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17, Saheed Nagar
Bhubaneswar

ORISSA ECONOMICS ASSOCIATION
Bhubaneswar

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CONTENTS

WORLD TRADE ORGANISATION AND INDIAN AGRICULTURE

POWER SECTOR REFORMS IN ORISSA

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INDIAN DRAMA

Civilization is a movement and not a condition,
a voyage and not a harbour.

Arnold Toynbee

India's search for identity has created a profound ambiguity in the field of either progress or regress. We are now experiencing a chauvinistic arrogance in promoting an archaic and reactionary traditionalism as against scientific outlook which is likely to generate a new dynamism or social vigour to change human outlook. Social life is not static. It is dependent upon and influenced by a myriad of factors like mode of production, type of political authority, spread of education, health, transport facility and improvement in science and technology. The traditional virtues that have all the prestige of the past and weighty authority are not relevant in the new environment. The new techniques and mode of economic and social change make some new virtues necessary and some old virtues unnecessary. Even culture is a growing phenomena, it is a result of shared learning experiences. It is the essence of both civilization and culture that the past mingles unconsciously into the present, and is carried on to the future. When the movement stops in a country or among a people, its civilisation decays and its culture becomes decadent (K.M. Panikkar).

It may be mentioned here that we have now a shrinking world. Interaction between different countries has been a part of life. Each and every country has been benefited by this interaction. India is proud of its Sanskrit and its exceptional richness in literature, culture and science. But it came to India from abroad in the second millennium BC with the migration of Indo-Europeans and then flourished in India. This does not diminish our pride in this great classical language. Similarly the great grammarian in Sanskrit, namely Panini for whom we take great pride was an Afghan who described his origin on the banks of the river Kabul. This is not a blot for which we should be ashamed of. It is unfortunate that there are organised attempts right now to eradicate such foreign connections by concocting some fairy tales of an indigenous origin as officially approved history. No body now can behave like a frog (a frog

that lives its whole life within a well, knows nothing else and is suspicious of everything outside it) since interactions have been a part and parcel of world's civilisation. Neither India nor any other country lives in static isolation, but by vigorously interacting with other civilisations enriches its own (Amartya Sen). Defenders of dogmatic traditionalists cannot prevent the winds of modernity, especially the winds of intellectual and social change.

We do not mean to say that all traditions are reprehensible nor all moderns are virtuous. There is all the difference between a tradition that is alive and hence forward looking and one that is lifeless and backward looking. Traditions prosper and flourish when they are forward looking and keep their frontier open. They become atrophied and moribund when they close their boundaries and become backward looking. Some traditions decay and die while others are born and grow to maturity. There is no point of time at which society declares a moratorium on the birth of new traditions (Andre Beteille).

It is a matter of great distress that many of the traditions in India are backward rather than forward looking and increasingly becoming outdated. They do not fit in with the laws enacted in India to improve the quality of life of the poor or destitutes. Good laws are necessary. But they can be relevant in an environment which is congenial for their implementation (Alexis de Tocqueville). Our customs and traditions give greater weight to those who are privileged rather than to those who are on the lowest ladder of the society. The elite protect themselves from the surge of awakening among the less privileged by weakening the institutions that have been created to help them. What is worse is that they denounce them as alien. But they themselves try to derive maximum benefit from such institutions. The illusion of past gives them great excuse to prevent any progress or build new institutions which can help the poor.

Self-reliance has been a bogey of exclusiveness. Tagore asserted that self-reliance must not be confused with xenophobic self-enclosure. Even a great seer like Coomarswamy, asserted that traditionalism is far removed from reactionary xenophobia and from any attempt to exploit Indian tradition from time-bound political purposes or strategies. However this does not mean we should accept all forms of modernism even though some of the tenets of such modernism are immoral and socially disruptive. The difference that we make between traditionalism and modernism is that whereas the former is mostly governed by blind faith, the latter is wedded to critical enquiry and concrete life experience. If any traditionalism is forward looking and modernism on the other hand is malevolent, one cannot choose the former as against the

latter. Mahatma Gandhi, the great proponent of Indian culture has tried to balance the struggle for domestic self-rule with an openness to the winds of the world, while also combining the search for moral-spiritual renewal with a commitment to social, economic change and action. Two of his statement are pertinent. At one place he says, "I decline to be a slave to precedents or practices I cannot understand or defend on a moral basis". At another place he says, "I want culture of all lands to be blown about my house as freely as possible. But I refuse to be blown off my feet by any. I refuse to live in other peoples' houses as an interloper, a beggar or slave". This implies a combination of the best of India with the best of outsiders.

Pundit Jawaharlal Nehru, as we know is a great advocate of modernism, but he also perceived the need for a fusion of horizons between the scientific spirit of post enlightenment modernity and the deeper lessons of life which have absorbed the minds of thinkers of all ages and in all countries. The choice should not be between either status-dominated acceptance of tradition or ruthless and brutal modernism. There are deep agonies and traumas involved in the clash between the two leading to violent 'cultural rupture'. An enlightened synthesis lies in searching for ways which combine as stress on logic and scientific epistemology of modernism and promotion of human values like fraternity, social security and family loyalties which are special to Indian culture. This is a formidable challenge. But without challenge, no country can attain progress. The winds and waves are always on the side of the ablest navigators. 'Life belongs to the living, and he who lives must be prepared for changes'.

Prof. Baidyanath Misra

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SECRETARY'S REPORT

Respected President Professor Dash;

Hon'ble Minister for Steel, Govt. of India & our Chief Guest Sri Braja Kishore Tripathy;

The Doyen of Economics and our Guest of Honour Prof. Baidyanath Mishra;

Felicita, Prof. Sanatan Mohanty;

Chairman Reception Committee & Collector Bhadrak Sj. Srikanta Ku. Paikray;

Chairman Organising Committee and Principal of the College, Prof. Das;

Organising Secretary, Mr. Sahu;

Asst. Secretary, Dr. Mishra;

Local Secretary, Dr. Nath;

Fellow Delegates, Distinguished Invitees;

Members of the Media, Ladies & Gentleman.

As the Secretary, Orissa Economics Association, I deem it a pleasure to extend to you all a cordial welcome to this 34th Annual Conference of the Association. We feel uniquely privileged to have with us here Hon'ble Minister Sri Braja Kishore Tripathy to inaugurate this Conference. We are extremely grateful to you Sir for your kind gesture. We are singularly fortunate to have with us an outstanding economist of our times Professor Baidyanath Mishra as our Honoured Guest for this Conference. We are really grateful to you Sir to have you here with us.

The Orissa Economics Association was founded on 26th January, 1968 with the main objectives of enabling the members to improve upon the methods and the standard of teaching in Economics and promoting research on Economic issues of contemporary interest. With a view to achieving these objectives, the Association is committed to organise Annual Conferences, Symposia and Seminars. Since its inception, the Association has been organising a two-day Annual Conference and Publishing its mouthpiece : the Orissa Economic Journal each year. The journal contains the research articles of the members presented at the Annual Conference. This journal of ours has been an important source of research document for the teachers and researchers.

The Orissa Economics Association has the unique distinction of being one of the oldest regional academic Associations in the Country with Three Institutional Life Members, 257 Individual Life Members and 36 Annual

Members. It is the only academic forum in the state in which economists, planners, administrators and statesmen discuss and deliberate on various contemporary economic issues and problems of regional, state and national dimensions. The Association maintains the unique tradition of discussing two sets of problems : one relating to the Indian economy and the other in the context of the economy of the State of Orissa. This year we have selected the following two topics for discussion in the Conference.

1. World Trade Organisation & Indian Agriculture.
2. Power Sector Reforms in Orissa.

We are fortunate that Sri Sanjeeb Chandra Hota, I.A.S., Agriculture Production Commissioner, Govt. of Orissa has kindly agreed to deliver the key note address on the issues related to WTO and Indian Agriculture. I take this opportunity to express my gratefulness to Sri Hota for his kind presence.

Besides these two topics, Prof. Benudhar Mishra will deliver the Mangaraj Memorial Lecture on "Economic Development of Orissa : A Modest Relook", an endowment lecture organised since 1987 in the memory of Bhubaneswar Mangaraj, an illustrious teacher from Banki of Cuttack district. On behalf of the Association I express my deep sense of gratitude to Prof. Mishra for the same.

It gives me immense pleasure to express my sincere thanks to the Principal, Talcher College and the Principal, DAV College, Koraput for having donated Rs.30,500 and Rs.20,000 respectively to the Association. It is my pleasant duty to extend our grateful thanks to the Collector of Bhadrak, the Chairman, Reception Committee for his sincere efforts and active guidance in holding this Conference. Our special thanks are due to the Principal, Organising Secretary, Local Secretary and Staff of Bhadrak College and to all office bearers of the local organising committee for their tireless efforts in organising the Conference in a colourful way. I express my deep sense of gratitude to Prof. Baidyanath Mishra for his ungrudging help in all activities of the Association and for having taken the pains in editing the articles for the Journal. No thanks are adequate for my teacher Prof. Bhabani Prasad Dash for the extraordinary interest, he has taken in promoting the activities of the Association. I am extremely thankful to all the former Presidents and Secretaries of the Association and the Members of the Executive Body for their unstinted help. My thanks are due to M/s. Das & Associates, Chartered Accountants, Cuttack for auditing the Accounts of the Association for 2000-2001 free of cost. I really owe a great deal to the dignitaries, academicians, invitees, delegates, paper writers and funding agencies for their help in organising this Conference and to you all ladies and gentlemen and members of the press and media for having given me a patient hearing.

Thanking you all.

Rabi N. Patra
Secretary
Orissa Economics Association

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The 34th annual Conference -2002

PRESIDENTIAL ADDRESS

THE DEVELOPMENT CONUNDRUM

Professor B.P. Dash

At the outset, I express my grateful thanks to the distinguished numbers of the Orissa Economics Association for having elected me as the President for this 34th Annual Conference. I am well aware of my limitations and I do know that I do not deserve this honour. It is your love and affection for which you have bestowed such great honour on me and I have accepted the same with humility. I express my indebtedness to each one of you individually and all of you collectively for the kind gesture and generosity you have shown towards me.

I have a feeling of nostalgia when I recall the Annual Conference, 1972, which we organised here in this great citadel of learning. Three decades after, we are again holding the conference here under the auspices of the Post Graduate Department of Economics. The Principal, members of the staff of the college and more particularly, the Department of Economics deserve our heart felt applause and accolades.

I have chosen to address on some issues in development economics and development for two specific reasons. The first is, my long association with the subject in the class room. Second, the more I read the subject, the more I feel perplexed and perturbed, when I perceive the paradoxical situation of the coexistence of affluence and indigence. It appears as a conundrum, the conundrum of poverty- development- poverty. Therefore, I propose to delve into certain issues of development.

DEVELOPMENT ECONOMICS AND DEVELOPMENT

Development economics, as subdiscipline of Economics is a post World War-II phenomenon. Its fundamental ideas, theories and models are basically related to the problems of poor and backward countries. With the process of decolonisation during the late '40s and early '50s, theories formulated in the arena of development economics, were applied to the newly independent countries. It is pertinent that there was no economic breakthrough between the imperial powers and the newly independent colonies and thus the influence of the former colonial power on the economic thinking of the leaders and economists was discernible. J.D. Sethi aptly remarks "there was very little of

independent economic thinking done by the leaders of national independence movement for future development". *(Development Economics : A continuing crisis, Economic Times, April 15, 1991).*

A careful observation of development economics and development would make crystal clear that these two are not separate entities, they are two aspects of the same reality. Development economics manifests, the theory and development is the outcome of the application of such theories.

DEVELOPMENT : CONTOUR AND CONTENTS

Development, for that matter, economic development is said to be a continuom. It is a process in which the end result is the growth of real national income. As such, the main focus, in such a connotation of development is on GNP or GDP. The key factor facilitating continuous growth of output is capital. The growth theorists, therefore, lay emphasis primarily on economic components like saving, investment, export etc. With the provision of these components, development will assume the sequence of some stages and there will be secular and linear growth of output. Consequent upon this, the economy will move from a state of underdevelopment equilibrium to what Rostow calls the Age of high mass consumption.

Over the years, there has been significant changes in the meaning and measure of development. Although GNP growth holds the centre stage, improvement in the well-being through increase in real per capita income, provision of the minium needs, improvement in PQLI, and HQLI have entered into the spectrum of development. Development economists further believe that in addition to this, development would encompass, widening the choice, freedom and self-esteem. But the main thrust of developmental has been to make a dent on poverty and deprivation through its 'trickle down' effect.

In their quest for development, economists have, some times made, the absence of adequate capital, reflecting the vicious circle (Nurkse), strong backlash effects (Myrdal), unfavourable terms of trade (Prebisch), development (Frank) and the 'political economic amalgam of feudalism and capitalism thwarting development' (Baran). It is believed that removal of these factors would help the realisation of the 'trickle down' effect and thus would reduce deprivation and poverty.

CONSEQUENCE : THE DEVELOPMENT EXPERIENCE

The Human Development Report (HDR), (UNDP) and the World Development Report (WDR). (World Bank) record the experience and the consequence of development. The Human Development Report, 1996 highlighted the glaring inequality in the global hemisphere and warned that the world economy is irretrievably getting divided into two unequal worlds.

The HDR says, "the unbalances in economic growth, if allowed to continue, will produce a world gargantuan in its excesses and grotesque in its human and economic inequalities". The Report further states, "human development over the past 30 years is a mixed picture of unprecedented human progress and unspeakable human misery". The growth experiences during the last 30 years reveal a disquieting phenomenon. The HDR, 1996 states that between 1960 and 1991, the share of the richest 20 per cent increased from 70 per cent of global income to 85 per cent, while that of the poorest 20 per cent declined from 2.3 per cent to 1.4 per cent. This speaks of the systemic inequity in the development process. HDR, 1999 highlights the impact of globalisation and puts emphasis on globalisation with human face. The impact of development through globalisation has been uneven, and inequality and human deprivation have been persistent and pervasive.

The WDR 2000/2002 states about the abysmal poverty in the world. It remarks, "the world has deep poverty amid plenty. Of the world's 6 billion people, 2.8 billion- almost half- live on less than $2 a day, and 1.2 billion, a fifth- live on less than $1 a day ..... the average income in the richest 20 countries is 37 times the average in the poorest 20-a gap that has doubled in the last 40 years". This shows that despite growth, poverty, destitution and disparity perstis as a festering sore.

The questions that strikes us is that somewhere something has gone wrong. It is, therefore, imperative to identify the malady and accordingly prescribe the therapy for it.

THE MISSING LINKS

Development has emerged as the most powerful force that will enrich the lives of the people in general and of the deprived and the destitute in particular. But in the labyrinth of development, if the main focus is somehow lost, development goes disarray. Rajni Kothari rightly remarks. "development, if well conceived, can open up vast spaces for struggling humanity, but, if misconceived or miscarried, can spell disaster both for the people and for the social fabric". (*Growing Amnesia, p-120*).

Development has been basically concerned with maximization credo i.e. growth maximization. Development economists have been mesmerized with the quantification, oblivious of the quality. Thus, man, the pivot around which development should take place, has been relegated to the back seat.

Development models assumed man as a purely economic being. That human behaviour which is a complex of socio-cultural-psychological and institutional matrix, has not been recognised. Any development model that includes only the economic parameters and isolates other components, leads to lop sided development. The World Bank economist and Noble laurette

Josepah Stiglitz confessing the past errors of the Bank in providing solution to the poverty and malnutrition laments that the conceptual framework for development of the last 50 years tended to focus too heavily on the search for a single key to development (WDR. 1999). Learning from the past success and failure, the Bank suggests a more 'holistic' approach to formulate development strategies.

THE INDIAN SCENARIO

Frederich Max Muller said, "if I were to look over the whole world to find out the country most richly endowed with all the wealth, power and beauty that nature can bestow- in some parts a very paradise on earth- I should point to India". Such a great nation now, is in the cauldron of corruption, criminalisation and indiscipline. This speaks of moral and spiritual bankruptcy. The question that agitates one's mind is what has gone wrong over all these years ?

A.N. Palkhivalla, a legal luminary, states that the tricolour fluttering all over the country is black, red and scarlet- black money, red tape and scarlet-corruption (*We the People, p-52*).

With planned economic development for more than 5 decades, India has emerged as a nation with strong and solid base in science and technology; she has been self-sufficient in food grains; she has grained adequate foreign exchange reserve; the economy has been integrated with the world economy following the policy of liberalisation and globalisation. The Hindu rate of growth of 3.5% during the 70s has been an event of the past. During the last few years, from 1995 to 1998, GDP has been persistently increasing. In 1995 it was 7.2%, 1996-7.5%, 1997-5%, 1998-6.7%, 1999-7% (*Asian Development Outlook, 1998*). It is a significant improvement.

The benefits of such significant development have been unevenly distributed. Poverty figures between 93-94 and 99-2000 show that it has been reduced from 36% to 26%, for non-SC & ST, it has declined from 32% to 17%, while for rural India poverty has been reduced from 37% to 27%, in case of SC it has gone down from 48% to 36% and for ST, from 52% to 46%. (*Business Standard Jan. 14, 2002*).

Although India has gained from globalisation in terms of development, human deprivation, measured in terms of three basic dimensions- a long and healthy life, knowledge and economic provisioning- is of high magnitude. HDR. 1999, the theme of which was globalisation with a human face, reveals that the level of human deprivation in India is high at 35.9 per cent of the population.

POLICY IMPERATIVES

In order to make development more meaningful and effective various policy prescriptions have been recommended by different studies.

The World Development Report, 1999 speaks about some critical lessons gained from the 50 years of development experience. These are (i) Macro economic stability, to achieve growth. (ii) Since growth does not trickle down, development must address to human needs directly. (iii) No single policy will trigger development, hence a comprehensive policy measures would be required and (iv) Finally institutions matter.

Mohabub Ul Haq lays stress on widening the range of choice with emphasis on human dimensions of development planning. The components of such planning are equity, sustainability, productivity and empowerment (*Reflections on Human Development. Oxford University Press, 1999*).

Amartya Sen highlights the five instrumental freedoms as criteria for Human development. These are : economic entitlements, political rights, social opportunities, transparency, guarantees and protective security- (*Radical Needs and moderate Reforms in Indian Development, Ed. Jean Dreze and Amartya Sen, OUP, 1996*).

CHANGING PERCEPTION OF DEVELOPMENT

Perception regarding development is in the process of transformation. Development, of late, has been identified with the theory of progress. The theory of progress rests on the premise that progress provides happiness. Such progress is basically measured in terms of the consumption bundle acquired and accumulated. This creates a tendency of acquisition. This tendency goes to such an extent that even ordinary people not having the necessary wherewithal hanker after new consumer goods. New desires and expectations arise in their minds. "This has gone so far", Rajni Kothari observes, "that even ordinary people have been brainwashed into being hoodwinked by new desires and expectations- new consumer needs- that have been planted in their minds by the mass media and agencies. This in turn has resulted in deepening relative poverty as well. For the elite, the state and for planned development neither absolute poverty nor relative poverty is any longer a matter of primary concern. These are rather to be seen as unwanted and unpleasant realities to be wished away" (*Growing Amnesia, p. 5-6*). Thus, in the theory of progress poverty is sidetracked and it becomes a non-issue.

Crucial to the theory of progress are the three paradigms : Money, Market and Modernity. These three are not segregated from each other rather they are well articulated. Acquisition of money and wealth, infiltration of the market and its expansion through integration with world market by globalisation or

opening up, and modernity with the tendency to catch up with the west, are central to the theory of progress. Along with these three paradigms, three associated cultures develop- money culture, market culture and modern culture. In other words, the entire gamut of the economy is engulfed in the three cultures- monetisation, marketisation and modernisation. It is of paramount important to examine the implications and impact of these three cultures on the society, the people and their behaviour.

THE MONEY ILLUSION

Adam Smith considered economics as the study of wealth for which economics was criticised as the gospel of the mammon. Present day development economics, identifies development with the theory of progress and progress with happiness. In the theory of progress money is the be-all and end-all, the summon bonum of life. In money culture money rules the roost. Interestingly, World Happiness Survey undertaken by London School finds, Bangladesh as the happiest place in the world, with India ranking 5th and the U.S. ranks 46. Finding of the two research scholars, Gardener and Oswald of Warwick University show that money does buy happiness. Their conclusion is, that windfalls are associated with a well determined improvement in well-being. The study further reveals that well-being is not cheap, it takes a windfall of 50,000 pounds for a significant rise in happiness. This message-money buys happiness and that to the windfall gain-is spread. This creates a tendency of acquisition and an attitude of indolence in people. This tendency in the people them to make easy money, or grease money or what Myrdal says, speed money, Rabi Batra remarks, that the "acquisitive mentality infects all sections of society eventually". (*Great Depression, 1990, p-201*). In such an acquisitive society, money wealth & gold count and the wealthy man enjoys supreme authority and other groups submit to the allure of money. Everything in such a society is commercialised. Added to this Batra states that crime begins to flourish; a general disregard for the rule of law develops. All finer sensibilities like love, affection, compassion, charity and altruism are lost in the allure of money. Even family ties, the kindship, are all eroded. Tennyson once said 'wealth accumulates, man decays'. In the domain of money culture money rules supreme and man is marginalised. Vivekananda once said, "money and all will come of themselves. We want men, not money. It is man that makes everything, what can money do ? Men are more valuable than all the wealth of the world". (*Complete works Vol. IV & V*). Mahatma Gandhi created men out of dust and he has made us realise that single-minded pursuit of money impoverishes the mind, shrivels the imagination and desicates the heart. G.K. Chesterton writes, "the golden age only comes to men, when they have, if only for a moment, forgotten gold". (*A.N. Palkhiwala, 'We the People'*). Money is necessary, no doubt, but is not a sufficient condition for progress nor for happiness.

THE MARKET CHIMERA

Market is like a monster. It devours everything, even the values and beliefs, the norms, Justice and fair play. It is entrenched to all sides, all centers, peripheries and eventually to the mental state. The market and its advocates spread the message that it is the saviours: without its support, development would be an anathema; in its absence benefits of development would not trickle down. As such all policies and plans are adopted to nurture and nourish the market and to help its growth, expansion and finally the consolidation of its suzerainty.

