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Editorial

Dear all,

We are obliged to overwhelming support given to us by many Vice Chancellors, heads of departments and renowned doctors of research from various universities and deemed universities. We are thankful to those who wrote us letters of congratulations, encouragement and blessings to continuously proceed with the activities of the Journal of Global Economy. We are continuously receiving articles and research papers from renowned researchers and scholars. There are many enquiries for assistance in observation and research reporting. The panellists on Advisory Board are rendering selfless guidance to these young scholars. Our list of writers and also members of advisory board are increasing day by day.

Website

Research Centre for Social Sciences has its own website (www.rcssindia.org). New features have been added to this site. Now readers can read international news on various issues. News on economic issues is salient features of this news channel which is updated regularly. Abstracts of selected papers are also being put on the website; however, online Journal is available only to Life Members. Writers must send a soft copy of their article by floppy or by email along with their photos.

Commentaries

There are three Commentaries and three Research papers in this issue. Commentary by Dr A Ranga Reddy from Venkatasewara University, Tirupati on Impact of Globalisation on Indian Economy discusses many issues like individual freedom, regional and cultural disparities and dominance, asymmetry of powers, democratic accountability, environmental degradation, market failures and government interventions during the process of liberalisation and globalisation. Issues have been discussed succinctly but openly.

Commentary by Mr. Kuldeep Singh Thakur emphasises on the subsidiary nature of DEPB, one of the export incentive schemes. The stated objective of the DEPB is to neutralize the incidence of customs duty on import content of the export product. In actual practice, exporters get credit even for domestic sourcing of inputs. DEPB credit entitlement is freely transferable, but the benefits of such transfers attract income tax. DEPB concept of making raw materials available to exporters at ideal international prices has been under constant attack in the WTO and various bilateral fora, due to its alleged subsidy character

Commentary by Mr. J.K. Sachdeva on Customs Clearance of Agricultural commodities discusses Trade Facilitation, one of the Singapore issues. The losses that businesses suffer through delays at borders, complicated and unnecessary documentation requirements and lack of automation of government-mandated trade procedures are estimated to exceed in many cases the costs of tariffs. WTO members continue discussions under various articles of GATT, but developing countries have their own limitations and constraints.

Special articles

Research Paper by professors D. Bardhan, S. K. Tiwari and Y.P.S. Dabas from G.B. Pant University of Agriculture and Technology, Pantnagar on 'Indian Poultry Sector and WTO' analyses policy implications and future strategies on the sector. Poultry occupies a unique position in the livestock economy of India. India ranks 4th in the world in egg production and 8th in poultry meat production. Production and exports of poultry meat have experienced the highest growth rate in the last two decades among meat of all other food animal species. For designing appropriate policies for livestock development, it is imperative to examine the nature and significance of changes taking place in the livestock sector in the country

Special article on 'Economic Valuation of Below Ground Diversity-concepts and methods' by Dr. G.P. Reddy Sr Scientist, NAARM, Hyderabad, emphasises the relevance of below ground biodiversity on the health of crops, trees and other plants that are desirable to man. We may expect a strong linkage between above- and below ground biodiversity, primarily because plants and plant diversity determine the functioning of the below ground ecosystem via factors such as plant litter quality, quantity and timing, the soil water balance and microclimate in the surface layer, and root activity. In this paper, various valuation methods of biological resources have been discussed in detail.

The last paper is bold and courageous step by Mr. Gangadhar B Sonar and his team from Gulbarga University, Gulbarga. They interviewed 53 commercial sex workers from Bellary district in Karnataka and attempted to find out “AIDS Awareness among Commercial Workers” in this district. Prostitution is an illegal activity; and to get the facts from illegal workers is really a very difficult task. Authors have done this with help of an NGO and found that the CSWs are the group of women highly vulnerable to HIV/AIDS and sexually transmitted diseases. Therefore, the necessary measures should be provided to improve the conditions of the CSWs by conducting free medical check ups and clinical examinations. The NGOs may undertake more awareness programmes among the prostitution prevalent areas.

Expected Slowdown of Global Economy

According to International Monetary Fund (IMF) report in the month of April, 2005, the global economy's growth is expected to be slow this year. After bounding ahead by 5.1 percent in 2004, the global economy is projected to grow by 4.3 percent this year, the IMF said in its latest World Economic Outlook. "The global economic expansion has remained broadly on track, evolving largely as expected," the IMF said. "Forward-looking indicators appear consistent with solid expansion in 2005, although rising oil prices are an increasing risk." Next year, the IMF is forecasting the world economy to expand by 4.4 percent, slightly faster than the 2005 projection. The IMF's forecasts are based on an assumption that world oil prices would average around $46.50 a barrel this year and $43.75 in 2006.

Economic growth for United States will be 3.6 percent this year, as well as next year. While that would be moderation from the brisk 4.4 percent growth registered in 2004, it would still be considered healthy. The more moderate U.S. economic growth projection reflects a number of factors, including the toll of high energy prices as well as the Federal Reserve's interest rate boosts, private economists say.

China's economy, which grew by a blistering 9.5 percent last year, is expected to cool only a little. The IMF is projecting growth of 8.5 percent in 2005 and 8 percent in 2006.

"Global growth remains unduly dependent on the United States and China," the IMF said. "Growth in the euro area and Japan - together accounting for nearly one-fourth of global output - has once again been disappointing."

In the euro area - Germany, France, Italy and Spain - the economy is expected to grow by just 1.6 percent in 2005, the IMF said. That would be less than the IMF previously estimated for the region and would be down from a 2 percent increase posted in 2004. In 2006, economic output should improve somewhat - increasing by 2.3 percent. For Britain, economic growth should clock in at 2.6 percent this year and next, which would be slower than the 3.1 percent increase in 2004. For Japan, the IMF is predicting economic growth of only 0.8 percent this year -a big slowdown from the 2.6 percent increase registered in 2004. Japan's economy should expand by 1.9 percent in 2006.

Thanks

We are again thankful to you for your support. We hope senior researchers will encourage young scholars to write observations and commentaries. Please submit economic news of your area for the website. RCSS is a charitable public Trust. Many people have come forward to help our cause, however there is a high printing and postage cost. Kindly send your subscriptions as early as possible.

With regards
Executive Editor.

Commentary

Impact of Globalisation on Indian Economy

Dr. A. Ranga Reddy[*]

Under globalisation, heaven is defined as an American Salary, a Chinese Cook, an English house, and a Japanese Wife. Similarly, a hell is defined as a Chinese salary, an English Cook, a Japanese house and an American wife.

The paper highlights impact of Globalisation, in general and India, in particular.

Globalisation is an on going process of economic, technological, social and political integration of the World that began after the Second World War (Asian Development Outlook report. 2001). Globalisation refers primarily to integration of various nations of the world at the economic level. 'Global Village' was first coined by Marshall Mc Luhan in 1964; however, Auroville of Pondicherry conceived the world as one community.

The building of humane and just societies demands adequate recognition of the importance of freedom, in general, which includes socio-economical, political and cultural liberty. This calls for securing and constructively expanding the opportunities that people may have to choose how to live and to consider alternative lifestyles. Political liberty with tolerance in full contemporary form is not an old historical feature in any country or civilization. Plato and Augustine were no less authoritarian in thinking than were Confucius and Kautilya. There were, of course, champions of tolerance in Classical European thought, but

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there are plenty of similar examples in other cultures as well., for instance Emperor Ashoka in third century, Emperor Akbar, in 16th century, Jewish philosopher Maimonides of 12th Century in Cairo, and Buddhist prince Shotoku of Seventh century of Japan. 1215 A.D. Magna Carta insisted that decisions on important matters should not be made by one person alone; they should be discussed with many, i.e., tolerance democracy. Man is free to choose one's lifestyle, in the present world'. But there is also a moot question whether people in more marginalised civilizations are able to resist influence of developed civilizations like western. It certainly deserves attention, given the evident precarious conditions of local cultures in a world so dominated by thunderous exposure to Western influences. Nevertheless, today, the call for global citizenship is more a matter of necessity than choice.

1.1. Asymmetry of power

At least two issues are of particular interest here. First, there is the power and force of market culture in general, which is part and parcel of the form that economic globalisation has increasingly taken. Those who find the values and priorities of market-related cultures to be vulgar and impoverishing tend to find economic globalisation itself to be quite objectionable. And yet often enough, they also see market-based globalisation as hard to resist, given the reach and strength of the market economy and the sheer volume of resources it can bring to bear on re-shaping the world. The second problem concerns the asymmetry of power between the West and other countries and there is a likelihood that this asymmetry will translate into destruction of local cultures (poetry, drama, music, dancing, food habits and so on). Such a loss, it is plausibly argued, would culturally impoverish non-Western societies, given the constant cultural bombardment that tends to come from the Western Metropolis (from fast food to blast music). There are genuine fears that native traditions may be overwhelmed by the fusillade. These threats are undoubtedly real, and to a considerable extent they may also be difficult to escape. The solution can hardly lie in stopping the globalisation of trade and exchange, both because international commerce can bring economic benefits that many countries value greatly and because the forces of economic exchange and division of labour are hard to resist in an interacting world[1].

I. 2 Emergence of Seven Tigers

Jagadish Bhagawati, a noted economist from Columbia University makes a succinct observation on this development. He writes that globalisation needs a human face that it lacks now. Further, he said that rich politicians embraced globalisation in the decades following Second World War forging the international economic order. By contrast, the poor countries walked away from it, treating it as a peril rather than opportunity.

The positive development was East Asia with its seven tigers and 23 other economies that embraced global markets and massively reduced poverty; while sub-Sahara Africa, featuring more state economies and anti-appetizing political environment for foreign investment, has been less successful. The South-South Cooperation must seize an opportunity to improve more intra-regional trade through regional trading blocs. The success story of infrastructural linkages and joint collaboration in new technology as initiated by Association of South East Nations (ASEAN) should be emulated by other regional groupings of the South nations. They should take rallying point to protect nature and people's livelihood.[2]

1.3. Why was globalisation?

It has brought so much good, but has become controversial. Opening up to international trade has helped many countries grow far more quickly than they would otherwise have done. International trade helps economic development when a country's exports drive its economic growth. Export-led growth was the centre piece of the industrial policy that enriched much of Asia and millions of people were better off. Because of globalisation many people in the world now live longer than before and their standard of living is far better. People in the West may regard low paying jobs at Nike as exploitation, but for many people in the developing world, working in a factory is a far better option than staying down on the farm and growing rice. Globalisation has reduced the sense of isolation, felt in much of the developing world and has given many people in the developing countries access to knowledge well beyond the reach of even the wealthiest in any country a century ago. The anti-globalisation protests themselves are a result of this connectedness. However, Globalisation has brought better health, as well as an active global civil society fighting for more democracy and greater social justice. Developing countries must take charge of their own future.

Foreign aid, another aspect of the globalisation, for all its faults still has brought benefits to millions, often in ways that have been almost un-noticed: guerrillas in the Philippines were provided jobs by a World Bank - financed project as they laid down their arms; irrigation projects have more than doubled the incomes of farmers as they are lucky enough to get water; education projects have brought literacy to the rural areas; in a few countries AIDS projects have helped contain the spread of this deadly disease[3].

1.4 Our Dream World without Poverty

The greatest challenge to world politicians and economists is the growing problem of world poverty. What could be done about the 1.2 billion people around the world living on less than a dollar a day, or the 2.8 billion people living on less than $ 2 a day - more than 45 per cent of the world population?

Part of the social contract entails 'fairness', that the poor share the gains of society as it grows, and that the rich share the pains of society in times of crisis. The Washington Consensus policies paid little attention to issues of distribution or fairness. If pressed, many of its proponents would argue that the best way to help the poor is to make the economy grow. They believe in trickle down economics. It is true that sustained reductions in poverty cannot be attained without robust economic growth, the converse is not true: growth need not benefit all. It is not true that a rising tide lifts all boats. Sometimes, a quickly rising tide, especially when accompanied by a storm, dashes weaker boats against the shore, smashing them to smithereens. Growth alone does not always improve the lives of all the people of a country. Globalisation today is not working for many of the world's poor. It is not working for much of the environment. It is not working for the stability of global economy.

1.5 North-South Disparities

Stephen Lewis, a Canadian diplomat on January 21, 2001 lamented that as an after effect of globalisation, millions of people in the developing world not only face starvation, but also are victims of AIDS and merciless deaths especially women, girls and children.

