Iran	1,350.35	1708.00	26.49%
	TOTAL	**54,797.61**	**59371.00**	**8.35%**
	WORLD TOTAL	**78,089.42**	**85899.74**	**10.00%**

Source: Energy Information Administration. Official Energy Statistics from the US Government. International Petroleum (Oil) Production. [On line] [22 of March 2009] [Available on: http://www.eia.doe.gov/emeu/international/oilproduction.html]

In Table 4, we see a rapid growth in oil consumption. U.S. (4.65%), Mexico (8.67%), Japan (5.84%) have all increased their consumption in the period 2002-2007, the increase in oil consumption, however becomes even more dramatic in the case of China (46.54 %), India (7.4%) and Saudi Arabia (12.59%).

Another international oil market feature is the concentration in oil production and consumption at regional level. In Table 5 we can see that 47% of oil exports are concentrated in 9 countries (Saudi Arabia, Russia, Norway, UAE, Iran, Kuwait, Nigeria, Venezuela, and Algeria). Table 6 show us that oil imports are also concentrated in just a few countries: U.S., Japan, China, Germany, South Korea, France, India, Italy, Spain, Taiwan, Netherlands, Singapore, Turkey, Belgium and Thailand, these countries import 43% of the global total, with the USA, which consumes 25% of all the oil produced, standing out from all countries worldwide.

TABLE 5

TOP WORLD OIL NET EXPORTERS (2006)

(THOUSAND BARRELS PER DAY)

Rank	**Country**	**Exports**
1	Saudi Arabia	8,595
2	Russia	6,845
3	Norway	2,557
4	United Arab Emirates	2,532
5	Iran	2,494
6	Kuwait	2,362
7	Nigeria	2,175
8	Venezuela	2,161
9	Algeria	1,863
10	Mexico	1,632
11	Libya	1,553
12	Iraq	1,446
13	Angola	1,380
14	Kazakhstan	1,153
15	Qatar	1,040
	Subtotal	39,788
	% del Total Mundial	47.06%

Source: Energy Information Administration. Country Energy Profiles. [On line] [22 of March 2009] [Available on: http://tonto.eia.doe.gov/country/index.cfm.]

TABLE 6
MAJOR OIL IMPORTERS (2006)
(thousand barrels per day)

Rank	**Country**	**Imports**
1	United States	12,357
2	Japan	5,068
3	China	3,379
4	Germany	2,542
5	Korea, South	2,160
6	France	1,908
7	India	1,804
8	Italy	1,578
9	Spain	1,558
10	Taiwan	935
11	Netherlands	926
12	Singapore	848
13	Turkey	634
14	Belgium	627
15	Thailand	610
	Subtotal	36,934
	% of the world total	43.69%

Source: Energy Information Administration. Country Energy Profiles. [On line] [22 of March 2009] [Available on: http://tonto.eia.doe.gov/country/index.cfm.]

As we can see in Table 7, oil production is concentrated geographically in 15 countries (Saudi Arabia, Russia, United States, Iran, China, Mexico, Canada, United Arab Emirates, Venezuela, Norway, Kuwait, Nigeria, Brazil, Algeria and Iraq) which produce nearly 80% of global production, with just a few countries producing large quantities and others making the most important -economically speaking- imports.

TABLE 7
MAJOR OIL PRODUCING COUNTRIES

Rank	**Country**	**Production**
1	Saudi Arabia	10,665
2	Russia	9,675
3	United States	8,331
4	Iran	4,149
5	China	3,856
6	Mexico	3,710
7	Canada	3,287

8	United Arab Emirates	2,945
9	Venezuela	2,806
10	Norway	2,786
11	Kuwait	2,678
12	Nigeria	2,443
13	Brazil	2,167
14	Algeria	2,122
15	Iraq	2,010
	Subtotal	63,630
	Otros	20,912.90
	Total	**84,542.90**

Source: *Energy Information Administration. Country Energy Profiles*. [On line] [22 of March 2009] [Available on: http://tonto.eia.doe.gov/country/index.cfm.]

Because industrialized countries lack sufficient reserves to ensure their consumption in the medium and long term, and in a context of open confrontation of the various regional blocs (mainly North America, Europe and Asia), the persistent search to control external oil resources has been aggravated due to the urgent need to raise production levels and productivity, and compete more decisively for market supremacy and leadership in the global economy.

In this sense, access and direct control of the main routes for transporting oil and essentially unfettered control of the oil reserves of the major producing countries will remain one of the key objectives of the major industrial powers.

Oil as a strategic raw material, indispensable for the transport sector and industrial production, has been used more intensively by the great industrial powers.

This issue, which transcends national safety standards by its importance, is very pronounced when we refer to USA, which is the biggest consumer (consuming a quarter of the oil produced worldwide) and since the early seventies has been faced with oil production problems and a severe decline in its reserves.

Since the energy crisis in 1973, and because of the U.S's extreme dependence on oil imports, especially from the Persian Gulf, the U.S. Government has managed a strategy to get the ownership of Mexico's oil resources and industry, and those of all important producers in Latin America. Their method to achieve this goal is to put pressure on them through both the U.S. Government and also its financial institutions to achieve the privatization of strategic industries in these peripheral countries.

In the specific case of Mexico, their economic policy shifted in 1982 to find a way to get a quick response to their demands. This has led to serious risks to the economic and political sovereignty of our country.

The introduction of neoliberal economic policies, the management of Petroleos Mexicanos, - and generally the management of the whole oil industry - has responded primarily to the needs of U.S. multinational companies, and has neglected the most elementary considerations of the national interest of our country.

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