Market preserves two powerful weapons in its armoury : liberalisation and privatisation. With these two instruments, the market of an economy becomes open to the outside world and is solidly integrated with the global market. Globalisation emerges as the new philosophy. In the realm of liberalisation and privatisation, public sector is debunked and the principle of deregulation, primarily for the foreign investors and MNCs, holds the centre stage. The new doctrine of marketisation, liberalisation, privatisation and globalisation, (LPG) provides the necessary impetus for competition. The protagonists of this doctrine espouse that competition and competition alone holds the magic key to efficiency, productivity and finally to development, but in such a framework of development where market rules supreme, and where an open, unfettered market becomes the sine qua non of development, the whole rational of development as reduction of poverty and promotion of equity breaks down.

It is pertinent that marketisation and LPG are not separate entities but these are all embedded in one i.e., globalisation. Market, with its accomplices unleash such powerful forces that it becomes difficult, well nigh impossible, to extricate the economy from its scourge. The situation becomes analogous to Edward Lear's famous limerick which narrates the story about the old lady of Riga. She developed a fascination to go for an outing sitting on the back of a tiger. When the tiger returned, the lady was no more, she was inside the tiger and a smile of full satisfaction was brimming on the face of the tiger. Here, in our context, the tiger will not devour the rider but will keep him firm on its back with the knowledge that the rider will not be able to get down. This speaks of a painful predicament.

THE MODERNITY MACHINATION

Modernity or modernisation is another facade of the new development trajectory. Modernisation implies westernisation rather westoxication. The roaring current of modernisation has been so powerful today that it shakes social institutions, shrivels the roots and stifens the values. The proclivity and predilection for modernisation becomes so strong in the people that they

accept it as a new ethos, as the grand panacea. It influences their life style, their pattern of consumption, art, music, culture everything. A ramification of this modernisation is reflected in production with the adoption of modern or western technology. Progress or development is taken as synonymous with modernisation, and technological development. This paves the way for the technostructure on which the new model of development rests. The urge to catch up with the west becomes so pervasive that all norms of decency and discipline are thrown to the wind and forces of modernisation create a new man what Toffler Christens as the 'modular man' having modular relations with many and holistic relations with a few. In the balance sheet of modernity, one can perceive fantastic increase in productivity, unprecedented affluence, astounding technological upsurge in the credit side. But in the debit side, one finds the loss of kinship, community feeling, feeling of shared will and woes, erosion of spiritual and moral values, juvenile delinquency, social stress and tension and finally a chaos.

Octavio Paz, a Mexican poet realised the 'dread dynamics' of technology. Sham Lal, sums up the negative character of technology while saying that "it makes things uniform but does not unify, it levels the differences between cultures and national styles but it does not do away with the hatreds people and states" *(Sham Lal, Life & Letters, TOI, Dec. 20, 1987).*

DENOUEMENT OF DAMAGES

Money, market and modernity syndrome perpetrates incalculable damages. Their concerted action, catapults the entire social balance, degenerates the value system and dehumanises the cultural and institutional fabric. Ashis Nandy, in highlighting the process of creative destruction of culture says that development does not annihilate culture; it cannibalises culture to fortify itself. *(Ashis Nandy, Responses to development, TOI, Jan., 19, 1995).* Observing the fundamental flaw in the idea and reality of development, Nandy, finds a support to his views from Gustavo Estea, who states, that development stinks because it is incompatible with social justice and cultural survival. Culture embodies the basic and essential virtues and values of society which provides the life-nurturing, and life-sustaining support. If such culture is thrown out lock, stock and barrel, and if it is contaminated by the sinister forces of the trinity (money, market & modernity), there will arise a kind of culture, shock, a situation. Toffler remarks, in which 'yes' means no and fixed price is negotiable. It presents a disquieting and disconcerting and at the same time a grim and gloomy picture. The crumbling walls of culture, ethical and spiritual values, open the door for lumpenisation of society, polity and economy, and this, in its trail, brings, to the fore division, disintegration, avarice, corruption, violence and crime. The poor, the lowly man is pulverised and further marginalised.

Another aspect of modernisation is modern technology. Exponents of modern technology assume that technology is value free or value neutral. But in reality, technology and more particularly modern and western technology has been inimical to the culture of the land. It has been increasingly realised in many quarters that development devoid of cultural ethos and ethical mores may create social chaos. Sita Kanta Mahapatra referring to the *creative diversity*, the report published by the World Commission on Culture and Development, writes about the imperative need for main streaming culture without which technology, grand designs of development and growth models may run into problems and can never succeed. For development, it is increasingly being realised, It is as much a question of capital and technology as of the life style of a people and their cultural matrix. "Thus, technology has now not only to wear a human face but find a suitable mechanism of growth that would be culture-friendly, environment-friendly and of course, growth-oriented and productivity oriented" *(S. Mohapatra Focus on the Future, TOI, Dec. 3, 1996).*

There has been rapid and radical transformation in the information technology (IT) that has reduced the entire world to a global village. Revolution in IT is sometimes termed as the cybernetic revolution, which transmits its tentacles to the poor countries. This enkindles a craze for modernisation and modern technology. Taking advantage of this situation, the developed countries use these backward countries as dumping grounds for their waste products and obsolete technology. Such product and technology have pernicious effect on the society, ecology and environment.

INDIA'S PLIGHT

India, in her bid to development and modernisation has joined the hysteric euphoria of catching up with the west in all its dimensions. As a result, the cultural traits and essential and eternal values of life have become the main casuality. The rat race for modernisation has created unbridled consumerism and bizarre individualism virtues like goodness, truth, altruistic attitude, moral and spiritual conduct which were the treasure of Indian culture, have been mercilessly butchered on the altar of so called development and modernisation. The principle of 'live and let live' has disappeared. In its place a 'me first' culture has developed. India's avowed philosophy of '*Basudhayeeba Kutumbakam*' (entire world is our family) and *Sarbe bhabantu sukhinah* (Let all people be happy), '*bahujana hitaya, bahujana sukhaya*' (well-being and happiness of maximum number of people) has vanished from the cultural scene. A transient culture of hedonism has replaced the perennial culture of humanism. Moral and spiritual values considered to be the bedrock of Indian culture and heritage have been jettisoned. In the name of development we have brazenly

accepted a kind of throw-away culture. In the process of improving the standard of living of the people through development, we have obliterated the philosophy to improve the standard of life.

A nation's worth, Palkhivala remarks, "is not measured merely by its gross national product as an individual's worth is not measured by his bank account Galbraith once remarked that while he has seen poverty in many countries of the world, he fond and unusual among the poor of India "there is richness in their poverty" ..... hundreds of millions, in India, who have no standard of living, had a standard of life. *(Moral Decay, Indian Express, Sep. 9, 1990).*

It is cultural, spiritual and moral chord which provides the support system, the strength and vitality to human development. Once this chord is severed and the vitality is lost the social and economic system will be in jeopardy. Vivekananda remarked, that, "at the root of the present day characterlessness, corruption, devilish dance of money and power, vulgarisation of democratic norms and all this flowing from the top men of the society, lies in the spiritual vacuum in the nation's heart". Therefore in order to develop, it becomes necessary to resurrect, rebuild and reinforce the spiritual and moral strength of the people and the nation at large and without this development would be like chasing the mirage.

THE FUTURE AGENDA

Progress brings in its trail, as we have observed, a progressive deterioration and degeneration of human values, and sets in motion the process of immiserisation, social disorder. Francis Fukuyama observing the precipitous decline in moral standards driven by the move from the post-industrial era to information technology era and realising the salutary effect of moral and spiritual values on human behaviour, laments that in spite of the blessings which flow from this, certain bad things also happen to our social and moral life. There have been increase in crime, family breakdown, illegitimacy, drug use, litigation, suicide and tax evasion. *(The Great Disruption; Francis Fukuyama).*

Taiwan achieved economic miracle during the 40 years of economic development from 1954 to 1994. Judged in terms of any possible economic parameter, the development has been spectacular. The average rate of growth during the period has been 8.6 per cent; the per capita income has increased by hundred times, the foreign exchange reserve has reached a mind boggling figure of $92 billion. Despite such stupendous progress, the economy and the society there, is in a state of turbulence and turmoil. Economic development has eroded the ethical, moral and spiritual values. A Social Ethics Association (SEA) has been established invoking the principle of charity and philanthropy

which inculcates, the spirit of help– *'Be considerate to others from thy heart'. (L.C. Jain, Taiwan Today TOI, Jan. 08,1996).*

Development like democracy is of the people, by the people and for the people. People, should be the central focus of development. When we speak about the 'development of the people' we mean development of the people in all dimensions-economic, social, political, moral, spiritual, ethical and cultural. Human behaviour is not one-dimensional but multidimensional. Thus, what is needed is the holistic and harmonious development of the people encompassing their manifold aspects.

'Development by the people' would indicate participatory development. Development should be a part of the people and people should also form a part of development. Both should be inextricably linked together. "For development to help the poor, it must put them first not only as intended beneficiaries, but as active participants, advisers and leaders. True development does not simply provide for the needy, it enables, them to provide for themselves". *(World Watch Paper, Nov. 1989, World Watch Institute, Washington).*

Development is for the people. Any development plan must focus the people, their needs and requirements. In the development process we have to take the people seriously, showing respect to their thinking and wisdom, adopting technology that can cater to their needs, adopting attitudes and values that can respond to their voices.

Any development policy which primarily focus on man, will guard five frontiers : employment, equity, freedom, future and the culture and value system. If sufficient caution and care is not taken in these lines, and development will create distortion in all these fronts and produce what the HDR, 1996 says jobless, ruthless, voiceless, futureless and rootless growth.

Any development model will express and embody concern for the man and his values, and beliefs. Alexander Gray speaks about the evolution of a better man in the process of development and development economist to be more than an economist.

Gray says "the economist must be a mathematician, historian, statesman and a philosopher. He must study the present in the light of the past for the purposes of the future..... What is needed is a higher standard of public and private morality in all things and in particular the suppression of the self" *(Economics : Yesterday and Tomorrow in Essays in Modern Economics, ed. R.L. Smith).*

The conundrum of development can be well resolved if instead of taking single paradigm, we take a package of paradigms in which the cultural, spiritual and ethical are the most important. Added to this is a system of good

government, with transparency and positive and humane approach to problems of development and a system of accountability and adaptability.

Of late development economists realising the importance of spiritual values in development. held a meeting with the religious leaders of different faiths, from which World Faith Dialogue on Development emerged. The dialogue holds that development should not only be concerned with economic growth but also with people's culture, values and spirituality. Failure to take people's values and beliefs into account will lead to their alienation from their own roots. With the veritable bundle of policy measures and not a single and solitary one, development will be more meaningful for the poor and marginalised lest we will be in the whirlpool of paradox as was visualised by Charles Dikens; who says "it was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, if was the epoch of incredulity, we had everything before us, we had nothing before us" *(Tale of Two Cities)*.

We may add, it was the age of affluence, it was the age of indigence; it was the age of plenty, it was the age of poverty.

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WORLD TRADE ORGANISATION AND INDIAN AGRICULTURE

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In This Section :

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WTO AND ITS IMPACT ON INDIAN AGRICULTURE CHALLENGES AND OPPORTUNITIES

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BACKGROUND :

The World Trade Organisation (WTO) came into existence on January 1, 1995 after the completion of Uruguay round of negotiation on General Agreement on Trade and Tariffs (GATT) which commenced in 1986. It is a logical culmination of sincerity expressed by developed and developing countries of the world to come closer for more transparent and free mobility of goods and services among the countries in course of trade and commerce. This is a very important landmark in the process of globalisation of world economy. WTO has, thus, come through a long revolutionary process starting from October 30, 1947 when there was birth of GATT by 23 nations including India who became the founder members of the GATT agreement. Thereafter, through seven rounds of negotiations, ultimately the 8th round at Uruguay started in the year 1986 where it adopted a ministerial declaration which contained the biggest negotiating mandate on trade ever agreed. This Uruguay round started in the year 1986 at Punta del Este in Uruguay (hence the name) and ended in the year 1994 in the Marrakesh Agreement when the World Trade Organisation came into existence. India is one of the 131 founder countries of the WTO. The WTO era has thrown open a world of challenges and opportunities. It is a free trade devoid of all sorts of non-tariff barriers. But at the same time, bringing together the economies of highly developed countries of the world with developing countries, also poses a number of problems. Currently, there are 144 members countries and there are 42 countries which are in the queue for WTO membership. Before going into the implication of WTO on Agriculture of developing countries and particularly for India, one has to appreciate the differences between GATT and WTO. The main differences between the GATT and WTO can be described as follows:

- GATT was ad hoc and provisional whereas WTO and its agreements are permanent.with a sound legal basis.
- WTO has permanent membership whereas GATT had only contracting parties with official texts having no legal binding.
- GATT dealt with trade in goods only whereas WTO covers goods, services as well as intellectual property.
- Dispute settlement procedure is faster and more automatic in WTO than GATT.

2. Within the framework under WTO, altogether, there are 19 agreements to which all the members are parties. In the context of Indian agriculture, four such agreements are inter-linked with each other and are quite relevant. These are-

(i) Agreement on Agriculture (AoA),

(ii) Agreement on Application of Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT) and

(iii) Agreement on Trade Related Intellectual Property Rights (TRIPS).

Agreement on Agriculture :

3. The WTO Agreement on Agriculture entered into by the member countries in 1994 which came into effect in the year 1995 contains provisions in three broad areas of agriculture and trade policy namely–

(a) Market Access,

(b) Domestic Support and

(c) Export Subsidies.

The very principle behind WTO is to remove all non-tariff barriers and allow free mobility of trade in goods, services and intellectual property among the member countries. The member countries will have to adopt regulation of trade only through tariffication that too within the committed bound rates. The idea is to remove all artificial distortions in trade through quantitative restrictions and otherwise like import licencing, permits etc. The Agreement provides scope to the Government to support their domestic economy but preferably through policies that cause less distortion to trades. It also allows some flexibility in the way commitments are made. It is necessary to have a broad glimpse on each of these components on Agreement of Agriculture with the issue associated in the Indian context.

Market Access :

4. Market access envisages tariffication of all non-tariff barriers. Tariffs resulting from the tariffication process together with other tariffs on agricultural products are to be reduced by a simple average of 36% over six years in the case of developed countries and 24% over ten years in the case of developing countries. Countries are also required to maintain the levels of 1986 of access for each individual product. It is also envisaged that where the current level of import is negligible, the minimum access should not be less than 3% of the domestic consumption during the base period. This minium level is to rise to 5% by the year of 2000 in the case of developed countries and by 2004 in the case of developing countries. It would not be out of place to mention here that the share of exports from developing countries which constitutes over three fourths of the WTO membership continues to remain around 30% of the world trade in agriculture. This is less than what it was 25-30 years ago. The

anticipated increase in export from developing to developed countries has, thus, not materialised. Among the three major developed regions, European Union is the most important market for agriculture export for developing countries. The share of total agricultural export from developing countries to EU has declined from 28.5% in 1994 to 28% in 1998. The share of agricultural export of developing countries to Japan etc. has also fallen from 14.5% to 11.5% during this period (Source : WTO GANGS 6 Agricultural Trade Performance by Developing Countries, 1990-98).

5. Studies done by FAO on implementation of the AoA and its effects on the developing countries, it has been observed that there was asymmetry in the experience between the growth of food imports and the growth of agricultural exports. While trade liberalisation had led to an almost instantaneous surge in food imports, these countries were not able to raise their agricultural exports. It has further been observed that the process has marginalised small farmers and added to the unemployment and poverty. As the only way to control the access to the domestic market is by tariffication, India, at present, does not have much leeway in this regard. The following table will clearly illustrate the picture.

Sl. No.	Description	New Bound Tariff Rate (per cent)	Applied Rates
1	2	3	4
1.	Skimmed Milk Powder	60@	60
2.	Maize (corn) seed	70	50
3.	Maize (corn) other	60#	50
4.	Rice in the husk (paddy or rough)	80	80
5.	Husked (brown) rice	80	80
6.	Semi-milled or wholly milled rice whether or not polished or glazed.	70	70
7.	Broken rice	80	80
8.	Soybean oil, crude	45	45
9.	Almonds, in shell	Rs.35/Kg.	Rs.35/Kg.
10.	Oranges	40	35
11.	Grape fruit	25	25
12.	Apples	50	50
13.	Butter	40	-

@ A tariff quota of 10000 MT at an in-quota tariff rate of 15% applicable cumulatively to both the tariff lines 0402.10 & 0402.21.

India established a global TRQ at an in-quota rate of 15% for the following quantities.

Year 1 : 350,000 Tons

Year 2 : 400,000 Tons

Year 3 : 450,000 Tons

Year 4 and beyond : 5000,000 Tons

Out of quota rate : 60%

$ Tariff quota of 150000 MT at in-quota tariff rate of 45%.

Source : Ministry of Commerce, Govt. of India.

As would be seen from the table, the present applied rates have already touched the maximum bound tariff allowed for most of the commodities. At the same time, it is seen that as yet none of the above commodities has seen an alarming increase in imports which may affect domestic products. However, that does not mean that in future the same conditions will continue to apply. In this context, Ministry of Commerce, Government of India has identified a list of 300 items as sensitive products which are monitored closely on a monthly basis to track the quantity of imports of these 300 items. In the event, there is an unnatural surge in imports of any of these sensitive items, necessary corrective action in terms of increase in tariffs for a short period to higher levels can also be taken. The Agreement on Agriculture allows Governments to take special emergency actions (safeguards) in order to prevent swiftly falling prices or surges in imports from hurting their farmers. But the Agreement specifies when and how those emergency actions can be introduced and thus, the member countries do not have wide discretion in this regard.

6. The tariff levels have been bound by India for primary agricultural products, processed agricultural products and edible oils at 100%, 150% and 300% respectively for the end period of agreement. Within these bound tariff levels, India will have to adopt appropriate tariffs on import of agricultural commodities for protecting the interest of Indian farmers.

7. Many products of export interest to the developing countries are continuing to face high tariffs in the developed countries as the Agreement on Agriculture requires "reduction on an *un-weighted average basis* for each country's agricultural products, thereby leading to maintenance of high tariffs on some sensitive products like rice, sugar, dairy products and making substantial reductions on less sensitive tariff lines in which there is little trade". In a study conducted by UNCTAD/WTO, it has been reported that the most important areas which have the highest tariff rates in U.S., E.U., Japan and Canada (the so called QUAD countries) include the major agricultural staple foods, cereals, meat, sugar, milk, butter, cheese, cotton etc. Thus, this will pay a major factor in preventing developing countries from diversifying and increasing the share of processed agricultural exports. Recently Japan levied a tariff of about 1000 per cent on rice.

8. Another irritating feature with regard to the aspect of market access are the Tariff Rate Quotas (TRQs) which have has also perpetrated trade distortions by legitimising quantitative restrictions, generating quota rents and denying market access to newcomers. Allocation of quota licences with wide differences between in-quota and out-quota tariffs in the OECD food importing countries has a potential to generate excessive quota rents. A developed country can apply a low tariff on imports of agricultural commodities upto a certain quantity which can be managed to be imported from other developed countries and after exhausting the said quantum, a very high tariff rate will be applied (of course below the bound level) for imports of similar agricultural goods, which are likely to come from developing countries. Such non-transparent administration of TRQs and preferential trade arrangement has contributed low exports in several commodities from the developing countries.

9. Appreciating these constraints relating to the market access in the Agreement of Agriculture, India has formulated its proposal before the Ministerial Conference at Doha, Qatar in November, 2001 as follows :

(a) As a special and differential measure, the developing countries should be allowed to maintain appropriate levels of tariff bindings by keeping in the mind their developmental needs and the high distortions prevalent in the international markets. The appropriate levels of tariff bindings will have to necessarily relate to the trade distortions in the areas of market access, domestic support and export competition being practised by the developed countries.

(b) A separate safeguard mechanism on the lines of the Special Safeguard provisions of Article 5 of AoA along with a provision for imposition of quantitative restrictions under specific circumstances should be made available to all developing countries.

(c) An appropriate formula with a cap on tariff bindings should be evolved to effect substantial reduction in all tariff levels including peak tariffs and tariff escalations in developed countries. In fact the developed countries should make a down payment by way of bringing down the tariff bindings as on 1.1.2001 by 50% by the end of 2001.

(d) Tariff Rate Quotas (TRQs) should be eventually abolished. In the intervening period, there should, however, be a substantial expansion of TRQs administered by developed countries and there should be greater transparency.

(e) Developed countries should be exempted from any obligation to provide minium market access.

(f) Article 13 of the AoA is one of the outstanding examples of having actually awarded special and differential treatment in favour of developed countries because this Article provides that during the operation of this clause, developed countries' support policies enjoy exemption from possible countervailing actions in certain situations as specified in the Article. Therefore, in order to make a level playing field, it would be appropriate that this clause should be abolished for developed countries.

Domestic Support

10. The domestic support measures refer to the Governmental support/ subsidy provided to the producers of agricultural products. A significant feature of the Agreement on Agriculture (AoA) was the distinction between the support measures that were considered trade distorting and therefore, subject to discipline and those with no or at most minimal trade distorting effects and which could be allowed to be maintained without any ceiling or reduction commitments.

11. There are two categories of support measures that are not subjected under agreement on reduction measures. These two categories of support measures are—

(a) Green Box, and

(b) Blue Box.

(a) "Green Box" measures which have minimum impact on trade include the following :

(i) Government assistance on general services like research, pest and disease control, training, extension etc.

(ii) Public stock holding for food security purposes.

(iii) Domestic food aid.

(iv) Direct payment to producers such as Governmental financial participation in income, insurance and safety nets, relief from natural disasters and payments on environmental assistance programmes.

(v) Payments under regional assistance programmes.

(b) "Blue Box" measures represent direct payments under production limiting programme and are relevant from the point of view of developed countries alone.

12. The Aggregate Measure of Support (AMS) which are subject to reduction are called "Amber Box" measures which consist of two parts namely,

(i) product specific subsidies i.e. the difference between the administered prices (MSP in India) and external reference prices multiplied by the quantity of production which gets the support, and

(ii) non-product specific subsidies i.e. subsidies in inputs such as fertilizer, electricity, irrigation etc.