When foreign businessmen come in, they often destroy local competitors, quashing the ambitions of the small business men who had hoped to develop home grown industry. There are many examples of this. Soft drinks manufacturers around the world have been overwhelmed by the entrance of Coca-Cola and Pepsi into their home markets. Local ice-cream manufacturers find themselves unable to compete with Unilever's Ice cream products. We have to put regulations for multi-national Corporation products like soft drinks in India[4].

The glaring inequality between the rich and poor countries is also reflected in the average annual income. Average per capita income in rich countries like USA, Canada, Japan, is US $ 21, 174, while in poor countries mostly in South Asia, Africa, it is less than a single US dollar per day.

1.6 Democratic Accountability

Every country has to learn a lesson from Russian economy, which was in massive poverty with a few oligarchs, a devastated middle class, a declining population, and disillusionment with market processes. Russia now has a fragile democracy, far better than the totalitarian regime of the past. However, young, well-educated, dynamic entrepreneurs often seek to migrate to the West rather than to face the difficulties of doing business in Russia. Hardworking and ethical characters are to be encouraged at every step and promote open democracy with good governance.

1.7 The Economy and the Environment

Rapid economic growth in several parts of the world has left a spillover effect on environment. Large-scale migration and urbanisation has exacerbated that process. By the process of deforestation, desertification, pollution, the depletion of ozone layer and resource depletion, the developing countries have been worst hit. Too much urbanisation also causes strains on the global system. It is estimated that by the year 2025, sixty one percent of the world's population in some of the mega cities in Latin America and Asia, in the absence of clean water and sanitation for a large majority of the slum population, will be affected by perpetual spread of fatal diseases. Nature-friendly people and States are to be encouraged, only then bio-sphere flora and fauna can live long.

II. l Impact of Globalisation of India

In year 1991, economic reforms had two basic sets of policy measures to achieve macro-economic stabilisation and to alter production structure by increasing the role of markets. The policies have helped to increase domestic savings; it increased from 16 per cent in 1972 to 21 per cent in 1992 and then 28 per cent in 1998. To overcome capital shortage, India needed to create an atmosphere, acceptable to foreign investors. An image of a clean and transparent administration in India is also a pre-condition for attracting higher levels of foreign investment[5]. Further, major reforms are needed in the agricultural sector.

Under globalisation, heaven is defined as an American Salary, a Chinese Cook, an English house, and a Japanese Wife. Similarly, a hell is defined as a Chinese salary, an English Cook, a Japanese house and an American wife. Thus, for heaven, the special features of the continents such as America, Europe and Asia are amalgamated. On the other hand, for hell, the limitations of the same continents are amalgamated. We have to devise our strategies accordingly to make our nation a heaven.

II. 2 Dominance of Service Sector

In 1997 year, Service sector output was valued at US$ 6.6 Trillion or 61 per cent of global output of goods and services. The developed countries have dominated this expansion, accounting for three quarters of world services output. The sector constitutes more than 60 per cent of economic activity in all OECD Countries. Services have also grown rapidly in the developing countries over the past two decades, with rising contributions to domestic output and employment. In India, services constitute over 50 per cent of economic activity, significantly more than traditional sectors such as agriculture. In 1999-2000 India's total services trade was estimated at about US$ 30 billion. In certain areas such as software services, India carved a niche for itself in the global market and has emerged as one of the leading exporters. In several other areas such as construction, engineering services, health service, telecommunications and financial services, there is a growing demand in India and abroad. However, the potential for services sector growth in globalisation is much more. Under WTO, the General Agreement on Trade in Services (GATS) entered into force on January 1, 1995 with a set of binding rules and disciplines to govern services trade. Due to globalisation, telecom, insurance, banking, health, infrastructure got adequate changes and the same spirit is anticipated in education, agriculture, and other industry[6].

III. Conclusion

Globalisation is an on going process of economic, technological, social and political integration of the World. Many scholars oppose it and prefer protectionism and restrictions. There are others who are in favour of free trade. Globalisation brings competition and life is made complex, due to multiple goods and services with many producers. But due to heavy competition and open market, stronger market products bulldoze small markets, crushing the small producers. We will have to be extra smart. Simple, moral, accountable, responsive and transparent (SMART) governments and people in reality can do justice to their societies in this wave of globalisation.

Hunger, poverty and unemployment are the worst enemies of third world countries, especially South-South countries. Globalisation should help to uplift the poor in positive sense. Whenever there is market failure in allocation of resources, governments should intervene to protect the environment and to check exploitation of poor countries' natural resources by rich countries. India should not open its gates to all products of globe, until it gets efficiency, competitiveness and sustainability like China. Soft sectors like agriculture and allied products, small scale industry, handicrafts, etc., need smart protection despite WTO's commitment of Market Access.

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Commentary

DEPB: Burden on an Ordinary Taxpayer.

Kuldeep Singh Thakur*

DEPB concept of making raw materials available to exporters at ideal international prices has been under constant attack in the WTO and various bilateral fora, due to its alleged subsidy character. The Kelkar Committee had recommended annulment of the DEPB.

The basic purpose of Duty Entitlement Pass Book (DEPB) scheme is to neutralize the incidence of various types of duties charged in the input material. The neutralization is provided by grant of duty credit calculated on the basis of standard input-output Norms. The calculation also takes into account the value addition achieved in Export Product. The neutralization of incidence of duty is based on consideration of inputs on deemed imports and the rates of various duties of import chargeable on such inputs namely Basic Custom Duty, Surcharge on Basic customs Duty, Additional Duty and Special Additional Duty. However rates are specified by the Director General of Foreign Trade. Duty entitlement pass Book allows import of all items without payment of Custom Duties provided import of such items is not restricted as per ITC HS code.

Currently there are 11 major export-incentive schemes in India. These are a combination of duty drawbacks, direct-tax exemptions and finance schemes. A quick analysis indicates that nearly 70 per cent of the schemes are susceptible to countervailing (a duty imposed to offset subsidies by governments). Unfortunately, India's EXIM policy document is yet to recognize this fact.

The DEPB scheme was notified on 1.4.1997 consisted of (a) post-export DEPB (b) pre-export DEPB. The pre-export DEPB, which is issued after exports, the exporter is given a duty entitlement pass book at

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a pre-determined credit on fob value. The DEPB allows imports of any item which is otherwise restricted for import.

Difference between DEEC and DEPB lies in the importability of the products used as replenishments. Under DEEC, one can import exactly the same products to be used as inputs for the manufacture of export products, while under DEPB, any other product can be imported. The stated objective of the DEPB is to neutralize the incidence of customs duty on import content of the export product. In actual practice, however, exporters get credit even for domestic sourcing of inputs. Under the DEPB scheme, exporters are granted duty credit against export product, as percentage of FOB value of exports. DEPB credit entitlement is freely transferable, but the benefits of such transfers attract income tax.

DEPB concept of making raw materials available to exporters at ideal international prices has been under constant attack in the WTO and various bilateral fora, due to its alleged subsidy character. The Kelkar Committee had recommended annulment of the DEPB. Despite a strong premonition about the impending removal of the DEPB during the last couple of years or so, the government has not officially revealed its plan to scrap the scheme so far, causing exporters to hope profusely for its continuance.

The DEPB covers 55% of the country's exports. Exporters generally prefer DEPB to other export promotion schemes including the duty drawback scheme.

Whether it is the extinct Value-Based Advance Licensing (VABAL) scheme or such existing export promotion schemes as advance licensing or DEPB, the net effect does not flow to the genuine exporters, as exporters of dubious credentials misuse the schemes in connivance with corrupt bureaucrats and wrest the maximum gains for themselves. The Comptroller and Auditor General of India (CAG) Audit Report for the year ended March 1998 had detailed the misuse of the VABAL scheme, entailing loss of revenue to the extent of Rs 3,532.20 crore to the nation.

In another scathing indictment on the DEPB scheme, the CAG (Union Government-Indirect Taxes-Customs. No 10 of 2001) said the scheme's objective was to neutralize incidence of import duty on inputs. But calculation of DEPB credits on deemed import content, rather than actual incidence based on industry norms, led to benefits being extended for exports with little or no actual import content, such as marine products, cotton made-ups, granite, leather goods. Audit checks disclosed that unintended credit of Rs 158.33 crore was granted for the exports of these products by the regional licensing authorities (RLA) in just two years and eight months, between April 1997 to December 1999.

India has put in place a slew of export-promotion schemes since the1960s to boost its exports. While the practice of granting export incentives is near universal — although their form and extent vary widely — the situation is becoming increasingly untenable due to different reasons. With the WTO focusing on removing impediments to the free flow of global trade, many of the incentives offered are coming in for close scrutiny. That puts India and its policies under the WTO scanner.

Government is trying to abolish this scheme, but there are number of hurdles in the way. First of all, various Export Promotion Councils are reluctant to abolish this scheme and they are appealing the central government not to withdraw the scheme. Moreover certain bureaucrats in the central government don't want this DEPB scheme to be removed because this works like a cash cow for these people. Here is the example how central government is blackmailed by various Export Promotion Councils.

The Cotton Textiles Export Promotion Council of India has expressed dismay over the Government's order reducing the DEPB (Duty Entitlement Pass Book) rates for cotton textile products by a further 15 per cent, even while increasing them for manmade textile products. The order was issued on December 30.

Calling the reduction "unfair and unjustified," the Chairman of the Cotton Textiles Export Promotion Council (Texprocil), B. K. Patodia, said the move was particularly shocking as it came right on the eve of the removal of the quota regime from January 1 after four decades of protectionism. "Robbing Peter to pay Paul was not the best way of enunciating policy in a complex and vital sector such as textiles at such a critical juncture."

The DEPB rates, which are intended to neutralize the incidence of basic customs duty on exports, should not have been reduced for the cotton textile products as there was no corresponding reduction in the basic customs duty for the items. Moreover, with issues such as quality, contamination and non-availability of extra long staple cottons remaining unresolved, exporters of cotton textile products such as yarn, fabrics and made-ups were relying on imports of cotton in a large measure and under the circumstances such a reduction in DEPB rates was inexplicable and unjustified.

Also, with exporters having entered into contracts, which are now under production and shipments, the reduction in the DEPB rates will adversely affect the costing and prices negotiated by them with the importers. With prices expected to fall on account of removal of quotas, reduction in the DEPB rates at this juncture would further aggravate the situation.

Mr. Patodia appealed to the ministries of commerce and textiles to restore the DEPB rates to the original levels and take a comprehensive view in the matter after a new scheme in lieu of the DEPB scheme was announced.

It is clear from this official admission that bankers, bureaucrats and exporters band together to defraud the exchequer even as the cost of administering this complex web of export fillip schemes in the form of revenue foregone is a huge Rs 21,000 crore per annum. It is, therefore, time the administrative cost and "policy burdens" of open export promotion schemes are addressed squarely and reasonably.

The benefits do not accrue to the intended classes, which are always worried over the "policy bugbears" of the Government than getting any overt payout in the form of subsidies, inviting in the process, an undignified scramble to arrogate the gains by many a bogus exporter who could successfully lobby in the corridors of power.

(Views expressed are personal)

Research Paper

Indian Poultry Sector and WTO: An Analysis for Some Policy Implications and Future Strategies

D. Bardhan[1], S.K. Tewari[2] and Y.P.S. Dabas[3]

The private sector is playing a pro-active role in the marketing of poultry products. It has a vital role in strengthening forward linkages and value addition, particularly in areas that have remained neglected. However, the much needed interface between public and private sector is sadly missing. Government should play a conducive role in emergence of the private sectors in terms of providing policy impetus, infrastructure and monitoring.

Livestock sector in India makes significant contribution to the country's economy. It contributes around 7.5% to the Gross Domestic Product (GDP) and 26% to agricultural GDP (AgGDP) (GOI, 2003). The livestock sector in the last two decades has recorded a growth rate of around 5.2% per annum, which is almost twice that of agricultural sector (Singh, 2002). Poultry occupies a unique position in the livestock economy of India. India ranks 4th in the world in egg production and 8th in poultry meat production. Production and exports of poultry meat have experienced the highest growth rate in the last two decades among meat of all other food animal species. Small stocks of poultry can act as supplementary enterprise

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for the rural poor, since they cost less to purchase, are of a more convenient size for home consumption or for sale in times of distress and reproduce and grow faster.

Recent decades have witnessed a transformation in national and global economic scenario, consumption patterns and increased awareness of environment. The sustained increase in per capita income and household purchasing power has boosted the demand for high value commodities such as meat in developing countries. In fact, meat consumption in the developing countries increased by more than three times the increases in developed countries in the last decades (Delgado *et al*, 1999). Further, increase in consciousness of health related attributes of poultry meat as compared to red meat has been a factor for demand driven growth of the broiler sector. The inception of World Trade Organization (WTO) on Jan 1, 1995 with all its possible implications have thrown up new challenges and opportunities for the livestock sector and poultry as a sub-sector is no exception to this fact.

For designing appropriate policies for livestock development, it is imperative to examine the nature and significance of changes taking place in the livestock sector in the country.

The performance of the livestock sector and the dairy sector has been well-documented in the context of such changes in several studies (Pandey, 1995; Kumar *et al*, 2001; Dastagiri, 2003; Sharma and Sharma, 2002a; Sharma and Sharma, 2002b; etc.). However, there is a dearth of literature on a comprehensive analysis of the Indian poultry sector, with plausible explanations for changes occurring therein. Therefore, the present study aims at (i.) analyzing temporal changes in poultry population and production, (ii.) identifying the specific factors of growth in poultry sector and (iii.) assessing temporal changes in the trade profile of the poultry sector.

Data and Methodology

The present study is based on time series data pertaining to the last two decades. The data on production, quantity and value of exports and prices were taken from FAOSTAT database (2004), Central Statistical Organization (CSO) and National Accounts Statistics. The time series was divided into two sub-periods, viz. (i.) Period I- pre-WTO period, i.e. 1982-

1994 and (ii.) Period II- post-WTO period, i.e. 1995-2003. Compound growth rates were estimated to examine changes in population, production and trade. To study the changing composition of exports and imports of different poultry products, percent shares of their triennium averages were worked out to account for fluctuations in value of exports and imports. Variability in export of poultry products was also analyzed through co-efficient of variation.

Results and Discussion

Population of poultry in India experienced a high growth rate during the last two decades. The population increased from 204.33 million to 843 million during 1981 to 2002, registering an increase of about four times compared to the world poultry population, which increased only two times.

The share of the poultry sector to the total output from the livestock sector is presented in Table 2. The share of poultry sector has been largely stable at around 10 percent in the nineties, although it declined between 1998-2000. Output from poultry stood at Rs. 10, 234 crores in 1999-00. Table 3 presents the meat production of different food animal species. It can be seen that the share of meat of all food animal species produced in India in total world meat production excluding poultry meat either declined or remained stagnant during 1983-2002. On the other hand, India's share of poultry meat in world's production increased by 3.5 times from 0.56 percent to 1.92 percent during the same period. The annual compound growth rates in meat production from all food animal species are presented in Table 4. It is clearly seen that the growth rate in poultry meat production during 1982-2003 (10.79%) far exceeded that of other meats – the next highest growth rate being recorded by pig meat (4%). The growth rate in poultry meat production was much higher during 1995-2003 (post-WTO period) at 28.56% than that during 1982-94 (pre-WTO period).

These growth rates for poultry meat production in India were also much higher than the corresponding figures for world poultry meat production. In fact the growth rate during 1982-03 for Indian poultry meat sector was almost double that of world poultry meat production. Table 5 shows that growth rate in egg production in India (5.32%) was also much higher than that of the world egg sector (3.52%). Thus, it can be concluded in no uncertain terms, that the poultry sector has experienced tremendous growth during the last two decades.

Table 1: Poultry population in India and World (million no.)

Population of poultry in India	1981	1991	2002
Chicken	188.10 (2.51)	292.8 (2.63)	745.67 (4.61)
Duck	16.13 (4.43)	22.33 (3.72)	97.33 (9.08)
Geese	-	-	-
Turkey	-	-	-
Total	204.33 (2.51)	315.13 (2.61)	843 (4.74)
World poultry Population			
Chicken	7499.68	11110.15	16168.18
Duck	363.98	600.51	1071.79
Geese	72.43	147.67	255.14
Turkey	204.90	236.14	274.32
Total	8140.99	12094.47	17769.43

Note: 1. Figures in parentheses indicate percentage of corresponding world figures
2. Figures are triennium averages centred around the given year

Table 2: Share of Poultry in livestock output in India (Rs. in crores)

Poultry products/Year	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Poultry meat	4486 (6.70)	5109 (6.72)	5846 (6.81)	6217 (6.40)	6916 (6.87)	6502 (5.52)	6229 (4.78)
Eggs	2282 (3.41)	2603 (3.42)	2834 (3.30)	3168 (3.26)	3419 (3.39)	3717 (3.16)	4005 (3.08)
Output from Poultry	6768 (10.11)	7712 (10.14)	8680 (10.11)	9385 (9.66)	10335 (10.26)	10219 (8.68)	10234 (7.86)
Livestock output	66965	76043	85837	97158	10726	117789	130233

Figures in parentheses indicate share of poultry products in total livestock output

Table 3: Meat Production in India and World (MT)

Year	Meat	Buffalo meat	Beef and veal	Mutton and lamb	Goat	Pig meat	Poultry meat
Meat production in India							
1983	2877447	941482 (50.80)	952993 (2.02)	184000 (3.06)	335100 (17.60)	300125 (0.54)	163747 (0.56)
1995	4458542	1351204 (48.93)	1365265 (2.52)	213285 (2.98)	450000 (14.35)	495418 (0.62)	583370 (1.08)
2002	5648886	1447620 (46.38)	1468436 (2.55)	232400 (2.98)	470667 (11.62)	612500 (0.64)	1417263 (1.92)
World Meat production							
1983	141466308	1853280	47163973	6011148	1903596	55392960	29141351
1995	200595170	2761518	54091352	7152085	3136562	79512102	53941551
2002	242010509	3120905	57698187	7792244	4049878	95401168	73948127

Note: i. The figures denoting quantities of meat under each category are averages of three years centred around the given year

ii. Figures in parentheses indicate percentage share of India's meat production to World's meat production

However, this impressive growth in poultry production gives rise to an unsavoury speculation whether the growth in the poultry sector (meat and egg) has been contributed by the growth in poultry stock or productivity (technological change). Table 5 gives some indication of the extent to which productivity and increased poultry stock contributed to output growth in the egg sector. It can be seen that the number of laying hens grew more slowly than egg production, suggesting existence of productivity growth in poultry output. The comparison with corresponding figures for the world egg sector also shows that productivity growth in the Indian egg sector has been as significant as at the world level. In the case of poultry meat sector however, as estimated by Delgado *et al* (1999), productivity is higher in developed countries than India which is also the case with respect to beef and milk productivity. The number of chickens slaughtered during 1982-94 in India grew at a rate equal to the growth in meat output (11.9%), indicating that number of animals was more important than productivity in providing additional meat. The above analysis gives some indication whether productivity or numbers of stock are responsible for the increasing trend in poultry production from the supply side. Another reason for increased production could be the prices, which the poultry producers are receiving. Figure 2 shows the trend in producer prices for poultry meat and eggs during the last decade (1991-2001). It can be seen that the prices received by the producers could be an attributing factor for increasing trend in the poultry sector, more for poultry meat production than egg production.

Table 4: Annual compound growth rate of production of meat in India and the world

Growth rate of production of meat in India (Percent per annum)

Commodities	1982-94	1995-2003	1982-2003
Buffalo	3.02	0.90	2.46
Beef and Veal	3.70	1.15	2.42
Mutton and lamb	0.74	1.10	1.64
Goat meat	2.91	0.60	1.73
Pig meat	4.28	2.98	3.97
Poultry meat	12.25	28.56	10.79

Growth rate of world meat production (Percent per annum)

Commodities	1982-94	1995-2003	1982-2003
Buffalo	2.73	1.68	2.92
Beef and Veal	1.22	0.94	0.98
Mutton and lamb	1.83	1.43	1.31
Goat meat	4.72	3.66	4.41
Pig meat	3.32	2.68	3.02
Poultry meat	5.19	4.44	5.81

Table 5: Annual compound growth rate of egg production and population of laying hens in India (percent)

	Growth rate in egg production			Growth rate in population of laying hens		
	1982-94	1995-2003	1982-2003	1982-94	1995-2003	1982-2003
India	6.48	4.77	5.32	4.49	4.57	4.07
World	3.16	3.32	3.52	2.32	2.85	2.95

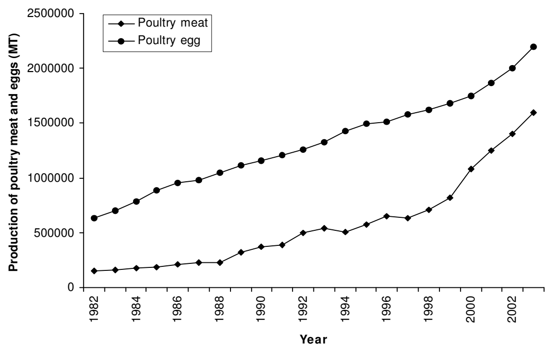

Fig. 1: Production of poultry meat and eggs (MT)

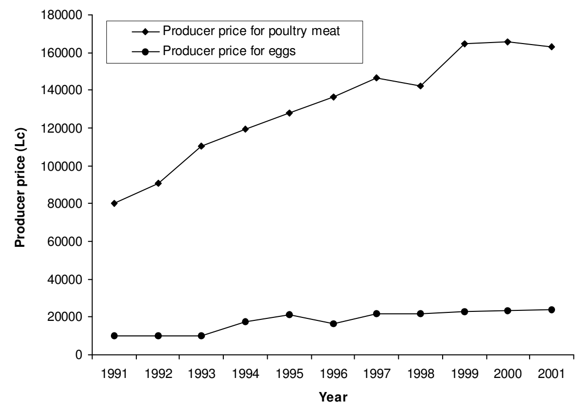

Fig. 2: Producer price of poultry meat and eggs

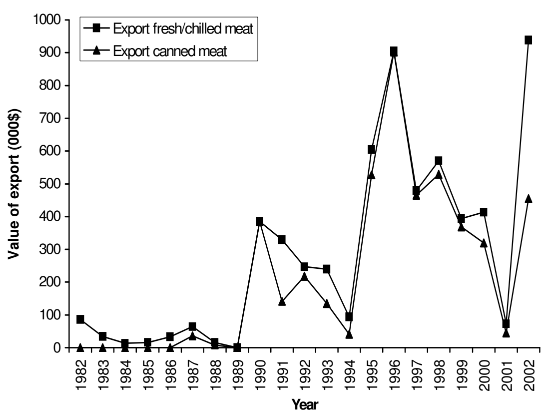

Fig. 3: Value of export of fresh/chilled meat and canned meat

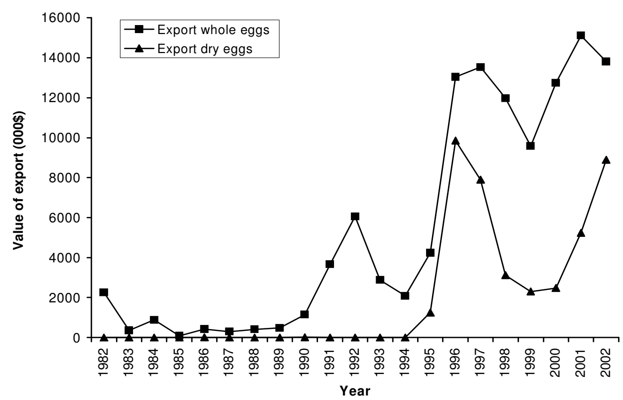

Fig. 4: Export of processed and whole eggs

Export performance of poultry sector

Table 6 gives the value of exports of meat of different food animal species from India and their share to world's exports for the period from 1982-2002. It is seen that India's poultry meat export constitutes a negligible proportion of world's export as is generally the case for other meats also, except for buffalo meat. India has almost been the sole exporter of buffalo meat in the last two decades. In case of imports, India did not import poultry meat till the late 90's, but has been importing since 2000, which could be attributed more to compulsion of market access commitments under WTO rather than other reasons (Table 7).