The AMS net of exempted categories is subject to a reduction by 20% over six years by the developed countries and by 13% over ten years by the developing countries. Further, domestic support given to the agricultural sector within the specified sector upto *de minimis* level i.e. upto 10% of the total value of agricultural produce in developing countries and 5% in developed countries is allowed and not subject to any reduction commitment.

13. India does not provide any product specific support other than market price support. **During the reference period (1986-88), India had market price support programme for 22 products out of which 19 are included in our list of commitments filed for GATT. The products are rice, wheat, bajara, jawar, maize, barley, gram, groundnut, rapeseed, toria, cotton, soybean (yellow), soybean (black), urad, moong, tur, tobacco, jute and sugarcane. The total product specific AMS was (-) Rs.24,442 crores during the base period.** The negative figures are mainly due to the fact that exeept for tobacco and sugarcane, international prices of all products were higher than the domestic prices and product specific AMS is to be calculated by substracting the international price from the domestic price and then multiplying the resultant figure by the quantity of production.

14. Non-product specific subsidy is calculated by taking into account the subsidies given for fertilisers, water, seeds, credit and electricity. **During the reference period, the total non-product specific AMS came to Rs.4581 crores. Taking both product specific and non-product specific AMS into account, the total AMS was (-) Rs.19,869 crores i.e. about (-) 18% of the value of total agriculture output**. Since our total AMS is negative and that too by a high magnitude, the question of our taking reduction commitments does not arise.

15. The expected reduction in domestic support given by developed countries has not come about after the implementation on agriculture. The developing countries suffer from an inherent disadvantage of limited financial resources as compared to resource rich countries and therefore, are not in a position to a higher subsidy regime. The AoA institutionalises this disparity by allowing higher subsidising countries to maintain 80% of their base level AMS while prohibiting the low income countries from going beyond the *de minimis* level of 10% of the value of the agricultural production. Further, it was expected that with the domestic support, reduction commitments under AoA production of agricultural products (notably cereals) in highly subsidised

countries would fall and the output in non-subsidising and therefore, low cost producing countries would expand. However, as a consequence of the asymmetrical provisions of the AoA and their lackadaisical implementation by the developed countries, the post-AoA experience establishes that the anticipated production changes in terms of levels and locational shifts have not materialised.

16. The AoA has accorded a special and differential treatment in favour of the development countries also due to which countervailing action can not be taken by these developing countries. The provisions of the special and differential treatment have been suggested for being allowed for the developing countries for a specified period of time only. Such provisions should be spelt out in terms of concrete obligations taking into account their experience in implementation of AoA, the role of agriculture in these countries providing livelihood support to a large percentage of population.

17. With this background, the proposals for India before Doha Conference were as follows :

(a) Direct payment in relation to insurance, safety and protection limiting practices should be included in the non-specific production AMS.

(b) Product specific support should be provided to low income, resource poor farmers and should be excluded from AMS calculations.

(c) The total domestic support should be brought down below the *de minimis* level within a maximum period of three years by the developed countries and five years by the developing countries as against six years and ten years respectively as provided in the AoA.

(d) A negative product specific support should be adjusted against positive non-product specific AMS.

(e) Support to any one particular commodity should not be allowed to exceed the double of the *de minimis* limit of that commodity even if the average in that commodity is below the *de minimis* limit.

(f) All measures taken by developing counties for poverty alleviation, rural development, rural employment and diversification of agriculture should be exempted from any reduction commitments.

(g) By manipulation of the subsidy commitments, most developed countries have continued to provide substantial support to the agricultural sector. It has been observed that the developed countries have been shifting their subsidies from the prohibitive categories (Amber Box) to the non-prohibitive category (Blue and Green Boxes). This has continued to distort the agriculture's competitiveness in these countries in their favour. The Blue Box measures were initially allowed as a transitory device. However, they have been allowed to continue and for the Blue box measures, abolition of these can have a direct impact on the production.

(h) Similarly, the definition of subsidies which can go into the Blue and Green Boxes needs to be tightened to prevent any misuse of the provisions.

Export Subsidies

18. The export Subsides listed in the commitments of AoA are nonexistent in India.

The official declaration in the AoA is the removal of the export subsidies which have been substantially responsible for creating distortion in production of agricultural commodities in different countries, so much so that such subsidies have facilitated the EU to sell much of its surplus in the world market.

The main focus on Export Subsidies are as follows :

(a) Export subsidies measured both in terms of budgetary expenditure and volume based on 1986-88 average price then capped.

(b) The developed countries are committed to reduce the volume of subsidized exports by 21 per cent and value of subsidies by 36 per cent both over a period of six years.

(c) On the other hand developing countries are to reduce the volume of export subsidies by 13 per cent and the expenditure on subsidies by 24 per cent over a period of ten years.

19. The developed countries are free to provide certain subsidies such as reduction of export marketing cost, internal and international transport and trade changes. The implementation of the AoA during the last six years has revealed that many Member countries have shifted export subsidies between products from year to year so as to target a few specific commodities and have also 'rolled over' unused subsidies to the following year resulting in a cumulative depressive effect on prices in that year eroding the competitive advantage of other exporting countries.

20. The agreement contains the definition of subsidy and establishes three categories of subsidies. Prohibitory subsidies are those which are subject to the new dispute settlement procedures and must be withdrawn if they are indeed found to be prohibited. The second category is actionable subsidy which may adversely affect the interest of other signatories. The 3rd category are the non-actionable subsidies which are in the nature of assistance to the disadvantaged or that involving industrial research etc. Countervailing duties can be imposed by a country to prevent subsidised imported goods flooding into their markets.

21. Some of the developed countries have also abused the concept of the Food Aid which evolved from the surplus disposal programmes in the early fifties. Many of the donor countries have increased food aid with a view to developing their markets, as also not including it as a part of the export subsidies. Thus, while continuing to aid their own producers they also develop markets for their products in the recipient countries. Suitable guidelines for

food aid are thus required. **Under the AoA those countries which notified the use of the export subsidies in their original schedules could continue to use them while the countries which did not notify the use of such subsidies in their original schedules were not allowed to introduce them thereafter. Thus, at present only 25 countries can provide export subsidies to the agricultural products affecting adversely the competitiveness of agricultural products of the developing countries.**

22. Appreciating the above constraints in matter of Export Subsidies India's proposals before Ministerial Conference at Doha were as follows :

(a) Complete elimination of all types of export subsidies in the first 2 years of implementation, both in terms of export subsidies and subsidised volumes.

(b) No 'rolling over' of unused export subsidies should be allowed to the developed countries.

(c) All forms of export subsidization including export credit, guarantees, price discounts and insurance programmes in developed countries should be added to the export subsidies and should be subjected to the overall commitments.

(d) Article 13(c), which gives protection of export subsidies to developed countries should be completely abolished forthwith.

23. The usage of domestic support categories, export, subsidies and export credits, 1995 (US $ million) by different countries is summarised below :

Members	Green Box	S&D Box	Blue Box	De minimis support	Current Total AMS	Total domestic support	Total export subsidies
Members with export subsidy reduction commitments							
Australia	707	na	0	0	115	822	0
Brazil	4883	359	0	295	0	5537	0
Canada	1534	na	0	918	568	3020	38
EC	24189	na	26850	1063	64436	116538	6292
Mexico	1625	644	0	0	452	2721	0
South Africa	763	na	0	165	452	1380	40
United States	46041	na	7030	1641	6214	60926	26
Members without export subsidy reduction commitments							
Argentina	137	0	0	0	123	260	0
Chile	176	4	0	0	na	180	0
India	2196	254	0	5956	na	8406	-
Japan	32859	na	0	380	36369	69607	0
Malaysia	244	47	0	0	na	291	0
Pakistan	440	1	0	11	na	452	0
Thailand	1341	213	0	0	627	2182	15

Notes : 1. Figures have been rounded to the nearest million

2. "Total export subsidies" means the sum of budgetary outlays for all agricultural products and product groups concerned.

As would be seen from the above table the levels of support given by the US and EC to agriculture are at scale which are unimaginable for the developing countries with severe resource constraints. It is in this context that the discussions held in the Ministerial Conference at Doha need to be analysed.

24. In the last Ministerial Conference held at Doha from 9th Nov. to 14th Nov. 2001. The Ministerial declaration of the WTO on agriculture reads as follows :

"We recognize the work already undertaken in the negotiations initiated in early 2000 under Article 20 of the Agreement of Agriculture, including the large number of negotiating proposals submitted on behalf of a total of 121 Members. We recall the long-term objective referred to in the Agreement to establish a fair and market-oriented trading system through a programme of fundamental reform encompassing strengthened rules and specific commitments on support and protection in order to correct and prevent restrictions and distortions in world agricultural markets. We reconfirm our commitment to this programme. Building on the worked carried out to date and without prejudging the out come of the negotiations we commit ourselves to comprehensive negotiations aimed at **substantial improvements in market access**; reductions of, which a view to **phasing out, all forms of export subsidies; and substantial reductions in trade distorting domestic support**. We agree that special and differential treatment for developing countries shall be an integral part of all elements of the negotiations and shall be embodies in the Schedules of concessions and commitments and as appropriate in the rules and disciplines to be negotiated, so as to be operationally effective and to enable developing countries to effectively take account of their development needs, including food security and rural development. We take not of the non-trade concerns reflected in the negotiating proposals submitted by Members and confirm that non-trade concerns will be taken into account in the negotiations as provided for in the Agreement on Agriculture.

Modalities for the further the commitments, including provisions for special and differential treatments, shall be established no later than 31 March. 2003. Participants shall submit their comprehensive draft Schedules based on these modalities no later than the date of the Fifth Session of the Ministerial Conference. The negotiations, including with respect to rules and disciplines and related legal texts shall be concluded as part and at the date of conclusion of the negotiating agenda as a whole."

From the above quoted declaration, it would be clear that this declaration clearly recognizes for a differential treatment for developing countries to be a

part of overall negotiations in future. At the same time the declaration also takes into account the 'non-trade concerns' which are normally expressed by the developed countries mainly in shape of human rights, prevention of cruelty to animals, environmental concerns, sanitation and hygiene. These non-trade concerns expressed by the developed countries eventually are applied against the export interest of the developing countries. This part of the declaration is disturbing to the developing countries including India.

The Livelihoods and Food Security Box

25. Celebrated Agricultural Scientist Dr. M.S. Swaminathan in the context of Indian agriculture in the framework of WTO has given a suggestion for taking into account the livelihood security of large number of Indian farmers who are dependant upon Indian agriculture as well as on agricultural production. This has got to be appreciated in the context of the fact that share of Indian agriculture in the GDP is gradually declining so much so that it has come down to the level of 25% whereas the labour force dependent upon agriculture has marginally declined from a little over 70% to 67%.

26. As defined by the FAO "Food Security is the physical and economic access for all people at all times to enough food for an active, healthy life with no risk of losing such access" and as such is directly connected with livelihood in the developing countries. India has to address this concern for Food Security because most farmers in our country are engaged in subsistence land farming and their participation in international trade is quite marginal. Contrary to India and other developing countries percentage depending upon agriculture in the developed countries is very small. Between 1990 and 1996 contribution of agriculture as a proportion of GDP was on an average 34% for low income countries as compared to 8% for upper middle income countries, and 1.5% for the high income countries of the OECD. Similarly, in 1996 while the share of agricultural exports in the total merchandise exports was in excess of 50% for about a quarter of 55 developing countries, this share was in excess of 30% for about half of these countries.

27. It will be interesting to know the share of Indian agricultural export to the overall India's exports for last 4 years. From this it is clear that the share of agricultural export and allied products overall commodities export is gradually declining which is substantially declining in the year 1999-2000.

Commodity Composition of India's Exports

Commodity	1996-97	1997-98	1998-99	1999-2000	2000-2001
Agriculture and allied products	6868.50	6634.20	6033.11	5504.60	5781.2
% share of Agricultural Exports in National Exports	20.50	18.93	18.17	14.6	14.28
All commodities	33497.97	35048.67	33210.97	37644.39	40501.80

This is a disturbing phenomenon in India. In order to promote agricultural exports and its share in overall commodity export of the country certain concerted measures are to be taken which are elucidated below :

28. For most developing countries, the need is to raise agricultural productivity and increase production, particularly of basic foodstuffs. In contrast, in developed countries the primary concern appears to be to maintain some sort of parity of income between the small proportion of the work force in farming and those in industry. It would be worth mentioning here that conditions of farmers in the developed countries are not at all similar to an average Indian farmer. Most of the farmers in India grow foodgrains and other agricultural products a part of which is consumed by themselves and only a marketable surplus comes for internal trade. While talking of development of agriculture we have to keep in mind the extraordinary need for investment in this vulnerable sector so as to increase the productivity. In order to meet the demand as well as to have the adequate substantial exportable surplus, certain measures are to be taken in correct prospective.

29. In India, agriculture is a way of life and mostly it is taken up as a subsistence farming. In spite of the fact that the foodgrains production has gone up from 50 million MTs in the beginning of fifties to 200 million MTs at the end of the last century, yet associated with this augmentation of production are some dismal features like continuous decline in size of average land holdings, large percentage of land holdings not accessible to irrigation and substantial part of Indian agriculture being subject to the vagaries of nature.

The distribution of operational holdings (all India) is given in the table below :

No. of Holdings : '000' Number
Area : '000' ha.
Average size : Hectare.

Category of Holdings	No. of Operational Holdings		Area Operated		Size of Operational Holdings	
	1985-86	1990-91	1985-86	1990-91	1985-86	1990-91
1	2	3	4	5	6	7
Marginal	56147	63389	22042	24894	0.39	0.39
(Less than 1 ha.)	(57.8)	(59.4)	(13.4)	(15.0)		
Small	17922	20092	25708	28827	1.43	1.43
(1.0 to 2.0 ha.)	(18.4)	(18.8)	(15.6)	(17.4)		
Semi-Medium	13252	13923	36666	38375	2.77	2.76
(2.0 to 4.0 ha.)	(13.6)	(13.1)	(22.3)	(23.2)		

Category of Holdings	No. of Operational Holdings		Area Operated		Size of Operational Holdings	
	1985-86	1990-91	1985-86	1990-91	1985-86	1990-91
1	2	3	4	5	6	7
Medium (4.0 to 10.0 ha.)	7916 (8.2)	7580 (7.1)	47144 (28.6)	44752 (27.0)	5.96	5.9
Large (10.0 ha. & above)	1918 (2.0)	1654 (1.6)	33002 (20.1)	28659 (17.3)	17.21	17.33
All Holding	97155 (100.0)	106637 (100.0)	164562 (100.0)	165507 (100.0)	1.69	1.57

Note : Figures in brackets indicate the percentage of respective column to total pecentrages are on the basis of absolute values.

Source : Agricultural Census Division, Ministry of Agriculture.

As would be seen from the above table, the share of marginal and small farmers in ownership of the operational holdings has gone up from a level of 29% in the year 1985-86 to 32.4% in the year 1990-91. Similarly, the total area owned by small and marginal farmers has gone up from 47 million hectres to 53 million hectres. This would indicate that more and more area of agricultural land holdings are passing on to the share of small and marginal farmers. The average size of more number of land holdings is becoming smaller compared to earlier years making it in accessible to economies of scale.

30. Risk in Indian farming is accentuated because of two types of uncertainty (a) uncertainties of nature causing cyclones, droughts and floods, (b) uncertainty in prices realised by the farmers on their produce in the market. The first uncertainty affects the quantum of produce and the second uncertainty affects the money value to be realised by the farmers because of depressed prices prevailing in the market immediately after the harvest. Both the uncertainties make the Indian farmers more vulnerable. An average farmer does not have power to hold his stock for a longer period in the face of a depressed market.

31. Agricultural practices are mostly labour intensive with relatively low use of technological inputs and consequently the farm productivity is very low. In India, at present, agriculture contributes about 25% to the GDP whereas 67% of the total population are dependent upon the farm sector. This itself arithmetically will demonstrate that the per capita income of a person engaged in agriculture is substantially depressed in India making the farmers quite vulnerable to absorb any type of shock either internally or externally to be transmitted through trades either domestic or international.

32. All agricultural products including foodgrains are to be made cost competitive without compromising on its quality so as to make them effectively competitive in the international market. In order to achieve this, there should be substantial augmentation of investment in agriculture. Over a period of time rate of growth in investment in agriculture is negative in the public sector which has affected adversely its productivity also. This can be appreciated from the following table which indicates the rate of growth of investment and the rate of agricultural productivity.

Growth Rate of Agricultural Investment in different Periods of India

Particulars	1950-51 1967-68	1967-68 1980-81	1980-81 1986-87	1986-87 1992-93	1992-93 1998-99
A Investment Growth*					
Total investment	3.83	4.64	-2.48	2.35	5.85
Public investment	4.11	7.70	-4.40	-6.17	-0.98
Private investment	3.78	3.11	-1.30	5.85	7.50

* *Indian Journal of Agricultural Economics, Oct-Dec., 1996, P-547. The Investment Growth for the period 1992-93 and 1998-99 has been estimated by using linear function.*

33. The table divides the entire period into four categories and it will be seen that total investment has gone down and has become negative during the period of 1980-81 to 1986-87 and then it has become positive with a marginal rise of 2.35%, but with a low negative basis such a positive increase is not at all compared to the rate of growth for the period from 1967-68 to 1980-81 which was the period of Green Revolution. During 1992-93 to 1998-99 the growth rate has become 5.85%. The disturbing picture is not the overall growth rate; rather the issue of concern is that growth rate in investment in public sector is almost negative since 1980 whereas in private investment it has always been positive between 1980-81 and 1986-89.

34. Growth rate in investment in agriculture has fallen continuously in the entire 80's; though in the 90's it has risen, yet rate of growth of public investment continued to be negative. There is a need therefore, that Government increases investment in agriculture while promoting private investment.

The focus on watershed development of the Government for developing the rainfed regions of agriculture is also to be seen in this context. In the green revolution and post-green revolution period, the focus has been on irrigated areas and crops grown under irrigation. However, 70% of Indian agriculture is rainfed and integrated watershed development approach through a people's movement is the need of the hour. Large investments are flowing under water conservation and watershed development as also for research in the rainfed crops like oilseeds, pulses and minor cereals which are often the staple crops for resource poor in the rural areas. Livelihoods and food security have become fully integrated with this watershed development approach. In

Orissa, we already have the Western Orissa Rural Livelihood Project operating in Bolangir, Nuapada, Kalahandi and Padampur area of Bargarh. Another project "Orissa Tribal Empowerment and Livelihood Project" is expected to start soon which would work in the districts of undivided Koraput, Gajapati and Kondhmal.

35. There are few other issues apart from the agreement on agriculture which have a direct relevance in the liberalized trade regime. Some of these areas of concern are :

(1) Agreement on Sanitary and Phyto-Sanitary Measures (SPS)

Under the SPS, countries are allowed to specify necessary hygienic and sanitary requirements for all products including agricultural products. While, no doubt, these SPS measure would be applicable universally for all imports, there is a possibility that SPS measures can be used for protection purposes by prescribing overly stringent trade restrictive SPS measures for denying market access to developing countries. These, SPS measures can pertain to food safety and animal and plant health regulations. The member countries are advised to conform to these regulations to the recommendations of international organisations and can include standards with respect to the pesticide residues, heavy metals, afflotoxins, contaminants etc. These are supposed to be notified well in advance but have the potential for being misutilised. India would especially need to strengthen its SPS certifying and testing mechanisms in order to prevent diseased products to enter the country as also to ensure that Indian products are not unfairly rejected.

(2) Technical Barriers to Trade (TBT)

This indicates requirement related to labeling of food, beverages and drugs: packaging requirement, safety regulations (e.g. toys); regulation of testing (e.g. medical equipments). Keeping in view the general backwardness of technology in the developing countries these issues could pose major constraint to increased exports from developing countries.

(3) Geographical Indications

There identifying a product originating in a particular place or area to which its quality, reputation or other characteristics are essentially attributable. The items of concern to developed countries like wine and spirits have received a stronger protection compared to cereals e.g. Basumati rice or even 'Patakura Bananas'.

(4) Trade Related Intellectual Property Rights (TRIPS)

The issue related to patent and plant variety protection can only be highlighted. The WTO Regime recognises both product and process patents and plant varieties can receive protection either through patents or "Sui Genesis" method. The less developing nations still have yet to effectively develop their patent mechanisms. The need for proper documentation can only be emphasized.

A few suggestions :

36. Most of the Indian agricultural products need to be processed for its eventual consumption and such food processing industries will take care of sanitary and hydro-sanitary standard of the products which may not be possible on the part of an average Indian farmer. Similarly, post-harvest technology is to be developed because marketable surplus of foodgrains and other nonfood agricultural products are to be disposed of by the farmers from their field to the market need not only to be safeguarded but also to be processed in a manner that it will meet the stake of international standard as of a developed country. For instance, the return of Indian wheat by Iraq is still live in our memory. Substantial private investment and public investment is necessary in order to promote the infrastructure in post harvest technology with view to enhance the competitiveness of Indian agriculture exports with the products of a developed country. This will also absorb the surplus labour force now engaged in agriculture in shape of disguised unemployment. Food processing industries and development of post-harvest technology can absorb the surplus manpower from agriculture because 67% of Indian population cannot be kept permanently in agriculture when we are talking of improvement of agricultural productivity by augmenting investment and application of improved technology.

37. Promotion of organic agro-products is another area where India can score over other countries because of its diversity of flora. It is necessary to preserve this precious giene bank and patent of the same in order to avoid any type of piracy by the developed country.

38. It is worth mentioning here that an average Indian farmer is reluctant to diversify his crop when he is not assured of a market. Development of contract farming particularly by the food processing industries will remove this uncertainty, because the food processing industries will need certain quality of foodgrains for their processing industries and should develop a captive farm sector from which they can procure. As long as there is no cartelisation in food processing industries, a good competition will ensure high price for the farm produce through contract farming. Government intervention and vigilance in this regard are equally desirable.