Table 6: Exports of meat products ('000 $)

Year	Meat	Buffalo meat	Beef and veal	Mutton and lamb	Goat	Pig meat	Poultry meat
Export of meat from India							
1983	65551	42534 (100)	323 (Negligible)	22650 (1.59)	-	-	44 (Negligible)
1994	142267	101217 (100)	20680 (0.34)	19130 (1.00)	375 (0.86)	553 ((Negligible)	312 (Negligible)
2001	287805	261325 (96.73)	15178 (0.51)	10392 (0.47)	328 (0.64)	107 (Negligible)	475 (Negligible)
World Meat Export							
1983	11026436	42534	3987234	1422753	1789	3527669	2044457
1994	23426003	101217	6117632	1914554	43470	8686012	6563118
2001	26574735	270165	2981093	2214527	51530	10341994	10715426

Note: i. The figures denoting value of meat export under each category are averages of three years centred around the given year

ii. Figures in parentheses indicate percentage share of India's meat export to World's meat export

Table 8 shows the structural patterns of exports and imports of Indian meat sector. It can be seen that poultry constitutes insignificant proportion of total meat export during the last two decades. The lion's share of total meat exports consists of buffalo meat, the proportion of which increased from 65% in 1982-84 to 91% in 2000-02. However, the striking feature of India's export of meat is revealed in Table 9. It shows that the poultry meat export like export of meat of other food animal species has declined in the post-WTO period. The exception has been in case of buffalo meat. The buffalo meat export actually recorded a higher growth rate in the post-WTO period. However, poultry meat export along with mutton and lamb experienced the lowest negative growth rate (-13%) compared to other meats. However, in the pre-WTO period, poultry meat export had recorded the highest growth rate (19%), next only to beef and veal. It points to adverse effects that the WTO provisions may have had on the export of meat products from India.

Table 7: Imports of meat products (‘000 $)

Year	Meat	Buffalo meat	Beef and veal	Mutton and lamb	Goat	Pig meat	Poultry meat
Import of meat from India							
1983	25.67	25.67 (98.73)	-	-	-	-	-
1994	-	-	-	-	-	-	-
2001	108.33	3 (0.05)	-	14 (Negligible)	27.33 (0.04)	18 (Negligible)	46 (Negligible)
World Meat Import							
1983	12388979	26	4882410	1639301	11481	3619455	2236306
1994	24965405	-	6201705	2118232	69985	9207795	7367688
2001	26765950	5548	3101668	2323681	68066	11142773	10124214

Note: i. The figures denoting value of meat import under each category are averages of three years centred around the given year
ii. Figures in parentheses indicate percentage share of India’s meat import to World’s meat import

Regarding exports of eggs also, India has experienced a substantially higher growth rate during the last two decades than that of the total world’s export (Table 10). Figures 3 and 4 reveal the trend in export of poultry meat and eggs during the last two decades. Table 11 reveals the variability in exports of poultry meat and eggs during 1982-2003. It can be seen that variability of exports of meat and eggs was less in post-WTO period (1995-2003) than pre-WTO period (1982-94). This indicates that the WTO

Table 8: Structural patterns of Exports and imports of Indian meat sector (Percentage of total value of exports and imports)

Exports			
Category	**1983**	**1994**	**2001**
Buffalo meat	64.89	71.15	90.8
Beef	0.49	14.54	5.27
Mutton	34.55	13.45	3.61
Goat	-	0.26	0.11
Pig meat	-	0.39	0.04
Poultry	0.07	0.22	0.16
Imports			
Category	**1983**	**1994**	**2001**
Buffalo meat	100	-	2.78
Beef	-	-	-
Mutton	-	-	12.96
Goat	-	-	25.31
Pig meat	-	-	16.67
Poultry	-	-	42.29

Table 9: Annual compound growth rate in value of export of meat (Percent)

Export of meat from India			
Commodities	**1982-94**	**1994-2002**	**1982-2002**
Buffalo	6.80	10.53	11.85
Beef and Veal	50.57	-22.03	21.46
Mutton and lamb	-2.13	-13.16	-4.80
Goat meat	24.17*	-31.27	9.86
Pig meat	-	-42.85	-
Poultry meat	19.15	-13.08	19.97
World meat export			
Commodities	**1982-94**	**1994-2002**	**1982-2002**
Buffalo	6.80	11.42	11.99
Beef and Veal	5.11	-10.94	-0.07
Mutton and lamb	3.54	0.87	3.11
Goat meat	40.87	3.21	18.87
Pig meat	9.77	-1.02	6.28
Poultry meat	12.90	47.54	9.08

* Calculated for the period 1987-94 as goat meat was not exported from 1982-86

Table 10: Growth rate in exports of eggs

	1982-94	1995-2003	1982-2003
India	18.78	10.78	24.14
World	2.66	-2.24	1.58

Table 11: Variability in exports

	Variation in export of meat			Variation in export of eggs		
	1982-94	1995-2003	1982-2003	1982-94	1995-2003	1982-2003
India	110.94	51.50	102.33	108.11	29.22	102.28
World	50.29	40.49	64.34	14.05	9.92	14.36

Table 12: Annual compound Growth rate in per capita consumption of eggs and poultry meat (percent)

	1982-94	1995-2003	1982-2003
Eggs	4.49	2.08	3.41
Meat	3.60	2.83	3.01

commitments have had a favourable impact on Indian poultry export at least in terms of reducing the variability in export. Though, the variability in Indian poultry export was higher than that of total world export of poultry products. It is necessary that variability in exports of poultry meat and eggs is reduced in order to establish our position as a regular supplier of poultry products to the international market.

Demand drivers of Indian poultry sector: Exports or domestic consumption?

Table 9 and 10 show the growth rates of exports of poultry meat and eggs from India. Table 12 gives the growth rate in consumption of poultry meat and eggs. Although the growth rate in poultry production could largely be attributed to the accelerated growth in exports of poultry meat and eggs. However, on domestic front, the economic boom associated with sustained increase in per capita income and household purchasing power has also played an important role in boosting the demand for poultry meat. Nevertheless, the growth rates in consumption of poultry products are much lower than that of exports. Studies are needed to investigate the reasons for declining growth rates in domestic consumption of eggs (4.5% during 1982-

94 to 2% during 1995-2003) in terms of its price elasticity of demand, income elasticity of demand and changing tastes and preferences in India.

However, poultry meat has shown the fastest growth in consumption and has broad regional acceptance. Poultry meat is also generally low cost relative to mutton and fish. As per USDA estimates, the income and own price elasticities of poultry meat are higher than those of the broad 'meat group' (1.7 for income and 1.5 for price for poultry meat, in contrast to 0.63 for income and 0.88 for price for 'meat group'). Given the relatively fast growth in poultry demand, relative to other meats, it seems likely that the elasticities for poultry are higher than those of group averages in India. Current regional patterns of poultry consumption provide additional evidence of the important roles of income and price. First, poultry consumption is higher in urban areas; second, per capita consumption is as much as four times higher in South India, where poultry retail prices are significantly lower than in other regions. Given the evidence of sensitivity to both income and price, the recent trends towards faster growth in per capita incomes are likely to contribute to more rapid growth in poultry consumption.

Conclusion

The following conclusive points can be drawn from the above analysis:

1. Although Indian poultry population constitutes insignificant proportion of world's poultry population, poultry stock in India have increased faster in the last two decades compared to world poultry stock. Poultry stock in India quadrupled during the last two decades, while world poultry stock merely doubled during the same period.

2. Share of India's poultry meat production in world production has increased from about 0.5% in 1981-83 to about 2% in 2001-03 (almost about 4 times). The annual growth rate in poultry meat production has been the highest among meat of all food animal species during 1982-2003 both in India and the world and has been higher in India than that in the world. Growth rate in egg production in India has also been significant during the same period and has been higher than that of world egg production.

3. The share of poultry meat export of India to total world export is negligible. However, poultry meat export has experienced a growth rate of 20% during 1982-2002, second only to beef and veal.

4. Exports of poultry meat and eggs have shown huge variability in the period between 1982-2002, far higher than that of world export. However in the post-WTO period, the variability has reduced substantially.

5. Although high export growth rates appear to have contributed substantially to increasing trend in poultry production during the last two decades, the contribution of domestic consumption growth of poultry meat and eggs during the same period have also been noteworthy. But, the comparison of growth rates of exports and domestic consumption suggest that exports have provided greater inducement to sustained increase in poultry production.

6. On supply side, India has experienced positive transformation in productivity increase to meet the increasing demand at least in the egg sector, where the growth rate in egg production has exceeded that of population of laying hens. However, in the poultry meat sector, growth rate in meat production and number of stock slaughtered have been more or less equal, implying that productivity increase has not played significant role in increasing production.

Strengthening India's poultry sector

1. <u>Building participatory institutions of collective action</u> – It is essential for small-scale producers that allow them to be vertically integrated with processors and input suppliers. Small-scale producers mainly rear poultry in their backyard and find it difficult to gain access to productive assets such as credit and refrigeration facilities and to information such as knowledge of microbial contamination prevention procedures. The probable existence of genuine economies of scale of input supply to livestock enterprises and in processing and distribution of perishable commodities, generally suggest that ways should be found to integrate small producers vertically with livestock food processors who are also in a position to manage input supply. This can be accomplished through contract farming or building up co-operatives.

2. <u>Role of private sector</u> – The private sector is playing a pro-active role in the marketing of poultry products. It has a vital role in strengthening

forward linkages and value addition, particularly in areas that have remained neglected. However, the much needed interface between public and private sector is sadly missing. Government should play a conducive role in emergence of the private sectors in terms of providing policy impetus, infrastructure and monitoring. Provision of decent marketing infrastructure, mainly network of cold storage facilities; incentives for mechanization of slaughter houses; effective disease surveillance mechanism and establishment of disease free zones for export marketing; establishment of standardization and grading for poultry products; access to cheap institutional credit and import duty reduction for feed additives are some of interventions which would provide stimulus to private sector participation in production and processing of livestock products.

3. Effective pricing mechanism – There is a need for institutionalizing a scientific pricing mechanism for poultry products. The egg marketing is somewhat better organized as prices are regulated through National Egg Co-ordination Committee (NECC). However, the marketing of eggs of backyard poultry by small rural producers is still operated by unorganized middlemen, and confined to local markets only which needs to be regulated in organized manner to give better returns to the producer. Further, there is a pressing need to resort to the practice of fixing price on the basis of cost of production, rather than the demand and supply situation. Periodic region-wise assessment of costs of poultry production hence needs to be carried out regularly.

4. The decline in funding for livestock research must be reversed. More research is needed on animal and veterinary public health, forage crops and utilization of crop by-products, improved husbandry and production system and on breeding. In addition, socio-economic research is needed to study their impacts.

5. Certification and branding of eggs produced in the rural backyard sector as 'organic produce' would go a long way in expanding the market as there has been a perceptible shift towards organic product of late, both in domestic and international markets. This would also ensure a better remunerative price for the rural poultry produce.

6. Emphasis should be given on establishing a model production system in different agro-climatic region, including least-cost balanced rations, housing systems, etc.

7. For sanitary and phytosanitary compliance under WTO, measures should be taken up vigorously to set up testing and certification service.

8. Effective negotiations need to be made for substantial and meaningful reductions in tariffs including elimination of peak tariffs and tariff escalation, reduction in domestic support and elimination of export subsidies of developed countries for poultry sector. Rationalization of SPS measures, bound tariff rates and transparent administration of tariff quotas in pending their eventual abolition remains other important aspects for negotiations. The existing products group approach in export subsidies is being irrationally used by developed countries by shifting between products from year to year to protect the individual products sensitive for their economy with changing trade scenario.

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Commentary

Customs Clearance of Agricultural Commodities -Trade Facilitation- A Singapore Issue

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All nations have rights to safeguard their interests. Customs authorities, being national economic guards at the entry points, have to implement various laws and work for other Government agencies also. They have to check and scrutinise the documents and licences of other Government agencies, hence delays are but natural. During this delay agricultural commodities which are perishable in nature get contaminated and some times become inedible

Introduction

An export consignment of salted sheep casings waited at Delhi Airport for shipment to Armenia via Moscow through Aeroflot for three months. A Hyderabad based exporter booked the consignment from Mumbai via Delhi. As there is no direct flight, except Moscow, the exporter could not get permission from Health Authorities in Moscow for transit permit. As per rules Indian customs authorities also started pushing the exporter to send the consignment, as 30 days period had exceeded to ship the export consignment, or apply for 'back to town' permission and cancel the export order. Such problems are usually seen at Customs stations all

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over the world. (Russia is not member of WTO). Both exporters and importers (foreign exporters) suffer due to hindrances at ports.

According to the WTO, trade facilitation is defined as "the simplification and harmonisation of international trade procedures", with trade procedures being the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade". This definition relates to a wide range of activities such as import and export procedures, transport formalities, and payments, insurance, and other financial requirements that are quite cumbersome and place enormous burden on traders. (Nitya Nanda, 2003)

The WTO, the United Nations Conference on Trade and Development (UNCTAD) and the Organisation for Economic Cooperation and Development (OECD) have restricted the scope of their definitions to a relatively free movement of goods, and more specifically, to customs procedures and technical regulations that can impair or delay trade. The World Bank, however, takes a broader approach to its trade facilitation work programme, which primarily covers reforms in customs, regulatory frameworks, and standards.

Costs

The losses that businesses suffer through delays at borders, complicated and unnecessary documentation requirements and lack of automation of government-mandated trade procedures are estimated to exceed in many cases the costs of tariffs. Trade transaction costs are estimated ranging from 2 to 15 per cent of the trade transaction value. It is estimated by UNCTAD that the costs of trade transactions equal 7-10 per cent of the total value of world trade, where trade facilitation measures could reduce the costs by one-quarter [UNCTAD 1994, in Nitya Nanda, 2003]. The UNCTAD estimates contain both direct and indirect costs, covering private as well as public procedures and formalities. Thus, trade facilitation can save more than $150 billion a year.

Since developing-country traders are relatively smaller and also export or import in smaller consignments, they find the cost of documentation and other such costs disproportionately higher, as such costs are very often fixed and do not vary with the size of the consignment.

Singapore Issues

Trade facilitation was one of the four new disciplines (along with investment, competition policy and transparency in government procurement) that were added to the WTO work programme at the 1996 Singapore Ministerial Conference. These have since been conveniently labelled as the Singapore issues.

At the Doha Ministerial Conference, these were taken up at the instance of the developed countries and particularly the EC, for inclusion in the ensuing negotiations. On account of opposition from the developing countries including India, it was decided to recognise the case for further expediting the movement, release and clearance of goods, including goods in transit, and the need for enhanced technical assistance and capacity building in this area. It was agreed that the Council for Trade in Goods would review and as appropriate, clarify and improve relevant aspects of Articles V, VIII and X of the GATT 1994 and identify the trade facilitation needs and priorities of Members, in particular developing and least developed countries. Members committed themselves to ensuring adequate technical assistance and support for capacity building in this area. (Satpathy, 2002).

Trade facilitation is covered in various ways by the following articles and agreements: (1) GATT Articles V, VII, VIII, X; and (2) Agreements on Customs Valuation, Import Licensing, Pre-shipment Inspection, Rules of Origin, Technical Barriers to Trade, and the Agreement on the Application of Sanitary and Phytosanitary Measures. However, the Singapore Ministerial has mandated that only GATT Articles V, VIII, and X be considered for future multilateral negotiations. (Satapathy, 2002).

Unbundling of the four Singapore issues was inevitable after the failure of negotiations at Cancun in 2003. The issue of trade facilitation covers a wider area than mere customs formalities at the border and hence many WTO members and particularly the developing countries including the least-developed countries (LDCs) had many apprehensions regarding negotiations at the WTO in this new area. A large group of developing countries including India, China, Malaysia, Philippines, etc and Bangladesh, on behalf of the LDCs, had earlier given vent to their apprehensions in written communications to the WTO in September and December, 2003 (Satapathy, 2004)

As part of the "July Package", the General Council on 1 August 2004 decided by explicit consensus to commence negotiations on trade facilitation. Members agreed that the negotiations "shall aim to clarify and improve relevant aspects of Articles V, VIII and X of the GATT 1994 with a view to further expediting the movement, release and clearance of goods, including goods in transit".

Negotiations also aim at "enhancing technical assistance and support for capacity building in this area"and at developing"provisions for effective cooperation between customs or any other appropriate authorities on trade facilitation and customs compliance issues". The results "shall take fully into account the principle of special and differential treatment for developing and least-developed countries". It was further agreed that these countries would not be obliged "to undertake investments in infrastructure projects beyond their means".

On 12 October 2004, the Trade Negotiations Committee established the Negotiating Group on Trade Facilitation and appointed Ambassador Muhamad Noor of Malaysia as its Chairperson. Soon thereafter, the newly established Negotiating Group agreed on a Work Plan and a schedule of meetings at its first meeting.

A second meeting took place on 22-23 November 2004, allowing Members to benefit from an educational and stock-taking process while also offering the opportunity to contribute on the agreed agenda of the Negotiating Group. The WTO Secretariat briefed delegates on the relevant GATT Articles and technical assistance related to trade facilitation.

UNCTAD, the World Customs Organization, the World Bank and the OECD gave briefings on the work they are carrying out in this area.

The approved agenda of the Negotiating Group is as follows:

- Clarification and improvement of relevant aspects of Articles V, VIII and X of the GATT 1994; enhancement of technical assistance and support for capacity building; effective cooperation between customs or any other appropriate authorities on trade facilitation and customs compliance issues;
- Special and differential treatment for developing and least-developed countries;
- Identification of trade facilitation needs and priorities; concerns related to cost implications of proposed measures;
- Technical assistance and support for capacity building;
- Working with and work of relevant international organizations.

At the meeting, many delegations underlined the importance of the agenda items related to the needs of developing countries and LDCs. Landlocked countries expressed the hope that negotiations would be of practical benefit to them, pointing out that they faced higher transport costs compared to other Members. On another matter, smaller delegations urged that their resource constraints be considered in the scheduling of future meetings.

International Agencies

At international level, some international organisations involved in such initiatives include the World Customs Organisation (WCO), UN Agencies such as UNCTAD and UNECE, the World Bank, OECD, IMF, the International Maritime Organisation (IMO), and the International Civil Aviation Organisation (ICAO). Some of the regional initiatives include APEC, ASEAN, the FTAA, MERCOSUR, and the EU. Perhaps the greatest lobbying efforts have originated in the private sector through the International Chamber of Commerce (ICC) and the International Transport Organisation (ITO). (Satapathy, 2002)

In the context of discussions on trade facilitation at the WTO, the work being done by the WCO seems to be quite relevant. WCO's Kyoto Convention provides the regulatory framework for trade facilitation. Proponents of the adoption of the Kyoto Convention at the WTO argue that a multilateral agreement already exists. The World Customs Organisation has proposed remedies that include adequate remuneration for customs officials, internal and external auditing and fair rules for appointments and promotion. But the WCO is only a source of detailed expertise; it lacks the power to put a political head of steam behind its proposals.

Articles of GATT and India

Article V of GATT relates to the freedom of transit of goods and transportation vessels across territories. India requires transit facilities from Bangladesh for transporting goods to the north-eastern region while Nepal requires transit facilities from India for trading with the rest of the world. Goods to the north-eastern region are transported along the circuitous route around Bangladesh. While India allows Nepal transit facilities, it has faced the problem of leakage of third country goods into its markets. India however, has been dealing with these issues on a bilateral basis.

Article VIII of GATT covers the fees and formalities connected with the importation and exportation of goods. Regarding fees and charges the main proposal, which is actually no different from what is contained in the original GATT text, requires members to levy fees and charges in connection with importation and exportation on the basis of cost of service provided and not on an ad-valorem basis. In India, steps are being taken on reduction of documentation requirements and simplification of procedures. The most significant step that has been taken is on the harmonisation of the customs code. Since February 2003, classification codes at the eight digit level used by the Central Board of Excise and Customs (for purposes of tariff), the Directorate General of Foreign Trade (for purposes of determining importability/exportability) and DGCIS (for statistical purposes) have been unified to evolve a Combined Nomenclature based on the HS classification. To simplify and reduce procedures, the automation of customs through the use of electronic data interchange (EDI) and the use of risk assessment methods have been adopted. The effectiveness of the EDI system depends on the connectivity between all the players – ports, airports, customs DGFT, RBI, shippers, etc. India is progressing towards the usage of modern risk assessment methods.

Article X relates to the publication and administration of trade regulations, that is, measures to ensure transparency. Nitya Nanda (2003) writes that in India all trade related information including those mentioned in the proposals is published by the relevant official authorities. Information is made available both in print and through the electronic media. Interestingly, the private sector is playing an important role in making information more accessible to traders both through published material and through hosting of web sites. Traders in India tend to use private sources as they disseminate information faster. A notable development that lends greater transparency and predictability in trade is the recently set up of the Authority on Advance Ruling under which the scheme of advance ruling became operational in 2002. The ruling by the Authority can be on principles of classification, valuation and applicability of duty exemption in respect of export, import, production and manufacture proposed by a joint venture or a wholly owned subsidiary. Recognising the importance of regulatory transparency, the recent Kelkar Committee report on indirect taxes has recommended the setting up of a Standing Committee on Procedure chaired by chairman CBEC and including trade and industry representatives to identify and resolve problem areas in current procedures and evolve new procedures. Such a consultative and feedback mechanism between the regulator and the other participants in trade, if implemented, would help in evolving more efficient and cost reducing procedures.

At international level, according to India, improvement in trade facilitation is an area best left to members for autonomous implementation and should not be the subject of an agreement that is binding on all Members. India expressed support for Brazil's suggestion of having some guidelines which could be built on later. Members should decide on and implement their own measures. India added that before considering on undertaking new measures on trade facilitation, the WTO should first deal with issues that are related to trade facilitation that are already pending but not yet resolved, such as rules of origin and customs valuation. India emphasized that it was wary of suggestions to begin negotiations.

India is by and large following the revised Kyoto Convention with two widely known exceptions. First, the Convention requires that the importer must know within how much time his goods will be cleared and this information should be put in a public notice. For instance, the UK Customs and Excise Charter provides that the expected procedural time for cargo release is within four hours for electronically submitted declarations. Second, the Convention requires that it should be possible to appeal against decisions made by customs including appeals against delay. In India information regarding timing of release of goods is mentioned in the citizen's charter but it is not put out in a public notice. We have in place Kyoto's requirement for an appeal against the decision made by customs, but we do not have a system that would allow for an appeal against a delay in such decisions. These aspects if included in trade facilitation measures adopted by India could impose a burden.

However, the revised Kyoto Convention is not the panacea for all problems related to customs. The costs of doing business in developing countries are much higher because of inefficient institutions [Nanda 2003]. For example, the Kyoto Convention will not solve existing inefficiencies in the organisation of customs administration, rivalry between official control agencies, or problems of integrity. Only a well balanced reform and modernisation programme together with the necessary funds to implement the recommendations will solve these more fundamental problems. Thus, in order to address the issue of transaction costs, India needs to look beyond the possible requirements of the WTO. While India is making concerted efforts in this direction, it not only involves enormous resources but also involves major institutional reforms. It is the latter which is likely to be a greater challenge in the coming years.

India stands to gain in taking a proactive and constructive role in the future negotiations on trade facilitation. Simultaneously, we need to simplify trade procedures not only for imports into India, but also need to improve procedures and infrastructure for our exporters and domestic producers so that they have a level playing field vis-à-vis foreign producers. Competing demands on limited resources and management of revenue and security risks in the absence of adequate infrastructure make trade facilitation a challenging task particularly in a developing country scenario.

It may not be a bad idea to seek technical and financial assistance from international agencies to build a better trading environment with simpler rules. A system built to suit our requirements would even have a ready market in the future in other similarly placed developing countries and LDCs.

Hidden Barriers to Trade

All nations have rights to safeguard their interests. Customs authorities, being national economic guards at the entry points, have to implement various laws and work for other agencies also. They have to check and scrutinise the documents and licences of other Government agencies, hence delays are but natural. During this delay agricultural commodities which are perishable in nature get contaminated and some times become inedible. For instance, in the U.S., food safety is a shared responsibility, several departments of the United States government share jurisdiction over ensuring the safety of the American food supply. With only a few exceptions, these agencies do not approve, license or issue permits for either domestic products shipped in interstate commerce or international trade. In addition to strict regulations, safety and wholesomeness of U.S. food products are safeguarded through pre-market clearances, mandatory production practices, inspections and random, ongoing sampling. The food safety standards that apply to domestically produced foods also apply to imported foods.