39. The promotion of agri export zones is therefore, required to be examined in this context. The Export Policy, 2001 has suggested focus on these agri export zones, 15 of which have been cleared as per the following details.

a.	Pineapples	West Bengal
b.	Litchi	Uttaranchal
c.	Vegetables	Punjab
d.	Mangoes	Uttar Pradesh
e.	Potatoes	Uttar Pradesh
f.	Grapes & Wine	Maharastra

g.	Flowers	Tamilnadu
h.	Apples	Himanchal Pradesh
i.	Mango pulp & vegetables	Chittor district in A.P.
j.	Pineapples	Tripura
k.	Alphonso mangoes	Ratnagiri of Maharastra
l.	Apples	Srinagar-Baramulla region of Jammu & Kashmir
m.	Onion, Garlic & Potatoes	Madhya Pradesh
n.	Gherkins	Karnataka
o.	Apples	Himachal Pradesh

The investment in such zones will be from the respective state Governments, private parties and various Central Government agencies like agriculture and processed board, agriculture and food processing ministries. Another 5-7 are in the offing in the current financial year.

The 20 such zones are estimated together to generate exports worth Rs.1,7000 crore in the next five years in addition to direct and indirect employment.

In Orissa, possibility of developing agri export zones for turmeric, ginger and bananas is being examined.

40. After the ministerial declaration at Doha, Government of India have appreciated that the key concerns of India in Agriculture have been adequately safeguarded. The Ministers at Doha committed themselves to negotiations aimed at substantial improvement in market access, substantial reduction in trade distorting domestic support and gradual phasing out of export subsidies the special and differential treatment for developing countries including recognition of Food Security and rural development have now become an integral part of the mandated Agricultural Negotiations. In services, the movement of natural persons has been given primary focus apart from reaffirmation of the guidelines and procedures of negotiations. There is also a clear commitment to review the provisions for Special and Differential treatment for developing countries in various WTO agreements to see how these provisions can be strengthened, made more precise, effective and operational.

41. However, while no doubt the WTO agreement has a number of asymmetries the alternative of having bilateral trade agreements with a 150 countries would be even more a daunting task. It is this context that we have to ensure that we have to get the best bargain for ourselves and the best possible deal for our farmers.

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AGRICULTURE UNDER THE WTO REGIME : REWARDING OPPORTUNITIES AND HIDDEN THREATS

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INTRODUCTION :

The major thrust of the present paper is to examine a set of selected issues in the emerging liberalisation strategy for agricultural sector, which is now more than ten years since India launched it. These issues relate to the way the Indian agrarian economy gets affected by the so-called 'Liberalisation-cum-Structural Adjustment' Programme adopted by the government of India under fund-Bank dictates. Though the new environment may have created some rewarding opportunities as well as hidden threats, our basic purpose is to highlight selectively some of the effects in terms of providing insights into their nature and magnitude in the light of the benefit of deregulation and relaxation of various structural rigidities. Also, how far the agricultural development policies (Government of India and State Governments) have been formulated for strengthening such new opportunities by minimising the threats.

Economic liberalisation initiated as a systematic policy of all-India and state level has indeed generated a series of questions pertaining to its benefit from world market in terms of exports, employment, farm income etc. In the context of opening up of the economy to the influences of global markets through free imports and exports of goods and services, the paper proposes to examine to what extent the country has been able to meet challenges of the General Agreement on Tariffs and Trade (GATT) to ensure a progressive integration with the global market. Because, as it is, agriculture has not remained unaffected by the ongoing reform process as the indirect impact of liberalisation of the economy in general on agriculture may turn out to be far more important than the possible direct impact (Parikh Kirti et al, 1995).

I

Agriculture and GATT Agreement in Retrospect and Prospect :

Agriculture in India accounts for about 26 per cent of Gross Domestic Product (GDP) and employs as much as two thirds of the labour force. Agricultural exports constituted 14.6. per cent of total exports of the country

during 1999-2000 and it was 21.4 during 1998.99. Further, the rate of growth of agriculture during five-year plans is 2.2 per cent per annum quite close to the rate of growth of population. During the last few decades of economic planning, the proportion of labour force dependent on agriculture has not changed much though a decline of income from agriculture in GDP is distinctly visible. Small and marginal farmers constitute around 78.0 per cent of the total cultivators (1990-91). They are numerically very large but cultivate only 17.0 per cent of the cultivatable land. In contrast, only 2.0 per cent of holdings are large. Since majority of population draw their livelihood from agriculture, structural reform measures in no way should ignore the aspiration and needs of the two third of the labour force. The number of cultivators has increased from 69.9 million in 1951 to 110.7 million in 1991. The number of labourers also has increased from 27.3 million to 74.6 million during the same period. They are the largest consumer group. Therefore, the development process can not ignore such large majority of resource-poor, farmer-producers, and so also, the socioeconomically handicapped sections of consumers.

Needless to say that agricultural development is an integral part of general economic development. This has major goals in the areas of eradication of poverty and malnutrition, satisfaction of minimum needs, better prospects of life through efficient use of productive resource by using modern science and technology. All these need a steady rise in the per capita income and per capita availability of foodgrains for which sustainable growth of agriculture assumes crucial importance. In this context, economic liberalisation started as a crisis management strategy, though adhoc reforms were introduced from early 1980. Though, the main objective of the structural economic reform was to place the economy on an efficient and dynamic growth path, most of the reforms seem to have been effected in nonagricultural sectors. The reforms so far introduced in the agricultural sector include; (a) reduction of fertiliser subsidy; (b) removal of domestic restrictions on the movement of agricultural products; (c) decanalisation and rationalisation of exports of some agriculture products and (d) bringing agriculture under GATT agreement which provides international legitimacy for implementing export-led growth strategy in agricultural sector.

The current structural reform programme lays emphasis on the free market economy involving decision making primarily to be guided by market prices and market incentives. Also, at the same time, under the conditionalities of the New Economic Policy (NEP), the agricultural sector has to drop support/ procurement/ administrative prices and farm subsidies. But, according to the GATT agreement, the agricultural domestic market is bound to get progressively integrated with the global market. Therefore, the agricultural sector is expected to witness major changes as the multilateral discipline underlined by the WTO is extended to this sector. These in consolidated form put challenges to traditional production system based on captive domestic market, because, domestic market prices cannot remain uninfluenced to international market prices. Under the changing economic scenario, the

domestic market has to become competitive and responsive to market supply and demand. But, due to a set of domestic market distortions and failure of agricultural sector to operate in a free and competitive market environment, the domestic market possibly does not play an effective role under the liberalised policy regime. Such failures in the developing countries like India relate to under developed infrastructure, poor technology and skill (which have emerged from the long colonial rule) vis-a-vis developed countries. Thus, these countries need protection in certain specific areas to realise their potential to face competition.

Further, with the challenges and competition from multinationals (owing to their financial, technical and market network strength, besides their risk bearing capacity) to the indigenous goods and services produced in the national market the trade situation has indeed become more critical. Their strong international network and market strength have easily strengthened Multi National Corporations (MNCs) to make differential treatment in the Indian market. With a lot of domestic market distortions in the Indian economy, the very entries of MNCs have no doubt forced the domestic companies to become quality conscious, and cost effective both in the supply as well as product market. But to what extent, Indian producers and traders have really been able to stand in the competition at the background of structural rigidities, market distortions, poor infrastructure, low technological base and lack of quality consciousness as well as cost effectiveness in the Indian economy is a moot point.

Needless to say that the broad objective behind the inclusion of agriculture and services into GATT discipline was to solve major global issues concerning agriculture with collective efforts of the world community. The other argument in its favour was that when millions of people go hungry in one part of this planet, while in the other part surpluses of food mountlogically indeed such gigantic inequity needs to be defused through collective efforts of all. But, the new opportunities from agriculture could not be realised unless immediate reforms are taken up both in financial and institutional sectors in which India needs much to do. The impediments in rural financial structure has become a bottleneck in transforming rural agrarian structure. The poor infrastructure in power, in irrigation, roads and communication in the rural India, have also stood as powerful bottlenecks in transforming rural economy despite the opportunity under the GATT agreement for diversification of Indian agriculture. But, all these need a lot of investments to which the countries very much ill-afford. In the absence of radical land reforms and emergence of suitable land market compatible with market principles and globalisation neither the benefits of the provisions in the GATT could accrue to agricultural sector in terms of efficiency nor to small and marginal farmers in terms of equity. Therefore, by establishing a fair and market oriented agricultural trading system, greater trade, and closer integration may not yield international equity. Because, common principles agreed upon under GATT conditions may not be

applied equally under unequal situations. Instead, one may visualise a situation of accentuation of the initial disparities across nations and within nations.

After all, no country produces all its requirements. Accordingly, under free trade principle each country should produce that commodity, where it has a comparative advantage and import where it does not. So if under the socalled principle of economic liberalisation India produces and exports a variety of non traditional agricultural commodities and in effect, is prone to buy food grains from abroad by integrating its trade to the global market, a fundamental question is asked "Is this to the best interests of vast majority of Indian people". This question remains unanswered/inadequately answered under the WTO regime. Further, in a situation where some rich countries produce at artificially lower prices by subsidising their agriculture, (and under cut the market) there, an uneven field is created as the principle of comparative advantage is not followed. Similarly, where many developing countries resort to agricultural taxes, and protect industries, their competitiveness is eroded, and thus, the comparative advantage is denied free play (Rao, 2001).

II

Economic Liberalisation in Agricultural Sector :

The agenda for reforming Indian Economy appears to be very comprehensive following historic GATT negotiations. Though agriculture did not in any way relate to the Structural Adjustment Programme (SAP), the changes in the policies concerning macro stabilisation and SAP in other sectors do have implications for significant investment to ensure sustainable growth in agriculture. Little insight into the broad feature of the agreement on agriculture and their implications in the context of Indian economic situations suggest; *first*, the demand interests of the advanced countries for commodities needed by them but produced elsewhere be available cheap; *second*, these be available as cheap as may be necessary to keep down inflationary pressures in their economies; *third*, as changes occur in their requirements, the production structures in these economies should adjust smoothly to meet those requirements; *fourth*, there would be no disruptions in the supplies of these commodities. Thus, the basic purpose to bring agriculture and services to the Fund-Bank fold was to ensure cheap imports from the Third World for the Western consumers. By this, international capital was decisively planned to make unrestricted operations through free play of market principles, and less on perennial subsidies. Through this, the pressure for devaluation, cuts in public expenditures from a number of pressing areas of economic activity were set as implicit measures in terms of reduction in budget deficits.

The Dunkel proposals which formed the basis of the new GATT agreement also permitted the use of genetic material gathered from tropical and

semitropical regions for purposes of research in the advanced countries in order to find possible substitutes and to sell back the products of this research. Besides, the growing health consciousness in the advanced countries is another factor contributing to a changing consumption pattern in favour of high fibre vegetables and low-saturation-fats cooking oils producible in the tropics in order to substitute their traditional diary products, fatty cooking media and meat. This is supported by rapidly growing demand for fresh fruits, vegetables, fish and of course, for traditional livestock.

It appears that a logical development in this form is designed to bring an end to the natural monopoly of bio-diversity enjoyed by the poor nations. However, since North still remains dependent on the South for the physical goods contributing to its high living standards, it has to put strenuous efforts through Fund-Bank conditionalities, and other means by applying a set of economic policies conducive to unrestricted operation of international capital including agri-business and food-processing. This includes the proposal to free Indian agriculture from all forms of control and intervention and from all restrictions on imports possibly to pave ways to Multi-National Corporations (MNCs) to dominate in the agri-business. Needless to say that in this connection, Indian agriculture in many areas have not reached a stage to face competition with powerful multinationals in the name of socalled free trade and modernisation. Alongwith, the stipulation of minimum market access for imports from 2 to 2.33 per cent at the end of 10 years could lead to diversion of consumption from local/indigenous products to imported ones. This will create uncertainty and scarcity of foreign exchange to pay for imports, which is definitely not in the interests of Indian people.

Further, the development of these exportable could entail the transfer of land devoted to food crops for domestic consumption towards growing these export products. The export of traditional crops through the intervention of agri-business in India would cause wide adverse implications as has happened over large tracts of Africa and Latin America. In effect, larger exports of traditional crops in terms of higher prices despite the cutbacks in subsidies of various kinds. This class none the less would be the net gainers. But eventually greater gainers will be the TNCs involved in agri-business. The question sometimes is asked therefore whether liberalised trade regime is in fact for the net benefit of such privileged class of the society. Because, with the emergence of new trade regime under GATT agenda and the consequent dominance of agri-business, a lot of distortions are now clearly visible in the rural economy.

With the shift in focus to agri-business and linked to foreign investment and exports, the liberalisation approach in a broad perspective has quietly ignored the critical connection between agricultural production and the access

of poor households to employment opportunities, income and food. This has resulted in huge rural urban migration and such lesser dependence upon agriculture has accentuated the mass exodus to urban centres. Thus, there lies a disaster in making. Indeed, many developing countries like India has begun to suffer from steady erosion of its ability and capability to produce enough food for its people. Of course, self sufficiency in food is a costly proposition. An effective system of food security in terms of procuring cheap food from where it is cheapest to do so is nothing but an economic prescription for an impeding disaster.

The situation has not changed much ever after more than five decades of Independence despite roughly four times increase in total food grains to 209m. tons in a 2000 from around 50m. tons in 1951. However, this is definitely a qualitative break from the pre-independence trend of stagnation, and in a sense the achievement is considerable. The quinquennial average estimate of per capita availability and production of foodgrains during 1951-2000 for which data are available suggest that the per capita foodgrains availability has registered disappointingly small improvement.

Also, the nutritional balance has worsened with a fairly sharp decline in the intake of pulses from 23.59 kg per capita in 1951-55 to 14.61 kg during 1986-90 and most remarkably to 12.48 kg during 1996-00. Interestingly, while per capita production of cereals has registered a distinct rise during 1976-80 compared to previous periods, its per capita availability has been lower at 145.79 kg and 151.95 kg than per capita production of 147.13 kg and 153.39 kg during 1976-80 and 1981-85 respectively. Even during 1981-85, the per capita availability is again lower; 151.95 kg, lower than per capita production of 153.39 kg. Evidently, its availability is again lower at 162.27kg and 160.37 kg during 1991-95 and 1996-00 respectively against the production of 164.82 and 164.68 kg during the same period. The difference has been no doubt an addition to the government stocks. The stocks, which have slowly piled up is possibly owing to the inability of the rural sector to absorb increased production for lack of purchasing power. Because, those who need to eat more are either at or below the minimum (cannot afford to do so) and those who do not need to eat more supply substantial part of output. A major part of such stocks indeed has been contributed by the so-called well-to-do surplus producers in rural areas. This is a paradoxical situation. The stocks have been piled up considerably since 1992-93 and have more than doubled in January, 2001 at 45.7 million tons.

Under the liberalized trade regime and free market economy, there is a sizeable shift from foodgrains to high-valued cash crops in the limited irrigated area available owing to a sharp decline in public investment on irrigation and infrastructure in eights i.e. an so also in the early years of 1990's. The short

and medium-run consequences of liberalisation in the agricultural sector may yield large exports and attractive gains in terms of foreign exchange, but the long-run consequences are decidedly different. The shift in the production-pattern under the aegis of agri-business may even raise the agrarian question (has indeed recently thought in states like West Bengal and Karnataka) that ceiling laws should be amended. With the opening up of agricultural sector of less developed/developing countries to the forces of international demand and unfettered operation of transnational, there has already been a fall in the per head production of basic food grains for their own population and rise in the per head production of exportables. This is indeed no way different from the experiences in the colonial period.

The agri-business interest in Indian agriculture in the behest of advanced capitalist countries has been consolidated to integrate third world agriculture in to their overall requirement (Patnaik, 1993). This is essentially due to the comparative advantage of tropical and semitropical regimes for their exclusive soil-climatic conditions suited to produce certain types of product which advanced capitalist countries do lack in reality. The historical evidences bear sufficient testimony to the enormous transformation in the consumption pattern of European countries due to advent of capitalism. For this, the tropical countries were made through excessive political control for becoming export-oriented economies either in terms of free exports without any change or in exchange of manufactured goods- creating demand for these industrial goods through deindustrialisation in tropical countries. In exchange, the imported commodities of advanced capitalist countries constitute coffee, tea, sugar, tropical cereals, fruits and vegetables, etc. The moment exports are freed, so are imports, a government can not free one without freeing the other. The pressure exercised through WTO by the advanced countries to open up to imports both in manufacturing and agriculture is precisely for the purpose of recolonisation. It is also seen that exports of principal agricultural commodities constitute more of cash crops than the food crops during the period of economic liberalisation.

The relative advantage in the value of exports of principal agricultural products (at current prices) during the period of economic liberalisation in 1999-00 over the pre-liberalisation period 1985-86 suggests that in case of products like coffee, tea, mate, tabacco, cashew, kernels, spices, sugar and molasses, fish and fish preparations, meat and meat preparations, fruits, vegetables and pulses, there has been a distinct increase in the value. The overall increase of agricultural and allied products has been to the extent of little more than eight times. Similarly, the index export during 1999-00 over 1990-91 in products like tea, cashew, kernels, spices, rice, fish and fish preparations, meat and meat preparations, fruits, vegetables has increased by more than five times. More importantly, the commercial crops have demonstrated an edge over the food products during the same period. All these products exported during that period appear to have been caused by a shift in

the cropping pattern. The relative advantage of the production of such commercial crops is the exclusive contribution of the typical bio-diversity in India. However, at the current prices, the percentage of exports of total agricultural and allied products (total exports) during 1985-86 to 1999-00 has declined from 27.7% to 15.08%.

III

Implications of GATT Agreements Under the WTO Regime and The Agrarian Question :

As regards the implications of the GATT agreements under the WTO regime and their impact on the agricultural sector of the developing countries like India relate to : (a) the support mechanisms that can be made available to the farmers (b) the policies for ensuring food security and (c) the issue of market access. In this context, the implications need to be viewed concerning the general trend towards trade liberalisation in agriculture for two reasons. One relates to the changes to be effected by the developing countries in their domestic policies in conformity with the WTO requirements, and the other relates to the problems encountered by these countries to meet WTO commitments.

Although WTO concerns itself primarily with the trading regime, several of its agreements appear to be impinging on the domestic policy making of its member countries. The broad areas of the member counties are : discipline in the subsidy regime, market access through tariffication and minimum access opportunities, public stockholding for food security, adoption of health and safety regulations and strengthening of intellectual property protection. A major issue of concern during Uruguay Round negotiations was with regard to the heavy subsidy granting countries.

Firstly, the heavy subsidy granting countries have been treated differently with regard to the provision of the upper limits and are expected to bring down their subsidies by 20.0 per cent in six years, but could retain 80.0 of the existing subsidies while the developing country could subsidies their farmers no more than 10.0 per cent. Thus, while the developed countries followed protectionist policies pursued for agriculture, leading to over production, rise in costs and distortion in world trade, in contrast, the developing countries were asked to dis-protect their agriculture and protect domestic industry as well as over valued exchange rates. Such in built bias against agricultural continues to keep terms of trade deliberately unfavourable against agriculture. But, the question raises why do the developed countries have such a bias to subsidies agriculture. Secondly, as regards the provision of export subsidy discipline, while the volume of subsidised exports would have to be decreased by 21.0 per cent over six years, developing countries would have to reduce their subsidies by two-thirds of the levels stipulated for developed countries. Thirdly, the issue of food subsidy also has been brought under the purview of WTO, the successor organisation to the GATT. The primary purpose of such a

provision was to reduce the scope of interventions in the market. In the emerging situation of economic liberalisation, it was also designed to cause fall in government stockholding of agricultural commodities. As per the agreement, there arises several questions for countries like India, where the acquisition price for building food stocks is lower than the international prices. Also, in the context of using public stockholding for food security purposes, the stipulation of right selections of targeted beneficiaries and the scrutiny by the WTO raises several questions. However, in the emerging trends of the process of socioeconomic transformation following the policy of economic liberalisation adopted since 1991, a number of effects both general and specific via cuts are clearly visible. Precisely, the removal of input subsidies, trade restrictions, drastic cut in food subsidies, restrictions on choices (what to produce and where to sell, freedom on operation of agri-business, elimination of land ceilings etc.) have some general and specific implications on the economy at large and the agrarian economy in particular.

Admittedly, the investment on irrigation, power, extension research and infrastructures like roads and communications is on decline. The share of development expenditure has been declining as a proportion of total expenditures from over 66.0 per cent in the sixties and seventies to 61.0 per cent in 1987-88 and to 59.0 per cent in 1991-92. Further, with the curtailment of public investment at the Fund-Bank's directive to keep fiscal deficit in the recommended limit, the growth rates in agriculture seem to be seriously affected- no matter how high agricultural prices rise as a result of the export drive. Indeed Indian agriculture needs substantial public investments in sectors like irrigation, power, roads, research extension rather than subsidies on inputs. There is a consensus now amongst the planners and policy makers that the declining investment in agriculture is basically attributable to the mounting subsidies on irrigation, power and fertilisers.

The discriminatory policies of farm support as between developed and developing countries together with the removal of quantitative restrictions leave India with a host of uncertainties in the international market. We would argue that India would face more hidden threats compared to the rewarding opportunities.

(a) First, the number of small and marginal cultivators in India are on the increase. They constitute 78 per cent of the total farmers. They are the largest consumer group. But, these resource- poor cultivators in the absence of subsidies on inputs like fertiliser, irrigation, agricultural credit, power etc. are the worst sufferers due to their limited access- thus, production of agricultural products diminish. To the contrary, those affluent cultivators would succeed to exploit the situation owing to their comparative greater advantage in irrigation, credit and marketing and therefore, contribute more two exports. But unless the huge surplus of foodgrains stock is suitably marketed in the competitive market environment, this would not cease diversification of production patterns to high value products suitable for processing. Thus, Indian

agriculture through its operation in free competitive markets may have to face International competition both in domestic and international markets. Under the competitive trade regime, in the process of marketisation of India agriculture, the small and marginal farmers ill-afford to exploit the benefit from trade in the competitive world market partly due to high prices of their products, but mostly owing to their weakness to stand in competition.

(b) One of the more obvious reasons for the shift in cropping pattern that India has witnessed in recent years has been the emergence of food processing industry, which is integrated with the global food processing network. The preliminary estimates of average area under different crops has indicated a shrinkage of the area under cultivation of some major food crops. The risk factor for farmers has also increased greatly with the new export orientation, since international prices are notoriously volatile. The fastest growing individual crop was raw cotton which had seen a violent export thrust during 1990 onwards.