In US (as an example but it is the case with all countries), FDA is the scientific regulatory agency responsible for the safety of all foods (except meat, poultry, frozen and dried eggs and the labelling of alcoholic beverages and tobacco), cosmetics, drugs, biologics, medical devices, and radiological products. It is one of the oldest federal agencies whose primary function is consumer protection. The laws that provide FDAs' regulatory authority for foods and cosmetics are as follows:

The Pure Food and Drugs Act of 1906
The Federal Import Milk Act (1928)
The Federal Food, Drug, and Cosmetic Act of 1938, as amended
The Public Health Service Act (1944)
The Fair Packaging and Labeling Act (1966)

The Infant Formula Act of 1980, as amended
The Nutrition Labeling and Education Act of 1990
Food Quality Protection Act (1996)

Besides above laws, Customs authorities help

1. U.S. Department of Health and Human Services (HHS),
    - The Food and Drug Administration (FDA),
    - Centers for Disease Control and Prevention (CDC),
2. U.S. Department of Agriculture (USDA),
    - Animal and Plant Health Inspection Service (APHIS),
    - Food Safety Inspection Service (FSIS),
    - Grain Inspection Packers and Stockyards Administration (GIPSA),
    - Federal Grain Inspection Service (FGIS)
    - Agricultural Marketing Service (AMS)
    - The Agricultural Marketing Service (ARS)
3. The Environmental Protection Agency (EPA)
4. U.S. Department of the Treasury
    - Bureau of Alcohol, Tobacco and Firearms (ATF)
    - The U.S. Customs Service
5. The U.S. Department of Commerce (USDOC)
6. National Marine Fisheries Service
7. Federal Trade Commission (FTC)
8. U.S. State and Local Governments

(http://www.aphis.usda.gov/vs/cvblpd)

When Customs authorities have to assist so many agencies and implement the laws, delays are unavoidable. This is not the case only with USA but all over the world. Sometimes these are used as technical barrier to trade.

Developing Countries

The differences in the developing world are large, not only in relation to developed countries, but also amongst developing countries. Any facilitation reform must thus be adapted to the trade environment of each specific country. Each trade facilitation reform should be based on globally accepted standards, rules and methods, be it banking, licenses, EDI or Customs procedures. Experience shows that it is imperative that four key elements are present for a successful trade facilitation process:

- A strong political will;
- A clear strategic plan;
- A close co-operation with the business community;

and for developing countries:

- A well-funded and long-term technical assistance programme based on a partnership between donor and recipient.

Trade facilitation is more than Customs facilitation. For a developing country to successfully implement and develop the facilitation of national trade procedures, the awareness of the need for cooperation within the public sector and between the public and private sector be raised. In many countries, there is often distrust between private sector and governmental authorities, a situation that neither party benefits from. Apart from the necessary internal top-down reforms of the government, the active involvement of the trade community will greatly improve and ease the work of governments. An active dialogue with the business community is an important factor for success. A successful trade facilitation programme starts with a thorough analysis of the trade patterns within the country. It should be conducted together with the business community and also with the participation of international experts. The purpose of such an analysis is to find the main bottlenecks and then, either from the internal results or by existing measures or other international examples, identify which the possible measures for improvements are. Such an exercise also improves the ability of coordinating different measures and minimises the risk of counterworking or parallel measures.

By using the experiences and tools developed elsewhere - be it in intergovernmental organisations, developed or other developing countries – and adjusting the systems to the particular environment in question, the development cost will be minimised. This is very important because of the scarce resources of developing countries and the often competing developing needs of the countries. In order to make a trade facilitation reform effective, there has to be a clear political will at highest level with a long-term commitment, assuring legal stability during and after a trade facilitation commitment.

Any exercise in trade facilitation, therefore, has to involve many agencies on a wider scale. Till now, many of the international agencies have concentrated on specific areas of international trade dealt with by them. There is, however, a common recognition by all these agencies regarding the need to reduce the information requirement, standardise documents and harmonise procedures so that transaction costs can be reduced and transit delays can be minimised. In recent times, use of information and communication technology has also been of immense help in providing information electronically which can be easily duplicated in an error-free manner and transmitted much faster than the movement of the goods,(Marcus Hellqvist, 2003,National Board of Trade, Stockholm).

Trade facilitation is not about limiting countries' ability and right for protection and sovereign decision-making, but about lowering the cost of complying with rules and procedures both for governments and business. It is about creating opportunities for especially (Small and Medium Exporters) SMEs to be able to grow and trade efficiently and prosperously and at the same time increasing both the security and revenue for governments and international trade. The development dimension of trade facilitation is central, since developing countries normally have the most cumbersome trade procedures, are most dependent on a healthy environment for their SMEs and are most dependent on business compliance and often on an efficient collection of Customs revenue. In the effort of tackling these issues trade facilitation emerges as a fundamental tool.

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(Views expressed are personal, not of the organisation for which the author works)

Special Article

Economic Valuation of Below ground Bio-diversity-Concepts and Methods

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The rationale for valuing environmental resources in general and biodiversity in particular, lies in the perception that the signals generated by the market system (price) are leading to excessive rates of biodiversity loss. Private resource users are encouraged to deplete biological resources even though it is against the interests of both individual and society. Market failed to take external cost of the resources into account. Therefore there is gap between the market prices and value to the society

Soil is one of the most diverse habitats on earth although not apparent to the naked eye! It contains one of the most diverse assemblages of living organisms known to us, and the issues relating to below ground biodiversity (BGBD) are the same as those related to its more visible counterpart aboveground. Its lower visibility, however, hassled to less attention being paid to it in the past, especially as there is an absence of 'charismatic' species that attract attention. Yet, below ground biodiversity has direct relevance to the health of crops, trees and other plants that are desirable to man. So, special attention to the below ground parts of biodiversity may be justified. Giller et al. (1997) reported that a single gram of soil is estimated

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to contain several thousand species of bacteria alone. Of the 1,500,000 species of fungi estimated to exist worldwide remarkably, little is known about soil fungi, apart from the common fungal Pathogens and the useful mycorrhizal species, which improve crops' efficiency in taking up nutrients. Among the soil fauna some 100,000 species of protozoa 500,000 species of nematodes and 3,000 species of earthworms are estimated to exist, not to mention the other invertebrate groups. These other groups include animals classified as mesofauna ('middle-sized' ones between 0.1 and 2 mm in length) like springtails and mites and macro fauna ('larger-sized' ones between 2 and 20 mm) like ants, termites, beetles and spiders. What exactly is below ground biodiversity then? The main groups of below ground organisms and their role in the ecosystem, the relevance of below ground organisms for ecosystem function and for farming, how the impacts of conversion and agricultural intensification on below ground biodiversity can be assessed, results obtained so far for tropical land use change and the hypotheses and conclusions to which this gives rise. But first, we need a look at the below ground zoo – take a handful of forest litter and soil, spread it out and look with the naked eye, with a magnifying glass, with a microscope….

Relevance of below ground organisms for ecosystem Function and for farming

Links between above- and below ground biodiversity consists of plants and nearly all animal groups, but plants play a dominant role in providing the 'infrastructure' of the vegetation, as well as providing the foundations of the food web by capturing energy from sunlight and sequestering CO_2 into energy-rich carbohydrates, proteins and other organic substrates. Most plants, however, live only partly aboveground – their below ground organs (roots) are essential. We may expect a strong linkage between above- and below ground biodiversity, primarily because plants and plant diversity determine the functioning of the below ground ecosystem via factors such as plant litter quality, quantity and timing, the soil water balance and microclimate in the surface layer, and root activity that may change the rhizosphere (the area around the roots) by exudation of soluble organics and decay of structural material. However, specific relations occur between the symbionts, diseases and their antagonists and it is here that below ground diversity may facilitate aboveground diversity. Causal links between aboveground (plant) diversity and below ground biodiversity are likely to exist, but probably involve below ground considerable time lags. Little is known about how long it takes for the ecosystem to respond to even such drastic changes as a conversion of crops or grassland. For re-introducing above ground diversity (rehabilitation of degraded lands) the lack of specific groups of soil organisms may limit potential aboveground (plant) diversity, but little hard data exist so far below ground

Before economic evaluation of biodiversity, it is important to know about it and how does it function and contribute in economic activities. For the purpose of the Global Biodiversity Assessment, biodiversity is defined as the total diversity and variability of living things and of the systems of which they are a part. This covers the total range of variation in and variability among systems and organisms, at the bioregional, landscape, ecosystem and habitat level. While the imprecision of definition and diversity of perception are sometime viewed as a weakness of the concept of biodiversity, broadly it has been accepted that there are three components of biodiversity. These are ecological diversity, genetic diversity and organism diversity, which further consisted of species, genes, families, chromosomes, habitats, ecosystem, etc. In valuation of biodiversity, we talk of valuation of individual or group of individual entity of these components of biodiversity. It may be valuation of endangered species, carbon storage function of tropical forest, disease resistant trait of genetic resources so and so forth.

Economic value and biodiversity:

The rationale for valuing environmental resources in general and biodiversity in particular, lies in the perception that the signals generated by the market system (price) are leading to excessive rates of biodiversity loss. Private resource users are encouraged to deplete biological resources even though it is against the interests of both individual and society. Market failed to take external cost of the resources into account. Therefore there is gap between the market prices and value to the society. Other possible reasons for existence of this gap are (1) uncertainty of social consequences of private action; (2) structure of rights that encourage people to ignore the known social consequences of their action and (3) the government policies have failed not only to correct externalities but rather encourage them through subsidy and other incentives. This is the evidence of policy failure. The market and policy failures together are the main underlying causes of biodiversity loss. Thus, from the economic perspective, the allocation of biological resources on the basis of market signals is inefficient. It is also inequitable.

The advantage of an economic approach to the valuation of biological resources is that it provides a means of quantification of losses and helps in analyzing the driving force behind such losses. The losses of biological resources are distributed more towards the poor who depend more on them and the future generation who would be deprived of the potential and existence of these resources. The economic valuation tests sensitivity to assumptions made about the distribution of income and assets and the weight given to markets might be reformed to remove the current sources of bias, and where it is not possible to reform markets, how government might intervene to the signals to private resource users. Lastly, it indicates where economic activity may be constrained so as to protect biological resources that are important for maintaining the options open to future generations. The idea that the value of biological resources is a reflection of their social cost, the opportunities forgone by the society by committing such resources in some way, is what makes the concept an economic one**.**

Economic benefits of biodiversity:

1. Improve crop variety and animal strains (contain genetic material recently incorporated from related wild / weedy species / primitive genetic stock)
2. Contribution to pharmaceutical and health industries
3. Develop and protect environmental and ecosystem balance
4. Potential importance
5. Selecting certain species for domestication and cultivation

Total Economic Value (TEV) of biological Resources:

The economic value of environmental assets can be broken down into a set of component parts. This can be illustrated in the context of decisions about alternative land users for a tropical forest, but the example can be generalized. According to a benefit-cost

Table 1: Total Economic Value of Tropical Forests

Total Economic Value =		**Use value +**	**Non- use value**
Direct value	**+ Indirect Value**	**+ Option Value**	**+ Existence Value**
Sustainable timber			
Non-timber products	Nutrient cycling	Future direct and Indirect use	Forest as of intrinsic value, as a gift to others, as responsibility and stewardship
Recreation	Watershed Protection		
Medicine	Air pollution Reduction		
Plant genetics	Microclimate		
Education			
Human habitat			

Source: Brown, Pearce, David, Perrings, Charles and Swanson, Timothy (1993) Economics and The Conservation of Global Biological Diversity. Global Environment Facility, Working Paper, Number-2: 11-12.

Direct use values

Such values are fairly straightforward in concept but are not necessarily easy to measure in economic terms. Thus minor forest products output (such as nuts, rattan and latex) should be measurable from market and survey data, but the value of medicinal plants for the world at large is more difficult to measure, although estimates exist (see Pearce and Puroshothaman, 1992).

Indirect use values

These values correspond to the ecologist's concept of ecological functions. A tropical forest might help protect watersheds, for example, so that removing forest cover may result in water pollution, siltation, floods and droughts, depending on the alternative use to which that forestland is put. Similarly, tropical forests store carbon dioxide (CO_2). When they are burned for clearance much of the stored CO_2 is released into the atmosphere, contributing to greenhouse gas atmospheric warming. Tropical forests also store many species, which in turn may have a wide range of ecological functions.

Option values

These relate to the amount that individuals would be willing to pay to conserve a tropical forest for possible future use. Option value is thus like an insurance premium to rule, decisions to 'convert' a tropical forest, for say agricultural development, would have to be justified by showing that the net benefits from agriculture exceed the net benefits from conservation. Conservation could have two dimensions: preservation, which would be formally equivalent to outright non-use of the resource; and conservation, which would involve limited uses of the forest consistent with the retention of natural forest. The definitions are necessarily imprecise. Some people would argue, for example, that eco-tourism is not consistent with sustainable conservation, while others may say that it could be. Accepting the lack of precise lines of differentiation, the benefit-cost rule would be to convert the forestland only if the development benefits minus the development costs are greater than the benefits of conservation minus the costs of conservation.

Economic Valuation Approaches:

Valuation can be seen as a method of determining the relative importance of the environmental consequences of economic activities. It helps environmental authorities to make informed decisions about biodiversity conservation where there are alternative ways of creating resources.

As discussed in the previous section, most of the uses of biological resources including their diversity are non-marketed and pose the real difficulty in valuation. Besides this biodiversity is a public good and is available to all of free of cost. The consumers get benefited from it without paying for it (free-rider program). The public nature of biodiversity creates a particularly intractable set of problems for its valuation. Under such circumstances, there are two approaches, which the economists use to estimate the value of biodiversity.

(1) *Use of simulated markets to get resource user to state preferences (get resource users to state their value explicitly), and*

(2) *Use of surrogate markets to reveal preferences of resource user (the value people implicitly place on the resource).*

Broadly speaking, the first approach is asking directly the people the value they attach to particular biological resource / spicy or function e.g. recreational use of forest, preservation of endangered spicy of spotted owl etc. Since such questions elucidate direct responses to state preference for a biological resource or its function, the approach is also called Stated Preference Approach or Direct Approach. In this approach, to make the respondent understand about the resource quality, quantity and place, a market like situation is constructed (simulated market). In the second approach, the values of ensure the supply of something the availability of which would otherwise be uncertain. While there can be no presumption that option value is positive, it is likely to be so in a context where the resource is in demand for its environmental qualities and its supply is threatened by deforestation.

Existence value

This relates to valuations of the environmental asset that are unrelated either to current or optional use. Its intuitive basis is easy to understand because a great many people reveal their willingness to pay for the existence of environmental assets through wildlife and other environmental charities despite not taking part in the direct use of the wildlife through recreation. To some extent, this willingness to pay may represent "vicarious" consumption through wildlife videos and TV programs, but studies suggest that this is a weak explanation for existence value. Empirical measures of existence value, obtained through questionnaire approaches (the contingent valuation method), suggest that existence value can be a substantial component of total economic value. This finding is even more pronounced where the asset is unique, suggesting high potential existence values for unique ecosystems. Some analysts like to add bequest value as a separate category of economic value. Others regard it as a part of existence value. In empirical terms they would be hard to differentiate.

Total economic value can be expressed as:

TEV = Direct use value + Indirect use

TEV = Direct use value + Indirect use value + Option value + Existence value

The usefulness of this classification is in practice debatable. Most contingent valuation studies distinguish use values from “non-use” values, but do not attempt to break down the component parts of non-use value (or “passive use” value, as some recent literature calls it-see Arrow et al. 1993). Others deny that existence value is relevant to economic valuation since it may be representing counter-preferential values based on moral concern, obligation, duty, altruism, and so on. But if we take the purpose of benefit measurement to be one of demonstrating economic value, however it may be motivated, many of these problems disappear. Nonetheless, it is as well to be aware that the underlying principles and procedures for economic valuation are still debated.

Methods of Valuing Bio-diversity

A. **Stated Preference Bio-diversity**

1. **Contingent valuation:**

Contingent valuation method (CVM) involves asking respondents hypothetical questions about their monetary valuation of a situation here involving biodiversity. CVM function through sophisticated questionnaires, which ask people their willingness to Pay (WTP). A survey is conducted either by mail, telephone or personal interview. The survey is consisted of three essential components.

(i) Background information about the natural resource setting and circumstances is provided. The respondent is advised about the quantity, quality and duration of change in the natural resources.

(ii) Payment instrument is chosen were the respondents are asked to contribute to a hypothetical fund. The payment could be direct contribution, increase in taxes or increase in product prices.

(iii) A method of elicitation is adopted to generate response. It may comprise of either open-ended or dichotomous questions. In open-ended questions, the respondents are asked to state the maximum amount they are willing to pay. Whereas in dichotomous choice the respondents are asked whether they are willing to pay `X' amount for environmental change.

2. Contingent Raking Method (CRM)

The contingent ranking method is a stepsister to the contingent valuation method. The distinctive ingredient in a contingent ranking study is a menu of alternatives. The respondents are asked to rank one or more, up to all, of the options in order of preference. The researcher identifies a set of important attributes or characteristics common to each item on the menu and the amount by which one or more of the attributes differ for each option on the menu. Basically the respondent is comparing added money cost with added pay-off measured in additional physical characteristics. The respondent ranks highest that option which provides the maximum benefit for unit investment. By competent econometric analysis, the researcher could conclude which menu, policy choice, species, etc. is the most values, second most valued, etc.

B. **Revealed Preference Methods:**

1) Travel Cost Model (Wood and Trice, 1959)

In travel cost model, the analyst infers the value people place on an out door recreational site through their expenditure on travel to the site. The travel cost model is one of the oldest approaches to environment valuation. Mostly this method is used in valuation of biological resource and is inferred on the basis of actual market behaviour. However, the value of biological resources is implicitly placed in the marketing of traded item. Therefore, the markets of traded items could be taken as surrogated market (substitute market) to estimate value of biodiversity. The simple example could be estimating the value of quality air from real property / residential deals. In this approach, the preference for biological resource is revealed indirectly from the substituted markets. Thus, this approach is also termed as Revealed Preference Approach or Indirect Approach.

2) Hedonic Travel Cost Model (Brown and Mendelsohn, 1984)

The Hedonic travel cost Model also attempts to place values on the characteristics of recreational resources. The method is implemented as follows:

The respondents to number of sites e.g. forests, are sampled to determine their zone of origin. Levels of physical characteristics (broad / caved / conifer areas and the percentage of forest as an open space) are recorded for each site. A travel cost function is estimated for each zone.

$$C(Z) \quad = \quad C_o + C_1Z_1 + C_2Z_2 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots C_mZ_m$$

Where C(Z) are travel costs, Zi…………Zm are characteristics and Co………………Cm are coefficients to be estimated. A separate regression is performed for each zone of origin so that each will have a vector of coefficients associated with it. For a given characteristic m, the utility maximizing individual will choose visits such that the marginal cost of the characteristic is just equal to the marginal benefit to him / her. These marginal costs will vary, for a given characteristic, across zones of origin.

3) Random Utility Model (Bockstael et al 1987)

This model is considered to be the variant of Contingent Valuation Method. In this model, the utility is assumed to be composed of an observable, determinative component and a random error term. Travel cost and characteristic data are collected for a number of substitute sites in an area. The probability that a given individual will visit site `I' rather than site `J' can be calculated, dependent on the costs of visiting each site and their characteristics, relative to the characteristics of all sites `in the individuals choice set.' In turn, estimates of the welfare efforts of changing a characteristic can be arrived at.

4) Production Function Approaches

In this approach surrogate market valuation that is particularly useful for the valuation of non-marked values associated with biological resources and ecosystem that protect or support economic activity.

5. Revealed Preference and Opportunity Costs Methods

(a) Change in productivity method

If forests that are conserved as biodiversity habitat contribute to agricultural productivity through soil and water conservation, windbreak function and flood control, the loss of forests would result in a change in agricultural productivity downstream. The opportunity cost, or net value of the lost production (quantity times / price minus saved production cost) constitutes a measure of the watershed (wx) value of habitats to agriculture.

The valuation of lost output due to deforestation is done by applying market prices to the estimated output change. Any change in the cost of production is deducted from the change in gross value to obtain the net value of productivity charges, which constitutes the true value of the forests environmental services to agriculture

(b) **Changes in earnings method**:

This is similar to the change in productivity approach except that it is the direct estimate of the impact of the habitat on loss of earnings (income or wages) is made.

(C) Defensive or Preventive expenditures method:

This method measures people’s valuation of the ecological services of the forests and other habitats by observing how much people are actually spending to prevent its losses or to defend themselves from the consequences of its loss. The observed defensive or preventive expenditure provide a measure of the farmers valuation of the relevant ecological services of the forest. This method of valuation is applicable to forest services for which the beneficiaries (victims) perceive the benefits (damages) and take steps to secure them.

(d) Replacement cost method:

In many cases, people may allow the environmental service of the forest to be lost and the damage to occur and attempt to replace or restore productivity through the increase of other inputs. Tourist enterprises may attempt to restore lost recreational services of forests by planting trees or relocating to another area. The relocation cost method is a variant of the replacement cost method. By directly observing how many people are spending to replace the lost forest service or to relocate to avoid the damages from its loss, we can arrive at a judgement of its value

(e) Substitution or Proxy Method:

This is closely related to other revealed preference methods but it is distinct in that it is not based on observed behaviour but a surrogate market, the market of closest substitute.

The Shadow Project Method:

In this method, a particular environmental services of the forest is valued by designing and costing one or more shadow projects that provide for substitute environmental services to compensate for the potential loss. A plantation, a dam, a zoo, a park, a gene bank etc. are some of the shadow projects that could be designed and costed as devices for valuing particular services of habitat

(f) Compensation Cost Method:

When a shadow project is not simply hypothetical (a valuation device) but actually serving also as a compensation device, the shadow project becomes a means of operational zing, the concept of sustainability at the resource or project level.

(g) Benefits Transfer:

Benefits Transfer is currently being argued by some to offer the potential to estimate economic values more quickly and less expensively than through the methods discussed. Benefits Transfer is accomplished by using values estimated from previous economic studies (usually referred to as results from a 'study rate') and applying them to a current policy and program needs (usually referred t as a 'policy site)'. For the estimates at the study site to be transferable, it must be possible to identify number of valuation studies for which the 'study site' and 'policy site' characteristics are similar regarding the biodiversity in question. This matching of study and policy sites depends on establishing an explicit transfer protocol

Valuation of below ground bio diversity based on its functions

A basic notion in economics is that the value of an environmental asset is directly related to the various ecological and economic functions, which it fulfils. So, the total value of soil biodiversity from the perspective of stakeholder *k* can be defined as the sum of the values of each one of its ecological and economic functions, for the period of time over which they accumulate (Giller *et al.*, 1997). *Where, V* t, k= total value of soil biodiversity for stakeholder *k* Vi (f i) = the value of i^{th} function of soil biodiversity for stakeholder *k*
i = (1, n)
t = time period, t = [1, m]
r = the social rate of time preference (this is the rate at which society is willing to trade off present consumption for future consumption, often taken

to be equal to the rate of discount).Although this definition may express the principles to apply, it is by no means clear how to quantify the value for each of the functions of soil biodiversity, especially if options for future land use change are to be included in the valuation

N ∑Vi, k (fi) ***m i =1*****Vt, k= ∑*****t=i*** **(1+r) t**

Conclusions

There appears to be less variation among land uses in below ground biodiversity compared to aboveground biodiversity. This may be due to a 'lag' effect as the full impacts of land use change on below ground organisms take a longer time to come into effect than for aboveground organisms, too crude a level for evaluating the impacts – the main 'functional groups' remain present, but it is the within-group diversity that is affected. Explanations can be the basis for hypotheses that warrant further testing. The direct impact of slash-and-burn land clearing events on soil microbial properties and earthworm activity is limited and has the same magnitude as the effect of a long dry season. The resilience of soil organisms in re-colonizing soil layers or patches that have become temporarily unsuitable is remarkable.

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Research Paper

A Study on AIDS Awareness among the Commercial Sex Workers of Bellary District in Karnataka

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Over the years, it has been witnessed that the sex workers become one of the biggest mobilizers in the AIDS response, both on the care and prevention front. Despite this, they still face many stumbling blocks, including stigma and discrimination, and laws which criminalize them, and prevent them from receiving needed information and services- **Aurorita Mendozz**

Introduction:

The Human Immunodeficiency Virus (HIV), which leads to AIDS is a leading epidemic across the world. According to the UNAIDS estimates, 40 million people across the world are living with HIV/AIDS, of which 3.2 million are children. India has the largest number of people living with HIV/AIDS, nearly 5.1 million. About 5.8 million new HIV infections were estimated in 2003. This means that almost 14,000 people are infected everyday in the country (Somayajulu, 2004). The mode of HIV/AIDS transmission varies from one to another means with variations.