Data that are available show that there has been steady decline in the area under course cereals during 1999-00 over 1990-91 by 21.7% and over 1985-86 by 25.3%. Similarly, the decline is evident in case of pulses by 14.0% and 13.2% respectively, though area under cereals has declined by 1.3% and 1.6% during 1999-00 over 1990-91 and 1985-86. On the one hand, we notice a spectacular increase in the area under sugarcane, cotton, oilseeds, wheat and rice. On the other, a decline in the area under course cereals includes inferior cereals which are by and large consumed by the poor- now substituted by the cash crops. More importantly, the shrinkage in the cultivated area under food grains during 1999-00 over 1990-91 by 3.8%, course grains by 18.7%, pulses by 14.2% suggests an alarming food scarcity situation. On the contrary, an increase in the cultivated area under wheat and rice, oilseeds and cotton shows an export orientation strategy under the WTO regime.

(c) The phased removal of all support for ensuring internal self-sufficiency in food production and opening up of the economy to unrestricted export and import of primary products in the GATT agenda on the one hand and monopolisation of the fruits of research using genetic materials embodied in the tropical bio-diversity through a set of patent laws on the other are equally suicidal. Because, equal provisions under unequal situations indeed perpetuate inequality. Accordingly, the provisional of quantitative restrictions by tariffs and then lower and finally removal of it seem to be adverse to Indian situation. In this regard, North can enforce discipline on South on violation of GATT but the converse is not true. South can not enforce any discipline on the economically more powerful North. The realistic situation is that developing countries in general and India in particular, as such can not put any restriction on the access to genetic material of their bio-diversity for the purpose of research by scientists in the advanced capitalist countries. Accordingly, India is deprived of disseminating new varieties of seeds first developed elsewhere

as it did in the era of green revolution Further, neither research on modification of existing varieties for Indian conditions is permitted nor the results of research based on Indian biogenetic materials is available for use in India.

(d) It is worthnoting that the patent system obscures our old practices followed by farmers (especially small cultivators) from the time immemorial in exchanging seeds among themselves. They could remain unaffected for use of unpatented seeds for some time, but with patenting and more advanced technology with TNC seed companies, indigenous efforts would be futile. Thus, not only research will be monopolised but gains will not trickle down.

(e) Further, patent or a patent like protection for advances made in agriculture were not used in the past. Now, developed countries (owing to their substantial control over agri-business) are to be heavily paid by the developing countries for their ownership over any technology since patent protection is extended to plant varieties. This is inimical to agricultural growth. With patenting of plant genes of India's food supply, seed production are likely to be encroached by MNCs and agriculture will be seriously affected. As a result, the high cost of patented agriculture would marginalise the small and marginal farmers and turn agriculture in to a capital-intensive industry.

(f) In a long-run perspective the agriculture under the WTO does not appear to be much beneficial to India. The world market in agriculture is dominated by TNCs like Cargill and Continental grain 45 per cent of world grain market is controlled by them. However, some rich farmers in India producing for exports have managed to derive the benefit who have tied up with the TNCs to trade on their behalf. The entry of TNCs into agro-processing and agri-business for domestic urban and export markets has already caused displacement of coarse cereals like millets in the semi-arid areas by sunflower grown for oil and other oil seeds. Paddy land displaced in favour of fruit production in South India, Prawn culture in Paddy land in Andhra Pradesh and Orissa cause acreage shift from crops locally demanded to the demand in the world market. However, so far most of the cropping pattern shifts are attributable to the pull of demand from the upper segments of an increasingly unequal distribution of domestic income. The relative growth rates of food crops and livestock products and of exportable commercial crops on the other have already started favouring the later in India during 1990's and would be accelerated further under the free trade regime. In such a situation the implication of integrating India's agriculture with agricultural regimes of advanced countries are really far-reaching, but as one finds, the GATT package severely militates against India's interest in trade.

(g) The pressures of global processes contribute to the changing objective basis for the development of agriculture in the country. In India, many companies engaged in the agri-business are setting trends for contract farming. The dangerous aspect of this trend is that many of these corporations are also

engaged in acquiring assets bases of small and marginal farmers, who are selling their lands to these corporations and ultimately joining the group of the wage workers. Such developments in the agriculture sector have brought with it a more fundamental change. Instead of planning to increase domestic production so as to ensure food security domestically, the principle guiding factor for the agricultural sector has been to increase trade in agricultural commodities without concern for the domestic consumption requirements. The tacit implication of this has been that the objective of ensuring food security has now been taken out of the policy-making framework of the domestic governments and has been made dependent on the global surplus stocks.

CONCLUDING REMARKS :

To conclude, we may say that as the developing countries like India strive to meet the WTO commitments impinging on the agricultural sector, an uneven situation automatically sets in. While they have been effecting changes in their domestic policies to bring them in conformity with the more open trading regime, the advanced countries have given themselves a discipline pertaining to this sector in which prospects of any major shift in agricultural policies appear uncertain in the new multilateral trading regime. This appears so since the developed countries, whose agricultural policies have led to distortions in the world market, are likely to support their agriculture at levels higher than those at the beginning of the 1980's by taking advantage of the so called 'green-box' policies. Further, large agricultural producers like the U.S. and the European union have indicated that their main instruments of farm support would remain unaltered since they qualify under the 'Green box' policies. The impact of WTO regime however on India's agriculture would begin to be realised once the qualitative restrictions on imports are phased out in course of time. But, possibly, it can not be denied that the approach of the WTO regime towards food security may have serious adverse implications, when countries like China may have to turn to the global market to meet their shortfall in production. This precisely indicates that the WTO regime is seriously in need of a re-look with respect to the foundations on which it is built, failing which it may face a situation of utter disaster.

Further, the implications of the governance of agriculture under the WTO regime detailed in the paper suggest that the shift in the foodgrains acreage in the production pattern towards commercial crops, fruits, sugarcane, vegetables, oilseeds, tea, coffee, cotton etc. to meet consumption requirements of the advanced capitalist countries would seriously affect the foodgrains production and the food security of developing countries. This, in consequence, the paper argues would threaten India's long cherished drive of self-sufficiency built up with great difficult during the last few decades of economic planning. The displacement of staple foodgrains consumed by the peasantry and urban poor would increase vulnerability not only due to decline in production, but also

owing to decline in its availability (in the absence of adequate purchasing power). Thus, it seems, Indian agriculture under the WTO regime would remain much more dependent and vulnerable to the international structure and institutional rigidities, manoeuvers of international finance capital as a part of a large typical colonial economy. In such a situation, the question is often asked, "Are we not really entering in to a greater economic crisis in near future and particularly, in the food front".

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W.T.O. AND INDIA'S AGRICULTURAL INTERESTS

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1. THE PROBLEM.

The World Trade Organisation (W.T.O.) came into being on the 1st day of 1995 in succession to the General Agreement on Tariffs and Trade (G.A.T.T., 1947). This new organisation is the outcome of the 8th round of negotiation on G.A.T.T., popularly known as the Uruguay Round (U.R., 1986-1994). The establishment of the W.T.O. is a milestone in the globalisation process of the world economy with the members agreeing, in principle and quite in line with standard neoclassical economic thinking, for a transparent, distortion free, fair and integrated multilateral international trading system. With India as one of the 131 founder members, the W.T.O. now has 144 members and is fast moving towards the status of a universal institution like the U.N.O.

Though said to be a new incarnation of the G.A.T.T., the W.T.O. differs from it in three important respects. First, W.T.O. membership and agreements are rule-based with a legal standing. Second, the provisions of the W.T.O. cover trade in services, intellectual property and agricultural commodities (which were outside the purview of the G.A.T.T.) in addition to the manufactured products. Third, the W.T.O. regime provides for a comprehensive dispute settlement mechanism with a view to facilitating a faster and more automatic solution of trade disputes among the member countries compared to G.A.T.T. arrangements.

The value-premise on which W.T.O. is based is the principle of non-discrimination. Under the provisions every country must treat the others equally i.e., grant the Most Favoured Nation (MFN) status to all W.T.O. members and must behave towards domestic and foreign firms/investors in a like manner i.e. accord the National Treatment to the nationals and the firms/investors of the member countries.

Economists argue that the W.T.O. regime offers limited opportunities for the developing countries and would rather lead to a more inequitable distribution of the gains from liberalised trade in agricultural commodities between the developed and the developing countries (Anant-2001, Chand and Philip-2001, Deodhar- 2001, Rao-2001, Diao et al.-2002). They advance a two-fold explanation for this. First, trade in agricultural commodities accounts

for hardly 15-18 per cent of the total merchandise trade of the developing countries while the share of agriculture in their G.D.P. and total employment continues to remain high, for example at 25.24 per cent and 60.4 per cent respectively in 1999-2000, in case of India. Individually, their share in world agri exports is very negligible say at 2.29 per cent in 1998-1999 in India. Thus viewed, these countries have very little power in moulding the W.T.O. provisions in their favour. Second, W.T.O. pacts are designed to contain certain asymmetries and ambiguities, which are used by the developed countries with a view to promoting their interests to the detriment of the developing countries.

With these issues in mind this paper attempts to highlight the impact of W.T.O. rules and provisions on the agricultural interest of India and to offer some workable suggestions for improving the performance of the farm sector in the country.

2. W.T.O. PACTS ON AGRICULTURE :

The W.T.O. pacts pertaining to agriculture fall into three major groups : Agreement on Agriculture (AoA), Agreement on Application of Sanitary and Phyto- Sanitary measures and Technical Barriers to Trade (SPS & TBT) and Agreement on Trade Related Intellectual Property Rights (TRIPS). With the base reference period 1986-88 and commencing in 1995, these agreements are to be implemented in a phased manner within a period of six years by the developed countries and ten years by the developing countries.

2.1 Agreement on Agriculture

The AoA contains provisions relating to three important aspects of trade in agricultural commodities, namely market access, domestic support and export subsidies.

2.1.1 Market Access

The agreement postulates opening of the domestic market to exports. The stipulation in this regard has two elements. First, the member countries are required to guarantee a minimum market access to others. For the developed countries this minimum is set at 3 per cent of domestic consumption to start with, to be raised subsequently to 6 per cent over a six-year period. For the developing countries, the corresponding requirements are 2 per cent and 3.3 per cent respectively over at ten-year period. The second envisages tariffication of all non-tariff barriers to trade in terms of estimation of tariff equivalents and reduction of total tariffs (explicit plus implicit) by 36 per cent within six yeas by the developed countries and by 24 per cent within ten years by the developing countries.

The agreement, however, provides for emergency action against dumped imports when 'import prices fall below the reference levels and/or when there is a sudden import surge, such that it causes/threatens material injury to

domestic industries and inflicts trade restrictions'. The action envisaged includes anti-dumping duties against the producer and countervailing duties against the country.

2.1.2 Domestic Support

The agreement distinguishes four different kind of domestic support for agriculture viz., Assistance under Green Box, Special and Differential Treatment (SDT) Box, Blue Box and Amber Box measures. The Green Box measures relate to support for (i) research, training and extension, pest and disease control, and advisory services; (ii) domestic food aid; (iii) public stock holding for food security purposes; (iv) natural disaster relief (insurance etc.) and safety net environmental protection; (v) regional assistance programmes and (vi) inspection and market intelligence. The SDT Box measures pertain only to the developing countries and these include (i) investment subsidy to agriculture, (ii) agricultural input subsidy to low income/resource poor farmers and (iii) support to farmers to discourage them from growing illicit narcotic crops. The Blue Box measures refer to the direct payments under production limiting programmes and are applicable only to the developed countries. Support under the Amber Box includes two measures. (i) Product- specific subsidies by way of price support to farmers calculated by the formula.

$$X = (P_h - P_e)Q$$

where, x = market price support; P_h = Administered price at home, P_e = external reference price and Q = quantity of output getting the support. (ii) Non-Product-specific subsidies in terms of input subsidy on chemical fertilisers, supply of electric power to agriculture, irrigation, seeds, institutional credit etc.

Of these, support under Green Box, SDT Box and Blue Box measures are considered non-distortionary and are exempted from the reduction commitments. But the Amber Box supports have strong trade distorting effects and are, therefore, subject to limit regulation. The agreement envisages reduction in the Aggregate Measure of Support (AMS) defined as the total money sum of the annual product-specific support and non-product-specific support. The AMS is stipulated to be limited to the *de minimis* level of 5 per cent of the total value of agricultural output over a six year period in the case of the developed countries and of 10 per cent in the case of the developing countries.

2.1.3 Export Subsidies

In view of the substantial production and trade distorting effects of export subsidy to agriculture, the agreement put such subsidies under the reduction commitments in terms of two restrictions. (i) Capping the budgetary expenditure on export subsidy to agriculture and the volume of agricultural exports benefiting therefrom at the base (1986-88) level. (ii) Reducing the

volume of subsidised agricultural exports by 21 per cent and the value of export subsidy to agriculture by 36 per cent over a six-year period by the developed countries and by 13 per cent and 24 per cent respectively over a period of ten years by the developing countries.

The reduction commitments are applicable to prohibitory and actionable subsidies i.e. direct subsidies to exports, dumping of noncommercial agricultural products in foreign markets, export cost reduction measures, internal transport subsidy for agricultural exports etc. but not to non-actionable subsidies. However, the developing countries are permitted to provide subsidies for reduction of export marketing cost and transport (internal and international) subsidies for the agri-exports.

2.2. Agreement on SPS and TBT measures

The agreement on SPS conditions permits the members to prescribe hygienic, sanitary and safety standards in terms of insecticide residues, aflatoxin, contaminants and environmental issues etc. for imports with a view to protecting human, animal and plant life and health from pests and diseases arising out of imports of food and other agricultural commodities. It envisages keeping microbial, toxic and contaminants in products within limits specified by codex. The requirement, for example, puts the aflatoxin content in groundnut at 15 Parts Per Billion (PPB). Under the TBT agreement the exporting countries are required to conform to the SPS specification by packaging and labeling the products and detailing the standards on the packs and in the trade negotiations well in advance.

2.3. Agreement on TRIPS

The agreement on TRIPS permits the member countries to safeguard their interests and protect plant varieties through patenting of both the product and the process and/or an effective *sui generis* system.

3. PROTECTION OF AGRICULTURE IN DEVELOPED COUNTRIES

Developed countries, by and large, have a tendency to protect and promote their agriculture through effective state support.

(i) The various asymmetries inherent in the agreement have helped them to shift assistance from non-exempt to exempt Boxes and thus to *subsidies the farm sector heavily*. The U.S., for example, spent as much as 37.63 per cent of its Gross Domestic Product from agriculture (GDP_A) on domestic support measures and 33.08 per cent alone on account of Green Box support in 1997. Total domestic support to agriculture was more than 55 per cent of GDPA in the EEC countries and Japan in the same year. Yet the AMS in these countries met the *de minimis* stipulation. It is, therefore, appropriate to call the AMS as 'Partial Measure of Support' (PMS)

(ii) The rules of the game in respect of *export-subsidies* are heavily tilted in favour of the developed countries fostering massive subsidisation of their agri-exports through (a) manipulations with the subsidy components, (b) rolling

over of export subsidies to the following year and (c) surplus disposal and marketing in the name of food aid. In 1998 export subsidy by the U.S. was as high as Rs.52.89 per kg on skimmed milk powder and that by the EEC countries was at a height of Rs.74 per kg on butter and butter oil constituting over 50 per cent of the respective export price.

It is inapt to term the exempt boxes and the non-actionable export subsidies as non-distortionary/minimally trade distorting because agricultural costs and prices would be higher and thus exports lower in the absence of such assistance.

(iii) The ambiguities in the provisions relating to *import tariff* are grossly misused by the developed countries to protect their agriculture against competition from agri-exports from the developing countries. The reduction commitment being envisaged on an unweighted average basis, the provisions have encouraged uneven cuts : lowering less the tariff on sensitive products (i.e., the products a country wants to protect the most) and more on commodities which are considered unimportant/less important. The average tariff rate for bulk agricultural commodities is more than 23 per cent in the EU, more than 50 per cent in Japan and around 100 per cent for the three members of the European Free Trade Association (EFTA) i.e., Norway, Switzerland and Iceland (Diao et al., 2002).

(iv) The W.T.O. regime has promoted non-transparent, differential and preferential trade practices by the developed countries, thus *denying effective market access* to the developing countries. These countries are now engaged in importing agri products at lower tariff rates from fellow developed countries upto a certain amount and imposing high tariffs, of course within the permissible bound rate, on their imports from the developing countries. Intra-EU trade in agricultural commodities now accounts for 72 per cent of total EU agri-imports (Diao et al. 2002). The developed countries being the largest market in world trade in agriculture, inter-developed country trade in agri-products are a design to block the developing countries' entry into their markets and hence to protect their agricultural interests.

(v) The turbidities inherent in *the SPS and TBT agreements* are no less protective in character. Different countries set different standards in the name of quality just to protect their products against imports. For example, while W.T.O. requirement puts the aflatoxin content in groundnut at 15 PPB, the European Commission has a stricter standard at 4 PPB. Similarly, under the shed of preventing the entry of deceased products and for the so-called environmental preservation and protection, the developed countries reject exports from the developed countries. The refusal by the U.S. of shrimp imports from India (Orissa) on the ground that our fishing boats did not fit the turtle eliminating device (TED) and the return of Indian wheat by Iraq are fresh in our memory.

(vi) The **agreement on TRIPS** is yet another instrument of protecting developed country interests. The conceptual and legal ambiguities inherent in the agreement are largely misused by these countries and have fostered bio-piracy. The development of 'Texomati', the Texas variety of India's 'Basmati Rice' is a case in point.

Looking at the sectorial composition of employment and output in the developed countries where agriculture's contribution to GDP is a mere 1 per cent to 2 per cent and to employment, a poor 3 per cent to 5 per cent, one really wonders **how and why governments in these countries are providing high farm support**. But the explanation for this is not too far to seek. Farm support is a sensitive issue because 'no country wants to lose its supremacy over agriculture' and the developed countries are no exception and more so because they 'know it for certain that food is by far the best and also the most effective weapon to exercise control over the world'. Add to it is the political compulsion from the farm lobbies. Another reason is that the governments in these countries are committed to protect the non-farm sector, especially the agro-industries and the agrobased industries. These industries having strong forward and backward linkages with the farm sector are acting as the powerful agents in securing high assistance for it for their survival, sustenance & growth. Further, farm products in these countries have a low-income elasticity of demand but the prices of agricultural commodities are highly sensitive to output. Increasing farm output affects farm incomes adversely to establish which state support is called for. Furthermore, increasing domestic support to agriculture is considered economically sound because the costs so incurred are mush less than the social security expenditure for the unemployed that would otherwise be warranted if agriculture were left to the market forces. The ability of these countries to provide high support to agriculture may also be taken as an additional explanation for the protection of the farm sector.

4. GOVERNMENT SUPPORT FOR AGRICULTURE IN INDIA

India, being a signatory to the W.T.O. pacts, has taken all possible steps to conform to the stipulations envisaged in the treaty. (i) She has **removed all non-tariff barriers** to imports and phased out trade restrictions on 824 agri-products with effect from 1st April 2001. The country has bound the tariff levels at 100 per cent, 150 per cent and 300 per cent for primary agricultural commodities, processed agricultural products and edible oils respectively. These are high enough to protect agriculture against imports but the import duty on almost all-principal agri-imports of the country remains far below the bound rate. It is only in case of almonds, rice, apple and skimmed milk powder that the applied rate is equal to the bound rate. Refined Soya oil is the lone exception for which the import duty is higher (Rs.50.80) than the bound rate (Rs.45.00) (ES, 2002). (ii) Most agricultural products being subject to export bares and other restrictions upto early 1990s, the domestic prices of most of

our major crops remain far below, those of few crops are close to and those of oilseeds, rubber and sugarcane are little above their respective world price levels. The total product specific support has, therefore, remained negative. The non-product specific support is hardly 7.5 per cent of the value of total agricultural production, primarily on account of subsidy on irrigation, power and chemical fertilisers. The **AMS thus remains negative** at more than (-) 35 per cent. Agricultural subsidies (Producer Support Estimate- PSE) were hardly 6.5 per cent of GDP_A in 1999. This is much less than that in the developed countries (Table -1). (iii) There was **no subsidy on agri-exports** by India at the time of W.T.O. agreement nor did it lists any in its submissions in the UR negotiations and later. (iv) **India has not used SPS** (human & animal health standards) and **TBT measures for protectionist purpose so far**. The low level of our technology has been a major stumbling block on this score. The Patents (Amendment) Ordinance, 1999 promulgated by the Government of India on January 8, 1999 to amend the Indian Patents Act of 1970, though permits protection of the rights of the breeders, farmers and researchers under the *sui generies* system, is yet to be applied in true spirit and have not been effective in preventing bio-piracy.

5. INDIA'S AGRICULTURAL INTERESTS

The farm sector remains fairly protected in the developed world and there has been significant dis-protection of agriculture in the developing countries including India. The complex classification of farm support and subsidies and the ambiguities inherent therein have encouraged misinterpretation and misapplication of the W.T.O. provisions by the developed countries to further their interests at the cost of the third world countries. Through high farm support, massive export subsidies, lowering tariffs, large-scale intra-North trade, prescription of stricter hygienic standards and proliferating bio-piracy, these countries have caused significant distortions in the international market and exploited undreamed opportunities. According to one estimate, EU and EFTA account for 50 per cent of the world agricultural price distortions and Japan, Korea, the U.S. and Canada taken together account for the remaining half (Diao et al. 2002). They have effectively blocked agri-exports from the South while the latter's markets are wide open for imports from them.

Data relating to some aspects of Indian agriculture under the W.T.O. regime are presented in Table-2. It may be read off the table that there has been a consistent decline in the contribution of agri-exports to total exports as also in its share in GDP_{FC} of the country. However, agri-exports as a percentage of GDP_{FC} has shown little improvement in 2000-01 over 1999-2000. The share of India in world agricultural exports has fallen. Capital formation in agriculture as a percentage of both GDP and GDP_A and investment in agriculture as a percentage of GDP_{FC} have been on the decline/have stagnated at a very low level.

Table-3 shows the composition of our agri-exports during the recent years. It is evident from the table that marine products have emerged as the single largest contributor to the total agri-exports and meat and meat preparations, fruits and vegetables have shown strong growth. But these are most vulnerable to SPS and TBT conditionalities. The share of our conventional export e.g., cereals are drastically declining and that of our traditional exports such as tea and coffee are markedly falling, not a good sign indeed.