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In India, more than 90 per cent of HIV transmission is through the sexual route and commercial sex workers, who have multiple sex partners, are at the risk of getting infected with HIV, which causes AIDS. Besides, heterosexual behaviour with commercial sex workers is a risky activity when a man indulges in it for instant pleasure. This illicit or extramarital indulgence is an open invitation to STDs or AIDS or both, which would ruin him and his family physically and mentally. The number of people infected with HIV or afflicted with AIDS is on the rise in India. The trends in India show a rapid spread of the disease in most states in the country and the prevalence of HIV among high risk behaviour groups is alarming (Jayashree and Parvathy, 2004).

A glance at the available literature on the AIDS awareness among the commercial sex workers shows that the socio-cultural, economic, psychological, environmental and other factors have a bearing on the sexual behaviour of the individuals. Sexual behaviour is the tropical behaviour of HIV/AIDS transmission; there has been a little research on human sexuality world wide, because of its sensitive nature and the difficulty in collecting factual data. However, improving the sexual health and living conditions of the commercial sex workers with social work intervention needs urgent attention. Preventive measures are the only way to protect oneself from HIV/AIDS and this depends on the extent of understanding about the virus, its prevention, and behavioural change. Hence, an attempt is made in this paper to understand empirically on the AIDS awareness among the commercial sex workers of Bellary district in Karnataka State. In this regard, our paper focuses on the following objectives;

- To understand the general background of the commercial sex workers.
- To know the awareness and misconceptions among the commercial sex workers about HIV/AIDS.
- To bring out the reasons to join prostitution by the commercial sex workers and to know their working conditions.
- To suggest possible social work intervention to prevent HIV/AIDS in the district.

Some important features of the studied area:

- Bellary is one of the most backward districts in the Karnataka State. It has the second highest incidence of HIV positive cases in the State.
- The Heterosexual transmission through multi-partner sex is the prime risk behaviour.
- Commercial sex workers and the traditional Devadasi system practitioners are accessed by men for sex. Polygamy is also prevalent in the district.
- The Human Development Index of the district ranks 17^{th}.
- Widespread prevalence of myths and misconceptions.
- Low levels of awareness among young women about STD/HIV and protective measures.
- Weak legal frameworks for addressing key issues surrounding young women protection.
- Migration, poverty, alcoholism, lack of information enhancing women vulnerability.
- Marriage and pregnancy is common at young age.
- Lack of control over decisions related to conjugal life for women.
- The district is having more mining activity, steel and cloth industries and tourism.

Methodology:

To satisfy the objectives of the study, qualitative as well as quantitative methodologies were employed. Since the commercial sex work is an illegal activity, approaching this group of population for research or for intervention is not easy. The data for the present study has been collected from 53 commercial sex workers from different areas of urban Bellary in Karnataka. The commercial sex workers were identified through a local non-governmental organization. World Vision of India is a voluntary organization involved in various activities related to HIV/AIDS in the district. Since the organization had good rapport with prostitutes, most of the respondents cooperated well during the interviews.

To collect information on the general background, working conditions, awareness, misconceptions, reasons to join prostitution and other aspects, a semi structured interview schedule, in-depth interviews with detailed checklist were administered. Besides, focused group discussions were also conducted. The collected descriptive and qualitative primary data was subjected for quantifications. The statistical package of social sciences was used with the help of computer to calculate mean, percentage and frequency distribution tables.

Analysis and Discussion:

The general backgrounds of the respondents reveal that the age of the commercial sex workers varies from 12 years to 35 years. Out of 53 commercial sex workers, a majority of them are aged between 20 and 27 years. The CSWs hails from Bellary district, other districts of Karnataka and Anantapur and Vijayawada of Andhra Pradesh State. A majority of the CSWs have migrated from other places to Bellary and keep on moving to different cities

Table-1: General Background of the Respondents

Sl. No.	Name of the Variable	Description of the Variable	Number	Percentage
1	Age	12 to 19 years	07	13.2
		29 to 27 years	29	54.7
		28 to 35 years	16	30.2
		More than 35 years	01	01.9
Total			53	100.0
2	Native place	Bellary district	02	03.8
		Other than Bellary district	06	11.3
		Andhra Pradesh	45	84.9
Total			53	100.0
3	Religion	Hindu	40	75.5
		Muslim	05	09.4
		Christian	08	15.1
Total			53	100.0
4	Literacy	Illiterate	23	43.4
		Literate but no schooling	18	34.0
		Literate with schooling	12	22.6
Total			53	100.0
5	Marital Status	Married	11	20.7
		Never married	09	17.0
		Widow	05	09.4
		Divorced / Separated	28	52.8
Total			53	100.0

The respondents belong to different religions such as, Hindus, Muslims and Christians. Among the respondents most of them belong to Hindu religion. When we look at their educational status, 43% of them are illiterates. 57% of them are literate with or without schooling. The marital status of the respondents reveals that a significant number of them are either separated or divorced from the husband (See table-1). The family background of the CSWs reveals that out of 53, a majority of them have family members. In most of the cases, CSWs have family members but no meaningful reciprocal relationship exists. It is shocking to know that quite a good number of parents, brothers and husbands live on the earnings made by commercial sex workers. A significant proportion of the CSWs have children and the responsibility of taking care of their children is also on them (See table-2).

Table-2: Family background of the respondents

Sl. No.	Name of the Variable	Description of the Variable	Number	Percentage
1	Having Father	Having	28	52.8
		Not Having	25	47.2
Total			53	100.0
2	Having Mother	Having	37	69.8
		Not Having	16	30.2
Total			53	100.0
3	Having Brother	Having	23	43.4
		Not Having	30	56.6
Total			53	100.0
4	Having Sister	Having	26	49.1
		Not Having	27	50.9
Total			53	100.0
5	Having Husband	Having	27	50.9
		Not Having	17	32.1
		Not Applicable	09	17.0
Total			53	100.0
6	Having Children	Having	30	56.6
		Not Having	14	26.4
		Not Applicable	09	17.0
Total			53	100.0

The age of the CSWs while entering the prostitution varies. Some of them entered at the age of 12 years where as some others entered at the age of 28 years. A majority of them entered the prostitution between the age of 18 and 22 years. The CSWs got motivation to join prostitution from various factors. Those factors are: repayment of loan taken by the parents, poverty, to look after the family, children and parents, death of husband or house head, torture by in laws, no other skill to earn money, and sold by some one or by husband. They entertain a minimum of one and maximum of 15 customers in a day. The number of customers varies depending on the beauty, good looking and age. A majority of the respondent gets one to five customers a day. The working hours start from 10 AM in the morning and continue till midnight. The rate of each customer varies from Rs. 50 to Rs. 150 per encounter depending on the type of customer and CSWs. Every day from the total earnings, half of the amount is paid to the Gharwalas (pimps) for providing food and accommodation. With most of the CSWs the customers behave smoothly. If some customers create any problems, in such conditions Gharwalas (pimps) solve the problem with the help of local boys. The age of the customers varies from 14 to 80 years belonging to various categories like, students, youths, travellers, drivers, labours, businessmen and politicians. Some white collar customers take the sex workers along with them to lodges or out station tours. The police personnel also come as customers, but never pay anything. In fact, every month they collect Haftha (bribe) from the Gharwalas (pimps) not to interrupt in their business (See table-3).

A majority of the CSWs are not aware about the sexually transmitted diseases. Those who know STD they also know that such diseases have treatment. Among the commercial sex workers a good number of the respondents are aware about the HIV/AIDS disease. Among them many opined that the disease could be prevented. They also know that the disease transmit through unsafe sex, infected blood, mother to child and infected syringe. Fever, motions and loss of weight are the symptoms of the disease as mentioned by them. A significant number of the respondents also know that the use of condom is the only method to prevent HIV/AIDS. Some of them know that the diseases can be detected by blood test. Some others say that it can be detected by testing urine and by looking at the general symptoms (See table-4).

Table-3: Working Conditions of the Commercial Sex Workers

Sl. No.	Name of the Variable	Description of the Variable	Number	Percentage
1	Age at entering Prostitution	13 to 17 years	12	22.6
		18 to 22 years	21	39.6
		23 to 27 years	13	24.5
		28 years and above	07	13.2
Total			53	100.0
2	Motivation for Sex Work	Repayment of loan / poverty	25	47.2
		To take care of the parents	02	03.8
		Death of husband / separation	11	20.7
		Torture by in laws	01	01.9
		Sold by some one / husband	07	13.2
		To look after the children	04	07.5
		Have no skill to stand on	03	05.7
Total			53	100.0
3	Average customers per day	1 to 5	35	66.0
		5 to 10	16	30.2
		10 to 15	02	03.8
		More than 15	00	00
Total			53	100.0
4	Charges per customer	Up to Rs.50	05	09.4
		Rs.50 to Rs.100	48	90.6
		More than Rs.100	00	00
Total			53	100.0
5	Behaviour of the customers	Smooth	45	84.9
		Harsh	01	01.9
		Both	07	13.2
Total			53	100.0

Table-4: Awareness on HIV/AIDS and STD

Sl. No.	Name of the Variable	Description of the Variable	Number	Percentage
1	Knowledge about STD	Know	19	35.8
		Don't know	34	64.2
Total			53	100.0
2	Do STD have treatment	Have treatment	15	28.3
		Not have treatment	02	03.8
		Not Applicable	36	67.9
Total			53	100.0
3	Knowledge of HIV/AIDS	Know	50	94.3
		Don't know	03	05.7
Total			53	100.0
4	Do AIDS preventive	Preventive	39	73.6
		Not Preventive	08	15.1
		Not Applicable	06	11.3
Total			53	100.0
5	Transmission of AIDS through unsafe sex	Transmit	50	94.3
		Do not Transmit	00	00
		Not Applicable	03	05.7
Total			53	100.0
6	Through blood	Transmit	50	94.3
		Do not Transmit	00	00
		Not Applicable	03	05.7
Total			53	100.0
7	Unsterilized syringe	Transmit	50	94.3
		Do not Transmit	00	00
		Not Applicable	03	05.7
Total			53	100.0
8	Mother to Child	Transmit	47	88.6
		Do not Transmit	03	05.7
		Not Applicable	03	05.7
Total			53	100.0
9	Through Mosquitoes	Transmit	14	26.4
		Do not Transmit	36	67.9
		Not Applicable	03	05.7
Total			53	100.0

Table 4 (contd)				
10	Do HIV causes Fever	Yes	36	67.9
		No	14	26.4
		Don't know	03	05.7
Total			53	100.0
11	Do HIV cause Motions	Yes	30	56.6
		No	20	37.7
		Don't know	03	05.7
Total			53	100.0
12	Do HIV cause Loss of weight	Yes	27	50.9
		No	23	43.4
		Don't know	03	05.7
Total			53	100.0
13	How AIDS preventable	Use of Condoms	38	71.7
		Tested Blood transmission	00	00
		Use of Disposable Syringe	00	00
		Don't know	12	22.6
		Not applicable	03	05.7
Total			53	100.0
14	How AIDS disease detected	Blood Test	23	43.4
		Urine Test	09	17.0
		Without Test	03	05.7
		General Symptoms	15	28.3
		Not Applicable	03	05.7
Total			53	100.0
15	Participation in AIDS	Participated	21	39.6
	Awareness programmes	Not Participated	32	60.4
Total			53	100.0

Practice of commercial sex work is only possible up to the age of 35 years. Once they become a little old no customer comes to them. On the other hand it is difficult to get any livelihood means in the society. Therefore, the CSWs are ready to take the professional training like tailoring, etc., for becoming independent if provided by the Government or voluntary organizations.

Conclusions:

The study made an effort to understand the HIV/AIDS awareness among the commercial sex workers of Bellary district in Karnataka State. From the findings it is clear that the commercial sex workers are the group of women highly vulnerable to HIV/AIDS and sexually transmitted diseases. Therefore, the necessary measures should be provided to improve the conditions of the CSWs by conducting free medical check ups and clinical examinations. The NGOs may undertake more awareness programmes among the prostitution prevalent areas. Since commercial sex workers are the section of underprivileged women belonging to low socio-economic background. They entered in to prostitution mainly because of the poverty and have no alternate ways of livelihood means. There is a big gap between the available resources and the needy CSWs. Henceforth, it calls for the immediate social work intervention. The social work methods such as, social case work, social group work and community organization may be used effectively along with its techniques to deal better with the individuals, groups and communities having such problems. This kind of intervention would definitely reduce the gap between the resources and CSWs, which is the first work that every one needs to look in.

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