Thus, the seven years of W.T.O. regime has brought practically no gains for India and rather increased the headache of her agricultural planners and administrators as also of the farmers at large. Indian markets are now inundated with cheap imports of skimmed milk powder, edible oils, sugar, apples etc. and many more products are likely to enter. We have become susceptible to dumping, our survival is at stake and the danger of marginalisation of agriculture and farming community is hanging overhead like the Democles sword. Even though the agreement provides for imposition of additional duties on imports as an emergency measure, no prospect is at sight. For the discretion as to when, how and to what extent they are to be levied lies with the W.T.O., which is dominated by the North. Further, the chances of increasing domestic support to agriculture under exempt and non-exempt Boxes, which are presently far below the W.T.O. stipulation, are very bleak. This is because the prevailing low support level is considered an unbearable fiscal burden and because we are required to do away with all our existing farm support and subsidies under the IMF- World Bank sponsored Structural Adjustment Programme (SAP) and Economic Reforms (ER). Part of the problem is our own making too. There being a strong complementarity between public and private investment, the stagnation/deceleration in public sector investment in agriculture has caused lower private sector investment. Gross capital formation in agriculture has, therefore, remained low (Table-2) leading to slow agricultural growth. This is the fallout of our own strategy.

6. POLICY MEASURES

Since mid-1990s, remarkable changes have taken place in Indian agriculture. While its share in GDP and total exports of the declined significantly, there has practically been very little change in its contribution to total employment. It still continues to be the mainstay of economic activities for the masses and even after more than five decades of planned economic development we have a disproportionate share of our resources in agriculture. But under the pretext of fiscal discipline, the state is gradually withdrawing from this sector with negative public investment and declining farm support resulting in low private investment and stagnant/low output growth rate.

Liberalisation of world agricultural trade offers fewer opportunities but poses formidable challenges. Even though no major snags are imposed on the country from the W.T.O. side for removal/reduction of farm support and subsidies, the most perilous problem is that our trading partners in the North are playing foul By providing heavy farm support through manipulation of

the 'Boxes' and insisting on flimsy issues like environment, child labour, product quality etc. they are protecting their agricultural interests and blocking market access. Since the existing low level of farm support in the country is considered unbearable, we cannot think of offsetting the challenge by increasing subsidies. Our lack of alignment with international standards is yet another obstacle on this score.

The W.T.O. regime, thus does not provide a level playing field and if this system persists, the economic disparities between India and the developed countries will move from inequitable to inhuman (Streeten, 1998). The Doha meet has proven to be a mere eyewash with promises only, pleasing our deligates to return with a self-congratulatory mood, terming these promises (which will never be kept) as a 'victory' and a 'triumph of sorts'. 'In essence it is a futile exercise in self deception'. India's demand for a Food Security Box and the Doha declaration relating to it is a reflection of misplaced emphasis as this is likely to put us into the traps of the food-exporting tycoons.

Free trade *per se* does not guarantee fair trade and complex negotiations involve a certain amount *of quid pro quo*. Trade by nature thrives on a 'beggar thy neighbour' attitude and promotes exploitation and inequality. But it will not be wise to back out of the W.T.O. at the present juncture as this would jeopardies our international status and more so because bilateral trade arrangements would be more demanding. We cannot continue disprotecting the farm sector either. In such view of things we have to redesign our strategy for the future.

6.1 Since the pace of growth in agriculture has slowed down, corrective actions are to be taken to counter the trend. Investment in agriculture has to be made attractive through provision of infrastructural support by the state. Prudent management of occasional food surpluses is another area in which state action is called for. Research in agricultural technology, particularly biotechnology, is of great worth in increasing agricultural productivity. Efforts may be taken to harness the talents of our agro-scientists for this purpose.

6.2. Liberalised world trade in agricultural commodities has not fetched good dividends for the country because of our low productivity- quality-competitive standards. Adoption of a regionally differentiated strategy of agricultural development, the establishment of agri-export zones, diversification of cropping pattern favouring production of commercial crops and dynamic commodities, promotion of contract farming by export oriented food processing and agro-based industries, improvement of post-harvest quality management and development of the patenting system are some of the fields where state can play a key role for increasing the competitiveness of Indian agriculture.

6.3. Of utmost importance is the role of the government in identifying the problem areas and formulating action plans for negotiation in the W.T.O to secure the best out of the arrangement.

TABLE -1

Agricultural Subsidies (PSE) in Selected Countries, 1999

(In US Dollars)

Country	Amount per Farmer	Amount per Hectare	Agricultural subsidies as % of GDP
E.C.	17000	831	49
Japan	26000	11792	65
USA	21000	129	24
OECD	11000	218	40
India	66	53	6.5

Source : Indian Agrioulture in Brief, 2001, Govt. of India

TABLE-2

Indian Agriculture Under the WTO Regime

Indicators	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01
1. Average Annual Growth Rate in Agricultural Production (%)	-0.90	9.60	-2.40	6.20	1.30	-0.20
2. Share of Agriculture in GDP_{FC} (%)	*	*	26.50	26.43	25.24	24.22
3. Agri-exports as % of total exports	19.83	20.40	18.80	18.20	15.20	13.50
4. Agri-exports as % of GDP_{FC}	1.97	1.95	1.76	1.59	1.38	1.44
5. India's share in world Agri-exports	2.14	*	2.36	2.29	*	*
6. Gross capital Formation in Agriculture as % of GDP_{FC}	1.74	1.67	1.57	1.38	1.44	1.39
7. Gross capital Formation in Agriculture as % of GDP_{FCA}	5.70	5.40	5.40	4.77	5.24	5.22
8. Investment in Agriculture as % of GDP_{FC}	1.60	1.50	1.40	1.30	1.30	1.30
9. Share of the Public Sector in Gross Capital Formation in Agriculture %	30.90	28.90	25.00	26.00	24.80	24.20

Source : Govt. of India : Economic Survey, Various Issues

(*-not available)

TABLE-3

Composition of India's Principal Agri-exports

Product	Percentage Share in Total Agri-exports		
	1998-99	1999-2000	2000-01
Cashew	6.4	10.1	6.8
Cereals	24.8	12.9	12.4
Fruits and Vegetables	4.1	5.2	6.1
Fruits and Vegetables	4.1	5.2	6.1
Marine Products	17.2	21.1	23.2
Meat & Meat Preparations	3.1	3.4	5.4
Oil meals	7.7	6.7	7.5
Spices	6.4	7.3	5.9
Tea & Coffee	15.7	13.2	11.5
Tobacco	3.0	4.2	3.2
Others	11.6	15.9	18.0
All Agri-exports	100.0	100.0	100.0

Source : Economic Survey, 2001-02, Govt. of India

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IMPACT OF WTO ON INDIAN AGRICULTURE

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I. INTRODUCTION

The Uruguay Round Multilateral Trade Negotiations held in December 1993 may be treated as the watershed in the history of international trade. This round was the most complex and exceptional trade round since the inception of General Agreement on Trade and Tariff (GATT) in 1947. This round gave birth to the World Trade Organization (WTO) in 1994. While GATT covered only trade in goods, the scope of WTO was extended to cover several new areas such as services, intellectual property rights and investments etc. Even the area of goods, agriculture and textiles, which were outside the ambit of GATT, were brought into the fold of multilateral negotiations. The basic principle underlying these agreements was to have an open trading system based on multilaterally agreed rules.

India, being one of the member of WTO and signatory of the Agreement on Agriculture (AoA) and further more after losing its appeal in the WTO, was forced to liberalize trade on agricultural products as per the WTO norms. India is now planning to impliment the objectives of the AoA. The hole excercise will be completed in two budgets starting from the financial year 2000-2001. The objective of the AoA is to reform trade in the sector and to make policies more market oriented. This would improve the production in agriculture sector and enhance the food security for importing and exporting countries like India.

Now the question is whether the developing countries, like India, will be benefited by this AoA of WTO. The present paper is an attempt to highlight some of the effects of the agreement on Indian economy. Does the agreement really favour the agricultural sector of the country? In order to improve the predictability and security in agricultural sector some suggestions have been given in this critical economic condition of the country.

II. AoA : STRATEGIC ISSUES FOR INDIA

In the words of A.V. Ganeshan, "the root cause of distortion of international trade in agriculture is the massive domestic subsidies given by industrialized countries to their agricultural sector over the decades. This has led to excessive production and its dumping in international markets. In order

to minimize such dumped exports and to keep their markets open for efficient agricultural producers of the world, the starting point has to be the reduction of the domestic production subsidies given by the industrialized countries, followed by reduction of export subsidies and the volume of subsidized exports, and minimum market access opportunities for foreign agricultural producers". This beings the rationale, the AoA provided for (1) market access i.e. tariffication (tariff binding and progressive reduction of tariff in agricultural commodities) (2) domestic support i.e. reduction of domestic subsidies (3) export competition i.e. reduction in export subsidies. The progress in each of these is likely to be taken up for review and further course of action open for negotiations. It is to be a game theoretic approach. If it is known to us about the stand of Indian agriculture vis-a-vis other trading nations in complying the basic norms of AoA and if it is known about the move of the other side, alongwith weak points, effort can be made for a win. Else India should not accept the provisions even after singing the agreement.

Market Assess

Increased market access was the hall-mark of AoA of Uruguay Round. It was aimed at force-opening new markets for agricultural product exporting countries. The agreement required all countries to allow a certain minimum market access for every agricultural product at 5% for developed countries and 4% for developing countries. By that process, India was forced to either phase out or eliminate the quantitative restrictions (QR) on agricultural commodities and products latest by April 2001. India has therefore opened its market and in turn made the farming community vulnerable to the imports of high-subsidized products. Already cheaper imports of skimmed milk powder, edible oils, sugar, tea, areconut, apples, coconut etc. have flooded the market.

We know that on tariffication question, India has bound tariffs for almost all agricultural commodities and so the question of giving market access of minimum 3% of consumption does not apply to India. Broadly, the bound tariffs are: 100% for raw commodities, 150% for processed agro-product and 300% for edible oils. There are a few exceptions like rice and skimmed milk powder with less than 1.5% fat, which were committed at zero tariffs binding in the General Protocol of 1947.

Domestic Support

On the domestic support to Indian agriculture, the product-specific support was negative to the tune of 38.5% and non-product specific support was 7.5% of the value of agricultural commodities in 1995-96 as per India's Trade policy review by WTO (1998). Thus, both the product specific and non-product specific supports are below the minimum 10% level allowed to a developing country.

In the present context of free trade of agricultural product, clever manipulation of their subsidy-reduction commitments has in reality increased the support to farmers in the developed countries. In India we are being told that our Aggregate Measure of Support (AMS) measure of the subsidies that

are provided to agriculture, being negative, against the upper limit of 10%, we can still raise our subsidies to farmers. In reality, India is committed to do away with agricultural subsidies under the structural adjustment programme of the World Bank and the IMF

Export Subsidies

According to WTO norms 25 countries were allowed to provide export subsidies for their agricultural products. Other countries, which do not have agricultural, export subsidies, like India, cannot make any new provision for it.

III. NORMS OF WTO ON AoA

The following are the norms prescribed by WTO on the Agreement on Agriculture to be followed by the member countries.

(a) The AoA requires the conversion of all non-tariff barriers on agro-products trade into equivalent tariffs. These tariff rates equivalent are to be combined with existing tariff and the resulting composite tariff are to be bound at that rate.

(b) The minimum allocation quotas for developing countries constitute 2% of domestic consumption moving up to 4% after 10 years.

(c) Where the resulting tariff is prohibitive, a minimum level of imports, equal to 3% of domestic consumption is to be guaranteed. These "minimum access" quotas will rise to 5% of domestic consumption after 6 years.

(d) Each country is given the flexibility in distributing the average tariff cut over different commodities, as long as each individual tariff is reduced by at least 15% over the relevant period.

(e) The agreement also provides for a cut in the subsidies from the 1986-90 levels by 56% over six years in equal annual instalments.

(f) Developed countries are also required to reduce the volume of exports of each subsidized commodity by 21% over six years with average export levels of 1986-90.

IV. IMPACTS OF AoA

Implementation of AoA norms will adversely affect the Indian economy. Indian farmers will not get much benefit from the WTO agreement. A recent meeting of the political parties, farmers representatives and voluntary agencies in New Delhi, the Ministry of Agriculture admitted that the hopes from an international regime that talked of establishing a fair and market oriented agricultural trading system have been belied. Mr. Balaram Jhakar, ex-Agriculture Minister grieved on this issue and viewed on government decision as an incorrect step to accept the free trade agenda for Indian farmers. According to him, "It is now clear to me that we are fast heading towards economic recolonization". The economists of the country are also of same

view and believe that WTO agreement is not in the interest of Indian farmer rather than for the farmers of developed countries.

Let us examine what are the actual impacts of the agreement on the Indian agriculture in particular and Indian economy as whole.

Firstly, regarding **Market access** there has not been any significant change in volume of exports as per the study report of Food and Agricultural Organization (FAO). Tariff peaks continue to block exports from the developing countries. Selective reduction in tariffs by the developed countries has also blocked the exports from developing countries.

Secondly, it will adversely affect the **food security** of the country. Food security evolved as an integral part of a development strategy brings about a striking technological change in food crops, providing effective price and market support to farmers. It also deploys wide range of measures to generate employment and income for the rural poor to create food in security improve their level of well being. So, it is possibe that the agreements will create food in security for the Indians. Food security can only be possible if the developing countries have provisions and powers to re-enforce QRs.

Thirdly, India suffers from the chronic **shortage of foreign exchange** Dependence on imports for its staple food in such a situation may difficulties and uncertainties in the availability of food.

Fourthly, implementation of the agreement will lead to **inflationary pressure** on the economy. Coupled with the privatisation of agricultural trade, dependence on imports of food may also cause serious uncertainties and frequent high-rise in the prices of the staple food products.

Fifthly, the most threatening impact of WTO regimes would be the easy availability of cheaper and better agricultural products which would render the Indian farmers in a **do or die situation**. Unless they are able to increase the product they are not able to compete with the cheaper imports. With the increased prices of all inputs and having less fertilizer subsidy and higher irrigation charges, the cost of production would sky rocket and it would be certainly difficult for the smaller farmer to survive in the market.

Sixthly, due to their backwardness in the agricultural **research and development** (R & D) most of the developing countries are bound to lose the benefits of the agreement in comparison to the developed countries.

Seventhly, dependence on imports for the staple food may reduce the foreign policy options of a country, at least in critical occasions. Thus constraining it's **sovereignty** in external relation.

Eighthly, in the process of **tarrification** several developed countries like Japan and Europian union have kept their tariffs in their schedules very high. It makes import prospects really high. So, it is simply impossible for developing countries to compete with them.

Lastly, not withstanding it's perceived benefits in other fields, the WTO would put Indian agriculture in an extremely difficult position after Jan 2005. Agricultural productivity in India is one of the lowest in the world and with high agricultural subsidies it would aggravate the situation as the inputs would become costlier increasing per unit cost further. This would render the Indian food grains uncompetitive globally. Free imports of food grains would also lead to price fluctuation in the economy and adversely affect the **agricultural production and the food security**.

V. CONCLUSIONS :

The strategies to be adopted by India would consist of many components. It is important to introspect and carry out a quantitative evaluation of the impact the agreement on agriculture has on Indian agriculture including production, pricing, imports and exports, current tariffs and committed revisions.

While the process of reform has been extended to most of the sectors in the economy the agricultural sector however has been left behind. It is high time that the government undertook certain structural reforms in the agricultural sector, preparing it to meet the challenges that lie ahead. Poor rural infrastructure in agricultural sector needs immediate attention. Some public investment has taken place in the field of irrigation and warehousing utterly inadequate to meet the global competition. What is urgently required is the encouragement to the rural farmers in the field of irrigation and mechanisation of agriculture.

Another important area that requires improvements relates to the internal marketing procedure. It appears that India has to live with surplus food grains for several years to come. This requires some diversification and some shifting away from food grains to the cash crops like tea, coffee, cotton, jute, sugar etc. Which would not only augment the industrial sector, but would also provide sufficient exportable surplus in the industrial sector.

R & D is yet another area needing immediate government intervention. Some steps have been taken by the government in the field of agriculture and horticulture. But that benefits do not trickle down to the farmers. Proper attention is required for R & D strategy which will benefit the farmers directly.

It is to be realized that all these matters are strictly within the purview of our own initiatives and decisions. Negotiations at the WTO meet on AoA should take into account all the other major issues common to all other developing countries in the same socio-economic belt and analyse their impact on Indian Agriculture from an Indian perspective. We also need to realize that sitting around the negotiating table without adequate study and assessment of the possible ramifications of forced settlements under the mandated reform process will seriously affect not only our agricultural production and distribution, but also the fundamental viability of the country's agrarian economy.

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TRIPS AND PHARMACEUTICALS INDUSTRY : INDIAN EXPERIENCE

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INTRODUCTION

The GATT had pursued trade liberalization from its inception in 1947. The Uruguay Round was the most ambitious and the most complex compared with any of the previous round. Apart from its objective of tariff and trade liberalization, the principal aim of Uruguay Round was to strengthen the multilateral trading system to face the needs of the future. The TRIPS Agreement where the provisions of the agreement apply equally to all countries with longer delays allowed for least developed countries than for developing countries. It goes without saying that TRIPS Agreement has raised a furore in India and some vociferous opponents of TRIP Agreement have gone as far as suggesting that India gives up its membership of the WTO.

This paper examines the major changes which can be expected in Indian pharmaceutical industry from 2005 due to agreements on TRIPS, under which India will be required to introduce product patents for pharmaceutical products. This will lead to sharp increase in price of newly patented drugs. To all intents and purposes TRIPS agreement is not in the national interest and should be renegotiated.

Overview of TRIPS Agreement :

The TRIPS Agreement lays down norms and standard for seven types of intellectual property viz, copy right and related rights, trademarks, geographical indications, industrial design, patents, undisclosed information. The manner of legal compliance is left to each individual WTO member. The case of Article 39.3 of TRIPS on protection of test data needs close study as it could lead to marketing monopolies in new pharmaceutical and agricultural chemicals by originator companies. Pharmaceutical industries enjoy a special place as a knowledge based economy. As a matter of fact Indian pharmaceutical industry might be affected by new patent laws; that will come into force from January 1,2005.

Indian pharmaceutical industry plays a major role in providing drugs at affordable price. Indigenous production meets around 95% of domestic demand for pharmaceuticals. At present there are more than 12,000 manufacturing units. India occupies a prestigious position among the top 15 pharmaceutical manufacturing countries. The turn over of the industry in 1999-2000 was Rs.150 billion about 1% of GDP. The pharmaceutical export has 1.45% share

in world trade. Pharmaceutical products constitute 4.1% of Indian total export. There is comparative advantage in drug industry due to standard university education and research. India recognizes process patent by virtue of 1970 Indian Patent Act. This can help Indian companies to reproduce and market newly invented drugs in Indian market through a different production process.

When India had the Indian Patent Act. in 1970, the Multinational Companies of US, UK, Germany dominated domestic market with a share of 85%. The share of multinational companies declined and was about 40% in 1999. It is a fact that a number of pharmaceutical companies experienced robust growth because of deceleration of cost. Moreover, profitability has declined by 8% in 1999. The Govts Price Control and stiff competition are responsible for fall of profit.

Reforms and Pharmaceutical sector :

The pharmaceutical sector in India had been one of success stories in development of an indigenous self reliant industry. It is a sector that made impressive progress in the 1970s and 1980s largely as a consequence of focused policy. In 1947 Indian market was fully controlled by MNC. In the 1950 drug price in India was one of the highest in the world. There was an inverse relationship between per capita income and level of drug price (Majumdar 1986). In 1974 Indian Govt. set up the committee on drugs and pharmaceutical industry (popularly known as Hathi Committee). The drug policy of 1978 and drug price control 1979 were broadly based on recommendation of Hathi Committee. For the first time, comprehensive and graded price control mechanism was introduced in drug industry. The philosophy behind this graded system of price control was to make more essential drugs cheaper. The 1978 policy also reserved major areas in the market for different sections in Indian sector both private and public. In 1987 the Govt. in a new policy reversed many positive features of 1978 policy. The spans of price control were reduced, greater profitability was allowed, imports were liberalized and various production control measures were scraped. In 1994 the Govt. announced its new policy on drugs and pharmaceuticals. In the new policy the Govt. granted major concessions to the industry in terms of reduced prices and production control. They included the slashing down of the number of drugs under price control and allowed for bulk drug manufacturer. Domestic treatment of companies with 51% foreign equity participation is now assured. Industrial lincensing is no more required for manufacture of pharmaceuticals. The policy has reduced the number of drugs reserved for public sector to only five. The common plea from the industry is that the drug industry should be decontrolled both with regards to production and price. The industry's claim moreover is that their profitability had been going down due to excessive control is not borne out by facts. The market force logic is less applicable to the pharmaceutical industry than other sectors. Drugs can not be purchased on preference or choice by consumers.

TRIPS and Drug price :

It goes without saying that one immediate consequence of the TRIPS agreement will be a sharp increase in the price of drugs invented after the new product patent coming into force in 2005. Initially the TRIPS agreement will affect a small proportion of drug available in India. However, the impact will gradually increase over time as all the new drugs entering market in future would be patent-protected and many of old drugs can be expected to became ineffective as disease-causing bacteria develop resistance to them; thereby forcing people to switch to new more expensive drugs. It is difficult to predict the exact increase in price of patented drugs. Drug prices have often little to do with use of production. The patented pharmaceutical are priced at monopolistic profit maximizing levels, taking into account the paying capacity of consumers. It will be difficult on the part of MNC to offer lower price for essential drugs in developing countries according to their purchasing power. There may be some indirect pressure on the pharmaceutical companies to reduce the price on life saving drugs. If there is no institutional arrangement to allow price differences, drugs will be overpriced and will be beyond the reach of vulnerable sections of the society.

Beneficiary groups of TRIPS :

As a matter of fact, due to TRIPS Agreement some parties will be immensely benefited. Large pharmaceutical firms based in developed countries shall benefit by charging high prices on their patented drugs by virtue of monopoly they will gain in markets of developing countries (Agrawal and Sai Baba : 2001). The developed countries will also get benefit through tax base and more jobs. The additional gain for pharmaceutical industry will be less due to limited purchasing power. The per capita expenditure on health in low income and developing countries is $18 per year. Loss of consumer welfare in developing countries due to inability of a large number of its people to buy lower priced drugs due to enforcement of patent right by pharmaceutical companies is likely to be much higher (Fink 2000). In short run the agreement is likely to lower world welfare although it may improve profit of pharmaceutical multinationals slightly. Some economists are of the opinion that in the long run TRIPS Agreement may bring benefits for developing countries like India in the form of increased research and development expenditure in inventing drugs. The predictions may have some merits but the benefits are not visible at present. It is a common experience that no substantial research has been made in developing countries to eradicate malaria, TB which kill million of people every year. Moreover, the people of developed countries die of prestigious diseases like AIDS, Thormbosis, High B.P. etc. The research seems to be myopic in a market economy where firms are driven by profit motive.

Major Findings :

The brief study reveals the fact that lack of patent protection in India makes it unprofitable to do so. Since any such invention will be readily copied by other firms in India and original researcher can not recover the cost. The

change of patent law may encourage many firms to undertake more research. If we consider the fact of cost benefit analysis, the cost will be too high for such benefits. The multinational pharmaceutical companies are engaged more in production of drugs to grow hair and treat impotency, for example Pritzer has taken the franchise for Viagra.

It is suspected that pharmaceutical industry of MNC can not be persuaded to invest more on R and D for inventing drugs prevalent in developing countries either by moral suasion or by sharing of cost with developing countries.

Conclusion :

Indian pharmaceutical industry has a bright future if it can give sufficient rewards to its own firms (like tax incentives, reimbursement of research cost, provision of product patent for firms operating within country). There are some detrimental effects with TRIPS Agreement on developing countries like India which can not be completely ignored. For example there is a problem related to patent regime of WTO regarding dispute over the domestic biodiversity legislation. There may be gross abuse of patent laws. Another example can be given here which shocked the developing countries (When 'Basmati' rice and some traditional remedies based on neem and turmeric were attempted to be patented). The poor developing countries will have enter to expensive legal battles. Some MNCs with imperialistic ideology may take out patents on product based on traditional knowledge.

The countries providing such materials should get a share of commercial benefits out of such patents. Traditional remedies of one community or country should not be patentable. The TRIPS Agreement will definitely benefit multinational pharmaceutical firms and developed countries. Even developed countries like Switzerland refused to have product patent for pharmaceutical until 1978. TRIPS Agreement seems to be more exploitative in character. It is high time that developing countries should come closer and resent the calculated conspiracy of developed countries. Export procedures should be simplified so that they do not become hindrance in growth of exports. Technological collaboration, inflow of foreign direct investment in pharmaceutical industry will bring new technology, research and managerial ability.

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WTO AND RICE EXPORTS FROM INDIA : PROGRESS AND PRIORITIES

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Cuttack-753006

The share of rice in total exports of agro-horticultural products (through Agricultural Produce Export Development Authority of India) is 53 per cent out of which non-basmati rice constitutes 31 per cent and basmati rice 22 per cent (based on triennium ending 1999-2000 figures). Due to the large fluctuations in rice prices in the world markets, the quantity of export of non-basmati rice fluctuates to a great deal from year to year. Before the World Trade Organisation (WTO) came into existence, our exports were around 5 lakh tons or even less in many years. The average quantities and values of exports of basmati and non-basmati rice has increased in the post WTO regime India has increased the rice exports in value terms by 25 per cent during the triennium ending 1999-2000 over 1996-97. The increase is mostly due to increase in exports of basmati rice (56 per cent in value terms), whereas the increase in case of non-basmati rice is very slow. In value terms, the increase is only 9 per cent. Last year (2000-01) data show that the basmati exports have touched a record level of 8.47 lakh tons with value of 2149 crores. In case of non-basmati rice, the year to year fluctuations are very high India exported 45.4 lakh tons of non-basmati rice during 1995-96, which is the maximum attained till 2000-01. Besides 1995-96, during 1996-97 and 1997-98 the exports were around 20 lakh tons followed by a good year i.e. 1998-99, when the export figures increased upto 43.7 lakh tons.

India is having the distinction of largest rice area in the world but occupies second position in production. It has comparative advantage in rice production over many countries of the world (World Rice Statistics, 1995). Analysis of global agricultural export data revealed that India's share has declined in the post WTO period (Chand, 2001). India is now facing the problem of carrying large buffer stocks and therefore, huge food subsidy. The buffer stock of rice was 20.7 million tons (Economic Survey, 2001), against the minimum norms of 8.4 million tons as on January, 2001. Therefore, there is a strong case of export of rice in the present scenario. This has been reflected by to decision by the Food Corporation of India to sell 3 million tons of rice to exporters (Rice India, July, 2001) during 2001-02 financial year.

In the prevailing scenario, the present paper tries to analyse the prospects of boosting the exports of rice under the WTO set up to various countries of the world draws strategies to follow in the future to increase exports of rice.

DATA AND METHODS

The data for the paper have been collected from various publication like Export statistics for Agro and Food Products, Agricultural Produce Export Development Authority of India (APEDA) and *Rice India,* All India Rice Exporters Association. Simple tabular analysis has been done to reach at the conclusions. Due to great year to year fluctuations in rice exports, the triennium average figures (both quantity and value) have been used in the paper unless otherwise mentioned specifically for a particular year. The value figures have been inflated by using WPI (base 1993-94) and all the values are converted to constant prices of 1999-2000

India exports non-basmati rice under 5 broad categories. They are rice parboiled, rice except parboiled (hereafter non-parboiled), broken rice, rice in the husk and husked (brown) rice, Among the 5 categories the first two (i.e. parboiled and non-parboiled) constitute 98 per cent of our exports. The next in order of importance comes broken rice. The export value of rice in the husk and husked (brown) rice is negligible. Hence, the last 3 categories i.e. broken rice, rice in the husk and husked (brown) rice are not discussed in this paper.

RESULTS AND DISCUSSION :

Composition of rice exports :

The total parboiled and non-parboiled rice exports have increased by 4 per cent and 7 per cent in quantity and value terms, respectively. However, there is a lot change in the composition of exports during the period. It is found that the parboiled rice has dominated the non-parboiled during the triennium ending 1999-2000 over the triennium ending period 1996-97. The increase in parboiled rice export was 66 per cent in quantity and 70 per cent in value terms. There is a significant decrease in the export of non parboiled rice. The decrease was 25 per cent in quantity and 22 per cent in value terms over the period. During 1998-99, which was the latest available peak export year, when India's non-basmati exports touched 4404 crores, the quantity exported of parboiled rice was 2 million tons and that of non-parboiled was 2.28 million tons, which was 41 per cent more and 26 per cent less than the previous peak attained during 1995-96, respectively. Bangladesh was a major player in non-basmati imports from India during the two peak years. During 1995-96 and 1998-99, Bangladesh alone imported 12.5 and 23.3 lakh tons of non-basmati rice valuing 948 and 2246 crores respectively due to sharp drop in rice production in that country. But, in the last two years, the non-basmati exports to Bangladesh has dropped sharply due to good crops in the last couple of seasons in that country. Hence, it is not a reliable importer of non-basmati rice and India has to look for other reliable markets for sustained exports.

Looking to the figures of basmati exports during the last decade, some encouraging signals are observed. From 5.27 lakh tons of basmati exports during pre WTO regime (1993-94), India has reached 8.47 lakh tons during the last year (2000-01). The export value of basmati has doubled in 2000-01 over 1993-94 in nominal terms.

From the point of view of export of rice (both basmati and non-basmati), Kandla is the main port of India. The latest available data for the period December 2000- November 20001 show that our major importers of basmati rice through Kandla port are Gulf and European countries, whereas the major importers of non-basmati are Gulf and African countries as it was in the past. Hence India should plan on a long term basis to capture the markets of these countries.

Consumer preferences in various countries :

Thapar *et al* (1998) have assessed the preference for particular rice types in various countries of the world. Historical, climatic, socio-cultural and price factors of a particular region of world play an important role in defining what consumers consider as good quality rices. Storage of paddy/rice (aging) is considered a desired trait in tropical Asia, while the same in undesirable in countries like Japan, Australia, Korea, parts of China and Italy, which consume soft and relatively stickly *Japonica* rice. Many West African countries and Bangladesh prefer parboiled rice, while glutinous rice is the staple food in parts of Thailand and Laos. In India, people consume both parboiled and non-parboiled rice. Therefore, the import demand of the countries for parboiled and non-parboiled rice are more, where the population of non-resident Indians and people of Indian origin are more. Such countries are Gulf countries and South Africa. Besides these, there is also demand for both rice types in East European countries including Russia.

GATT and Agriculture :

The General Agreement on Tariffs and Trade (GATT) is a binding contract between 105 governments, which together accounts for 90 per cent of world merchandise of trade. The final agreement on multilateral trade resulting from Uruguay round of GATT negotiations came into effect from 1st January, 1995 and the above agreement provides a set up rules for the conduct of trade in agricultural commodities and for the conduct of domestic agricultural policy to the extent that it impinges on international trade WTO is the agency set up by the member countries to look into all the affairs of the agreement signed in international trade from January, 1995.

Commitments for agricultural reforms were made in three broad areas: market access, export subsidies and domestic support. The mechanisms for encouraging trade flows are through minimum access commitments and reduction in tariffs, subsidised exports and domestic price supports. The developing countries were treated in a different way in terms of lower levels of commitments and longer periods for compliance. The reduction commitments of the developed countries should be completed by the year 2000, whereas the deadline for developing countries is fixed as the year 2004.

GATT and Rice :

Pingali (1995) has discussed the impact of GATT on rice trade in the world and raised several apprehensions and discussed the priorities. The impact of GATT under different commitments is discussed below under different heads with special reference to export of rice from India.

Market Access :

Due to the importance of rice importing countries in the final stage of GATT negotiations, a special clause for rice was adopted. The special treatment for rice is applicable to developing countries where rice is a predominant staple and to developed countries that import less than 3 per cent of their consumption. Japan, South Korea and the Philippines availed the 'rice clause' and Indonesia negotiated a separate agreement on rice imports. The above countries are exempted from tariff reductions in exchange for minimum access quotas. For developed countries, the quotas amount to 4 per cent rising to 8 per cent of domestic consumption over a six-year period with 1986-1988 as the base consumption level. In the case of developing countries, the corresponding quota is 1-2 per cent in the first five years, rising to 2-4 per cent in the next five years.

India has benefited a great deal due to this agreement. During 1994-95, India has traded rice with 68 countries, with increased to 117 during the year 1999-2000. It has also increased the volume of rice trade to various countries especially parboiled rice. The volume of parboiled rice to African countries has increased substantially.

Since Philippines and Indonesia are currently importing amounts equal to or greater than the negotiated levels, their settlement does not lead to additional import requirements. However, the Japanese and South Korean agreements will put upward pressure in prices in the rice market. The Japanese and Korean imports are primarily *Japanica* rice. This type of rice in the world trade is around 12 per cent and the main suppliers are United States, Australia, China and Taiwan. The expanding Japanese market at the moment is not accessible to India, as cultivation of *Japonicas* in the country is confined to a few scattered regions in the foot hills of Himalayas and the North-Eastern hilly areas due to requirement of typical climatic conditions. The type of rice grows in those regions is semi-sticky and glutinous rices, which will not be acceptable by East Asian consumers, as they are highly quality conscious. The Japanese consumers will reject any rice, which is inferior to varieties like Koshihikari, Sasanishiki and Nipponbare, which are major varieties by area planted in Japan. Therefore, India has to go a long way in research and development of *Japanica* rice and have to plan in long terms to have a market access to Japan and Korea.

Export subsidies :

All the member countries of GATT have agreed to bind all tariffs, to convert all existing non-tariff barriers into bound tariffs and not to introduce new non-tariff measures. For developed countries, bound tariffs have to be reduced by 36 per cent over the period 1995-2000. In case of developing countries, reduction commitments are only two-thirds of those for developed countries and implementation period is 10 years starting with 1995. Exporting countries have also accepted to reduce their quantity of subsidised exports by 21 per cent during the first six years.

Presently, subsidies for rice export are provided by United States and European Union. However, subsidised exports form a very small portion of total exports of the countries concerned. India gained very little from the reduction in export subsidies as the volume of trade of non-basmati rice with them is very less and rice is not a commodity of mass consumption in those countries. So, the prospects of increasing exports of non-basmati rice to those countries are very limited.

Domestic support :

Domestic support in the form of subsidies comes under GATTs purview to the extent that they have trade-distorting effects. The agricultural policies that come under GATT purview can be classified into two broad groups i.e. those with trade distorting effects and those with minimum distortion effects (otherwise called Green Box policies). The former set of policies, i.e. seed, fertilizer and other input subsidies, and price support mechanisms to encourage producers are to be quantified and are known as the aggregate measure of support (AMS). Developed countries will reduce their AMS by 20 per cent over the first six years and developing countries by 13 per cent over 10 years starting in 1995. Where the sum total of support provided is less than 10 per cent of the total value of production, reductions are not required. Green Box policies are those that encourage investments in agriculture and subsidies production inputs critical to the development of agriculture are exempted from reductions. Green box policies include investments in research, pest and disease control, training, extension and advisory services, inspection services, marketing and promotion of infrastructure services.

This is the area, where Government of India has to do a lot to boost our rice exports. At present, India is not able to export substantial quantities of non-basmati rice for the last 2 years mainly for two reasons. First, the domestic prices are below international prices. Second, the domestic prices are high due to hike in support price of rice by 65 per cent during the period 1993-94 to 2000-01. As a result, the buffer stock has mounted and hence food subsidy for rice also has gone up. Due to cheap availability of rice in the open market, the off-take from public distribution system is low. Again, the developed countries have protected their agriculture through Green Box policies. Therefore, several countries have already represented to WTO to put all kinds of support agriculture under one category.

Sanitary and Phytosanitary measures :

During the GATT negotiations, participatory countries agreed to greater transparency in rules and screening procedures for sanitary and phytosanitary measures. The idea behind this agreement is to distinguish between genuine health and safety concerns and disguised protection. The participating countries continue to have the right to set their own health and safety standards, but these are to be based on sound scientific evidence and international standards are to be followed to the extent possible.

In this area, India has to fix standards in area like pesticide residues in the grains, grading different varieties of rice to fetch better price and to look into the sanitary aspects during handling and storage of grains at godowns, ports and ship. India also should plan to produce organically produced rice in a large scale, which is gaining more demand year after year in the world market.

Priorities

Under the circumstances, government should follow some short-term and long-term measures to boost non-basmati rice exports. These are : The procurement prices should be freezed at the current level for 2 years and increase the same after looking into the domestic production scenario, buffer stock position and international prices; Efforts should be intensified to export more non-basmati rice to more numbers of African countries and basmati to more European countries; India should follow up the issue of putting all kinds of support under one category with the WTO, so that we can have more business in the markets of developed countries; Increase infrastructure support to our traders at the ports in terms of handling and storage; Promote professionally managed trade and business enterprises to reduce marketing cost and free these institutions from the clutches of bureaucracy and politicians; Research efforts should be made to develop *Japonica* varieties for cultivation in foothills of Himalayas and North-Eastern states, so that in the long-term, East Asian markets can be penetrated, which will fetch more income to our farmers; Government should also make concerned efforts to divert more funds for rice research to break the yield barriers in irrigated ecosystem and to increase productivity in unfavourable rice growing environments, so that our non-basmati rice will become more competitive in the world market.

Conclusions and Outlook

India has increased the exports of rice both in quantity and value terms after the GATT agrement was signed, though the volume of increase is less. The composition of non-basmati exports has changed a great deal during post-GATT period. Before the GATT agreement, India used to export maximum quantities of non-parboiled rice, the position which parboiled rice has taken after the GATT agreement. Out of the four components of GATT agreement, India has benefited much from the Market Access agreement and expanded its rice exports to 117 countries, which was 68 before GATT agreement. To boost the rice exports, India has to take the following short-term and long-term

measures. These are : Fixing the support price of rice looking into the prevailing international prices, buffer stock position and domestic production scenario, Promoting infrastructure development for storage and handling at ports and godowns. As we have surplus stock, we should aggressively look for new markets around the globe for exports of both basmati and non-basmati rice with emphasis on quality rice like basmati and scented rices; More public and private funds should be diverted for rice research to break the yield barriers in irrigated ecosystem, development of technologies in *japonica* rice, organic rice and increase the yield of rice in unfavourable ecosystems.

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WTO AGREEMENT ON TRIP, TRANSGENIC CROP TECHNOLOGY AND ENVIRONMENT

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I

INTRODUCTION

The agreement on Trade Related Intellectual Property Rights (TRIPS) was an integral part of the WTO agreement concluded among 117 countries including India, in April, 1994 at Marrakesh. The uniqueness of the TRIPs as proposed by Arthur Dunkel was that the patenting of life-forms i.e. patenting of seeds and naturally occurring genes, was proposed for the first time in the history of mankind. Almost all countries have their own patent laws, in the developed countries patent laws are rigorous whereas in the developing and least developed countries they are liberally implemented. Till 1994 agreement, many less developed countries including India did not have patenting on life-forms Article 27(3) of the TRIPs agreement lays down that members shall provide for the protection of plant varieties either by patents or by an effective sui-generis system or by any combination thereof [Damodaran: 1999]. The 'sui-generis' system is the plant breeders' right protection, is non-patent based. Perhaps, the idea of 'sui-generis' system in WTO-TRIPs was borrowed from the final draft of the International Union for the Protection of New Varieties of plants (UPOV) convention amended in 1991. In order to give minimum support to the breeders of new varieties of plants, some developed countries had formed the UPOV convention in 1961, which was revised in 1978 and again, in 1991 [Sahai: 1994]. Before 1991 revision, the UPOV convention had granted the right of monopoly to the breeders of new plant varieties for producing and trading with two important exemptions namely farmers' exemption and breeders' exemption. Farmers' exemption allowed the farmers to collect seed from their harvests and to use it for the next crop. Breeders' exemption allowed the other plant breeders to use the protected seed for breeding purpose. In 1991 revision, these two exemptions were withdrawn. Now, whether a farmer or a breeder using the protected seed, has to pay royalties to the protected breeder. The amendments of the UPOV in 1991 increased the monopoly role of breeders' rights, but this was not lying under patent regime. The Dunkel Draft has extended the UPOV's breeders' rights to the patent regime. India has opted for the *sui generis* system permitted by Article 27.3(b) of the TRIPs [Das: 2001]. However, all member countries were to harmonize their domestic patent laws with the WTO-TRIPs regime.

II

EMERGENCE OF PATENTING OF LIFE-FORMS

The emergence of patenting of life-forms was felt at International level due to the following reasons: firstly, with the advent of DAN technology, a new group of plant breeder was emerged in the business of plant breeding. Biotechnologists developed modern molecular biological methods by which extraction of genes from one variety plant and introducing the same into another variety plant, was made possible. The plants/seeds developed by this method are known as transgenic plants [Sahai: 1994]. The breeders of transgenic plants required a big sum to be invested on the research and development of this technology that involved them in high risk bearing for which they urgently needed protection. Secondly, since the transgenic plant technology was unique and many developing countries were lacking such technological breakthrough due to poor condition of R&D in the field of biotechnology and again, it was attractive to the environmentalists as it consumed less quantity of agrochemicals like pesticides, the prospect of business of this technology was expected to be much brighter. For this reason, a large number of multinational companies were attracted towards this business. The group of transitional/ multinational corporations mainly originating from the US, dealing with the business of transgenic seeds technology, captured the global market and put great pressure on their governments to initiate protection issue at the WTO level [Nachane: 1995 and Thomas, et al: 1994]. Thirdly, in the field of biotechnology research, the developed nations like the US were far a head of the developing countries. In earlier times, particularly in the US, plant improvement research was to a large extent carried out in public organizations. With advent of modern biotechnology, the private sector significantly gained importance. At the global level, between 75 to 80 per cent of all R & D investment in agricultural biotechnology world [Qaim: 2001]. In the past, when the biotechnology research was within the control of public sector, profit making from technology transfer was not the prime objective, so that protection of this technology was not seriously felt by the public sector institutions. Later on, due to privatisation of R & D in biotechnology fields, the objective of technology transfer changed. The private multinational companies in these areas wanted to secure the prospect of high-profit making from the technology business through a legal protection. Fourthly, since the transgenic technology is very risky from the angles of bio-safety and food-safety, proper regulation and responsible management are pre-requirements for its development and release. In order to ensuring these matters through a legal mechanism, patenting of this technology was necessitated.

WTO agreement on patenting of life-forms, especially transgenic plants/ seeds has become a contentious issue for the developing and least developed countries as it has many negative implications from the aspects of agricultural development and environmental safety, like all other technologies, the transgenic seeds technology has both positive and negative aspects. But, there

is possibility that in developing economies, its positive qualities can be suppressed whereas negative qualities magnified, if the WTO patent norms are fully applied to it. As said before that India has opted for the sui-generis system which does not come under patent regime. Now, the questions that need to be answered are that firstly, while India has agreed for free-trade in agricultural goods as well as technology transfer, is it possible on its part to put non-tariff barriers on inflows of patented transgenic seeds from abroad ? Secondly, if not possible, can the 'sui-generis system' be operative and effective for the interest of poor farmers ? All these matters are discussed in this section.

III

POSITIVE ASPECT OF TRANSGENIC CROPS

Scientists argue in favour of biotechnological breakthrough in the field of agriculture. Biofertilizers and biopesticides are considered to be close substitutes of agrochemicals, but its extra advantages are that these are pollution free. Transgenic crops (TCs) developed through gene-manipulation, which is classified under the area of biotechnology, have many advantages over the conventional HYVs. The transgenic plants are tolerant to herbicides, pests and insects. A gene from the soil bacterium Bacillus thuringenisis (Bt) is inserted to transgenic seed, which develops self-resistance to certain insects. Therefore, it requires least amount of chemical pesticides in crops, and from that angle, it reduces the adversity of chemical pesticides. Besides, TCs are also resistant to drought, soil toxicity and salt, in many instances [Qaim: 2001]. These crops have proven high yield potential than the conventional HYVs. For instance, Bt cotton reported an increase in yield about 35 per cent higher than that of conventional cotton in Indian soil [The Indian Express: 2001]. TCs enhance nutrient contents with direct positive health effects on consumers. The 'Golden Rice', for example, has significantly higher amount of beta-carotene (which the human body can convert to Vitamin-A) and iron than conventional rice varieties [Qaim: 2001]. However, TCs are better than the conventional HYVs from the aspect of environment and high yield performance.

IV

NEGATIVE ASPECT OF TRANSGENIC CROPS

At the same race, scientists also warn that the transgenic technology may prove to be more dangerous and hazardous than agrochemicals to environment and mankind, if this is not carefully handled and regulated. One potential risk of transgenic crops is the possible loss of biodiversity. The developing countries are highly rich in biodiversity as compared to developed North American European countries. The likelihood of transgenes escaping into the wild through cross-pollination is generally higher in developing than developed countries [Qaim: 2001]. Again, some superior transgenic crop varieties, in due course of time, can drive out the traditional varieties and local landraces

if the producers and consumers are completely biased towards the TCs. A particular risk of Bt crops is expected by scientists is that these crops may have detrimental effects on beneficial insects and on other non-target organisms. Bt crops produce a protein, which is highly toxic to pests, and naturally, help the plants to kill pests [The Indian Express: 2001]. There is possibility that, as was happened with chemical pesticides, the pest population can develop resistance to the toxin produced by the Bt gene. Consequently, it may not only entail Bt crop failure but the resistant pests may be more dangerous to non-Bt crops. Another adversity on the ecosystem expected in the transgenic crops is that it may narrow down the genetic base of agro-biodiversity region. The narrowing of the genetic base increases vulnerability of the crop to single-gene-based pathogens so that genetic uniformity increases the dangers of famines [Nachane: 1995].

Besides the above adversities on the ecosystem and environment. TCs, particularly Bt, may have diversity on human health. Since Bt produces a highly toxic protein for killing pests, it may be hazardous to human, animals and birds consuming it. There may be unknown allergic reactions in human body as new proteins from TCs entering the food chain [Qaim : 2001]. Another issue is that the frequent use of antibiotic resistant genes as molecular markers in the development of transgenic crop varieties may reduce the effectiveness of antibiotic medicines in human body. Antibiotic resistance could potentially be transmitted to microorganisms in the human body, thus reducing the effectiveness of medical treatment [Qaim: 2001].

V

PATENTED TCS AND DEVELOPING ECONOMIES

Economists often apprehend that the WTO's existing patent norms on transgenic crops technology may pose the developing countries' agriculture and environment to adversities [Nachane: 1995, Thomas, et al: 1994, Damodaran: 2001, Vandana and Crompton: 1998, Sahai: 2001, Gopalan: 2001, and so on]. After the emergence of private sector in the field of transgenic technological research and development especially in advanced nations, the transnational private corporations originally from these nations have captured the entire area of transgenic technology through patenting. As told earlier, in their nations where the biotechnology research is largely carried on in the private sectors, the germplasm resources (which are necessary for developing transgenic varieties) are very poor. North is truly gene poor areas whereas a large percentage of the germplasm resources of the world is found in developing countries [Murray:1981]. Granting monopoly rights through 'patent' to the private transnational corporations (TNCs) on the transgenic crops and on other living organisms will not only provide legal rights to over exploit the germplasm resources of the developing countries, but the entire farmers community in these countries will also be exploited by the TNCs in several ways. We refer below some selected modes of exploitation of farmers and environment.

Firstly, if the harmonization of IPR regime is enforced, the seed products in developing countries, who are still to a large extent farmers, would be required to compete with the TNCs under the WTO's stringent IPR regime. There is clear indication that in due course of time, these seed breeders-cum-farmers will be outweighted and ruined [Sahai: 1994]: Secondly, there are ample instances of usage of 'terminator' genes in transgenic seeds by the TNCs. The 'terminator' genes prohibit the plants generating productive potential seeds. That means the seeds preserved from one crop cannot be used for the next crop. Monsanto, the US based seeds corporation has introduced 'terminator' genes into its transgenic seeds. So that the farmers would have to buy seeds for every harvest. The farmers in the developing countries will be perennially remain dependent on the TNCs for their seed requirements [Thomas: 1994] and this will impose extra economic coercion on them. The groups of petty, marginal and small land-operators would be great suffers. Thirdly, there are also evidences to show that many TNCs previously producing agrochemicals have converted into seed breeders-cum-traders. Some seed breeders-TNCs have very strong nexus with the agrochemical manufacturers [Sahai: 1994]. There is apprehension that under such situation, the seed breeders can develop some varieties by genetic manipulation in such a manner that these can be more resistant to pests/diseases and productive, if breeders' prescribed brands of agrochemicals are applied along with it. For all other brands of agrochemicals, these varieties may not be effective. In this way, seeds business and agrochemical business both can expand simultaneously. Under this condition, the farmers using the above seeds are compelled to purchase and use the breeders' agrochemicals. This will certainly entail extra-economic burden on them. The transgenic technology, if not wisely applied, can be a black hole, down which valuable resources of money and intellectual manpower of a developing country can disappear without any positive benefit accruing to farmers [Omvedt: 1993]. Fourthly, the farmers growing traditional or conventional HYVs crops adjacent to the land of transgenic-crop-growers may be affected due to externalities of TCs. The pests and insects displaced from TCs may attack the conventional and traditional crops at massive scale. Again, the process of cross-pollination through natural agents may directly affect the survival of the traditional/conventional varieties.

Many environmentalists mainly from less developed countries have very strongly abused the WTO patent regime on life forms. The entire exercise of patenting on life forms, as they viewed, is aimed at shifting the process of knowledge-generation from farming communities to private companies, mainly to transnational corporations. Under the WTO-IPR regime, there is an unequal and free flow of biodiversity from developing countries' informal sectors to the developed countries' organized and privatized corporate sectors [Vandana, 1992 and Thomas, et al: 1994] WTO's TRIPs on life forms will have serious implications for national and community rights to biodiversity, despite the Biodiversity Convention concluded at the Rio Earth Summit in 1992.

VI

INDIA'S POSITION

India is to provide protection of plant varieties (which include seeds varieties and species) through a separate law known as 'protection of plant varieties and farmers' rights of 1999, since it has already opted for the 'sui generis' system as permitted by Article 27.3 (b) of TRIPs [Das: 2001]. 'Sui generis' means a system of one's won kind. India has shown its inclination for modeling plant varieties protection enactment (under 'sui-generis' provision) on the UPOV lines, a less stringent version of UPOV 1978, whereby plant breeder rights are to be conferred only over 'reproductive' 'vegetative propagating' materials of the protected variety. There are two schools of thought in the respect of sui-generis legislation in India. One school favour the adoption of a UPOV model of plant varieties protection, while the other school advocates a non-UPOV framework for protection of breeders' rights [Sahai: 1996] mainly based on the themes of the Biodiversity Convention concluded at the Rio Earth Summit in 1992. The second school are in favour of upholding rights of local communities conserving the germplasm which are generally formed the foundations of protected plant varieties [Vandana and Crompton: 1998].

Officially, transgenic crops are not yet grown commercially in India. A number of transgenic field trials have already been conducted since 1994. The government of India has made arrangements for a two-tier clearance system for introducing transgenic crops. Firstly, all field trials of TCs must be approved by the Review Committee on Genetic Manipulation (RCGM) in the Ministry of Science and Technology. Secondly, for large-scale field trials, hence after, for commercialization, it needs the permit of the Genetic Engineering Approval Committee (GEAC) in the Ministry of Environment and Forests [Qaim: 2001]. Until 2001, only small scale experiments with different Bt cotton and other crops have been conducted with the approval of the RCGM. Recently, Bt cotton incident occurred in Gujrat, where about 5,000 acres land were grown with Bt cotton, supplied by Navbharat Seeds Company, without clearance from the GEAC. The Central Govt. on Nov. I, 2001 instructed at Gujrat Govt., after a meeting with the GEAC, to procure the entire Bt cotton crop and then set it on fire. Since this Bt cotton seed sold by Novbharat Company was posing a danger to the environment [The Indian Express: 2001].

In India, two contrasting approaches are followed, i.e. on the one hand, the Govt. is proceeding to have plant varieties protection act on the line, less stringent version of UPOV 1978, under '*sui-generis*' system and on the other side, it is preparing for allowing Bt crops that already been patented by TNCs. Under such an arrangement, it is not much clear that how would the former be effective, if the latter clashes with the former. There is chance that TNCs patented varieties freely inflowing to the country may outweigh the domestic protected varieties and in due course of time, they may completely swallow up the latter varieties.

No doubt, developing countries like India would urgently need a technological switchover to biotechnology areas in agriculture since the conventional chemical technology has been proved highly detrimental to the environment and human safety and again, in many instances this technology is at the stage of saturation (marginal cost to farmers increases). Keeping in view the ever-increasing trend in demand for food and other agricultural goods due to exponential growth of population as well as implication of rapid deterioration of environmental condition in India, the biotechnological break-though in agriculture could partly serve the purpose of sustainable development. Since the biotechnology such as TCs are very much prone to environmental pollution and health hazards besides implications of negative economic externalities for the poor farmers communities, prior to its release to land, it must be thoroughly examined and regulated. Again, in order to minimize the monopoly influence of the transitional corporations in agricultural technology transfer, the Govt. of India may proceed for imposing non-tariff barriers (on environmental ground) as many developed countries adopting the same of Indian exports to them.

For India, there are many other alternative measures by which agricultural production can be enhanced in a sustainable manner, without going for transgenic crops or for agrochemical technology. A combined measures such as traditional varieties-cum-biofertilizers and pesticides-cum-assured canal irrigation could be an alternative option. It is very well known that Indian indigenous traditional plant varieties have relatively more resistance to pests and diseases than the conventional HYVs. For this reason, the HYVs require proportionately much higher quantity of chemical fertilizers and pesticides compared to the traditional varieties. Again, the traditional biofertilizers and biopesticides are not unknown to the Indian farmers. Our suggestion is that if the traditional plant varieties are restored and experimented with the packages of new biofertilizers and biopesticides domestically developed, along with perennial canal irrigation, perhaps they will give better yield performance so much as the HYVs provide. India has greater potential for enhancing production at least for food self-sufficiency all time, if non-technological aspects such as structural adjustments and removal of institutional constraints in agriculture are considered on priority basis. The structural adjustment would include the land reform measures such as land ceiling, consolidation of landholding, legalization of tenancy operation, land to best tilling practice, etc. In India, more than 60 per cent of arable land are totally unirrigated. Providing a strong irrigation base (preferably canal irrigation) along with the above measures to the farmers particularly in the agriculturally backward regions, could develop agriculture in a sustainable manner [see Chandha: 1995 and Mohapatra; 1996] and without any environmental degradation. India could maintain food-security all the time to come.

VII

CONCLUSION

India should however respect the global environmental policy decisions. The environment is an important human resource for its survival. But, if the agrochemical technology is immediately withdrawn from agriculture on environmental ground, without an appropriate substitute, the country would be plunged into food-scarcity and economic instability. For a technological transformation in agriculture, favouring environment and human health, the nation should opt for biotechnology. But, the transgenic crop technology in this area of science may pose the agriculture to environmental degradation and loss of biodiversity, besides many other related negative effects. Moreover, the private companies should be restricted to enter this area of science. Particularly, in India, an effort should be made by which every technological intention must be related to human and environmental values. Since India plans to follow 'sui generis' system as per provision of the WTO IPR regime, the other system i.e. TNCs-patented transgenic crops should be strictly prohibited, in order to avoid its interruption in the domestic system. Notwithstanding the fact that India has great potential in enhancing the productivity of land and thereby, total agricultural production to maintain self-sufficiency, at least, in food, if it can ensure the farmers with a strong irrigation base, along with arrangements of environment friendly technology and a favourable structural and institutional reform in agriculture.

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WTO & INDIAN AGRICULTURE

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There is no such country in the Universe which is self-sufficient in everything. Even the most economically developed countries in the world depend upon other countries to meet their requirements of some of the goods and services. Thus the mutual dependence of different countries leads to international trade among themselves.

The principle of international trade has undergone a rapid changed. In classical theory of international trade, the pioneer of classical era advocated the absolute cost advantages for the gain of international trade. And according to Ricardo the international trade would be beneficial only due to comparative cost advantages of production of goods & commodities and not absolute advantages. All countries engaged in international trade get benefits.

After independence in order to ensure open, orderly fair and transparent international trade. India entered into international association i.e. General Agreement of Tariff & Trade (GATT) in 1947. As a part of world wide phenomenon of globalisation and liberalization, particularly after 1991, the basic framework of socio-economic development is undergoing a rapid change and is fast moving towards establishment of a competitive market economy among countries. The Uruguay Round of Trade Negotiation culminating into formation of World Trade Organization (WTO) replaced the GATT which was in existence from 1948 to 1994, with effect from 1st January 1995. The WTO aims at a fair, equitable, rule based and transparent multilateral trading system; progressive liberalization and elimination of tariff and non-tariff barrier and elimination of discriminatory treatment in trade relations.

Obviously, globalization of trade is the corner stone of the WTO. The WTO strategic framework implies that national economic policies are generally framed in conformity with international framework. In the strategic framework of the WTO the member countries have to expand market access through reduction and binding of tariff rate; and elimination of quantitative restrictions (QRs) and non-tariff measures. Further it seeks to promote non-discriminatory trade practices among members through Most Favored Nations (MFNs) treatment. Such rules and disciplines are applicable only to family member of the WTO.

The agreement stipulates that member countries will not restrict imports from trade partner countries through non-tariffs measures. Imports have to be

controlled only though tariffs or custom duties and not through Quantitative Restrictions. Under the WTO Agreement all member countries have to abide by the above rules. There are, however, some exceptions to this rule. One of the exceptions is that a country can take recourse to QRs on the grounds of Balance of payment difficulties. Under this provision India, Pakistan, Bangladesh, Srilanka, Nigeria and Tunisia were maintaining some QRs.

The Agreement provides a framework of 'a long term reform' of agricultural trade and domestic policies over the years to come. It makes a decision orientation in agricultural trade. The rules governing agricultural trade are strengthened which will lead to improve predictability and stability for importing and exporting countries as well.

AGREEMENT ON AGRICULTURE (AoA) :

The Agreement on Agriculture forms a part of Final Act of the Uruguay Round of Multilateral Trade Negotiation. The AoA was signed by the member countries in April 1994 at Marrakesh, Morocco and came into force on 1st January 1995. The AoA seeks to liberalise would trade in agriculture and free it from governmental measures that distort trade and lead to inefficiency. The agreement further aims at providing substantial progressive reduction in agricultural support and protection sustained over an agreed period of time, resulting in correcting and preventing restriction and distortion in world agricultural market.

The AoA incorporated three main areas of commitments.

Market Access # Domestic Support # Export Subsidies

Market Access:

As per Agreement on Agriculture non-tariff barriers such as QRs (Quotas, Import Restrictions through permits, import licensing etc.) are to be replaced by tariffs to provide the same level of protection and then progressive reduction of tariff levels is to be made.

India is bound at the high level of 100%, 150% and 300% for primary products, processed production and edible oil respectively. Giving comparability of Indian prices with worlds prices, it will be difficult to sustain the view that unit rates of tariff are not such as could provide enough safeguards for local producers from imports. The import duties on items like oil and pulses should be increased substantially to protect imports.

The tariff bindings in certain agricultural commodities like Rice, Skimmed milk powder, Soybean, Grapes, Maize etc. were bound at zero or low tariff level during previous round of negotiation which reflects the then gap between prevailing production and consumption. Since India is not now deficient in these items, the rational for such low level of bindings no longer exists. The AoA has a clause on special safeguards which allows for additional import prices or sharply increased import volumes. As long as most of the developed countries do not have access to special safeguard issue the utilization application of the same will have to the taken up.

Domestic Supports :

The AoA on domestic support measures has two main objectives: (a) to identify acceptable measures of support to formers and (b) to discipline trade distorting support to the farmers. In the area of domestic support provision India provides minimum support price to selected agricultural commodities.

The AoA regarding domestic supports is primarily aimed at containing the high level of domestic agricultural support in developed countries. This objective is to be achieved by quantification of domestic support, i.e. the Aggregate Measure of Support and then progressive reduction of AMS. AMS is also called Amber Box. Amber Box consists of two parts:- product specific subsidies and non-product specific subsidies Product specific subsidies the difference between administered prices and external references prices times the quantity of production which gets such support. The scale of the support price is less than external reference prices determined in the agreement. Therefore products specific support is negative. In non-product specific subsidies, subsidies are given on inputs such as fertilizers, electricity, irrigation etc. to resource poor or low income produces.

There are categories of support measures which are not subject to reduction and are exempted from support measures under agreement.

Green Box Measures : There have been minimum impact on trade which includes assistance on general services like research, pest and disease control, extension works, advisory services, public stock holding for food security purpose, domestic food aid, payments under environmental programmers etc.

Blue Box Measures : These represent direct cash payments under production limiting programmers. These are prevailing mainly in developed countries.

Special and Different Treatment for Developing Countries : Investment subsidies which are generally available to agriculture in developing countries and agricultural input services generally available to low income and resource poor producers in developing countries.

Here green box measures which are perceived to casual minimal distortive effect on trade are non-actionable. Like wise, even blue box measures comprising of direct payment under production limiting programmes are usually not subject to reduction commitment under WTO framework. In contrast, amber box measures (e.g. government buying at a guaranteed price, market price support etc.) are seen to be trade distorting and therefore, subject to deduction commitment.

Domestic support given to the agricultural sector up to 10% of the total value of agricultural produce in developing countries and 5% in developed countries is allowed. AMS within this limit is not subject to any reduction commitment. In India the domestic support provided to commodities is less than the fixed external reference prices determined by the agreement. The product specific support is therefore, negative. The non-specific support is

well below the permissible level of 10% value of agricultural output. Therefore, India is under no obligation to reduce the domestic support currently extended to the agricultural sector.

Export Subsidies :

The export subsidies are subject to reduction commitment as on AoA. Export subsidies of all kinds listed in the Agreement which attract production commitments are non-existent in India. It is also worth noting that developing countries agree to proved certain subsidies, such as, reduction of export marketing cost, internal and external transport and freight charges. India is making use of these subsidies in certain schemes of Agricultural & Processed Food Products and Export Development especially for facilitating export of horticulture product.

CHALLENGES BEFORE INDIAN AGRICULTURE :

WTO offers both challenges and opportunities for the Indian Agriculture. Obviously, challenges are a more serious and striking give the lack of competitive strength of market oriented reform.

WTO has been formed with the objective of globalization, liberalization and opening up the domestic economy. The Agreement appears to be based on hypothesis that liberalization is the panacea of all evil in the agriculture sector. This is a misplaced presumption. The interest in agriculture sector goes well beyond the trade concerns. In India nearly 66% of the workers are not only dependent on agriculture for then livelihood but most of them are also surviving just around the poverty line. In such a situation a purely market oriented approach may not appropriate. We have to take into account the maintenance of livelihood of agrarian peasantry and at the same time ensure that sufficient needs of the population.

Marketing access in developed countries from developing countries like India is hampered by persistent protection reflected by high tariff & other barriers in developed countries. In addition sanitary photo, sanitary issues and anti-dumping measures continue to be major barriers in developing divesification of export in horticulture and animal husbandry products in India.

Agriculture exports constitute and important segment of India's exports. Therefore, promoting greater market access for agricultural product from India to developed countries is an important issue which is to be taken up in next WTO negotiation. An important aspect in this regard could be linkage of imports of agricultural commodities from developed countries to the level of exports of agricultural commodities from developing countries like India.

There are however some positive aspects of liberalised trade policy from where India would likely to be benefited.

- The consumer gets benefited as they get wider choice of goods at a lower cost.
- Free trade among the member countries of WTO helps in bringing down prices and helps in keeping in level of inflation low, which is to the advantages to the consumers.
- The government of India also gets benefits, as it is able to generate higher custom duties on import.
- Trade will lead to easier access to imported raw material and capital goods for manufactures leading to faster industrial growth.

Suggestions :

- Genetically engineered or modified seeds should be labeled to discourage their imports from other countries.
- Anti-dumping mechanisms should be strengthened to curb the menance of dumping.
- Tariff rates should be judiciously structured and applied through Ministry of Commerce, Agriculture, Consumer Affairs and Farmers Representatives.
- The tariff rates should not change frequently and it is wise to twice a year, i.e. well before Rabi and Kharif seasons.
- Tariff rates for import of oil seeds wherever possible should be kept at 100% to discourage imports.

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GLOBALIZATION AND INDIAN AGRICULTURE

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INTRODUCTION :

The term globalization has become a magic term in recent years. It has attracted the attention of people both at home and abroad for over a decade. Globalization is termed as 'market populism' or 'neo liberalism'. It means 'privatisation', 'deregulation' and 'liberalization' of the national economies in order to promote the allocation of resource by the 'market'.

Globalization is a process and not an end. It is a process by which events, decisions and activities in one part of the globe have significant consequences for other parts of the globe. It represents a closer integration with the world economy. It advocates for a 'global village', 'global neighborhood' and a world without boundaries.

Accordingly to Prof. A.K. Sen, "Globalization is a movement of ideas, people, technology and goods from one region to others, benefiting the people at large". Globalization is an evident in the history of the world and India has been an integral part of the globe in the most interactive sense.

This process of globalization has continued a the micro, macro and international level and will intensify further. Globalization is a process where profit motive and price mechanism determine the allocation of scarce resources.

Globalization has far reaching economic, social, political, cultural, environmental and technological consequences. Global forces play a much greater role in the determination of the price structure, level of investment, quality of product, occupational structure and direction of economic activities. Take the case of Indian agriculture. Globalisation is likely to have a lot of adverse effect on agriculture due to its peculiar characteristics. The following are some of the major problems of Indian agriculture–

(a) The Green Revolution which was initiated in later part of the 1960s has benefited neither all regions nor all agriculturists.

(b) Public investment in agriculture has come down to a great extent due to enormous fiscal and revenue deficit.

(c) They are a large number of small holdings in India. The average size of the operational holding is around 1 hectare. Two thirds of the lands solely depend on monsoon rain. The Indian agriculture with all the constraints is not likely to compete with the farmers of the rest of the world.

(d) The cheap imports of the agricultural products may bring miseries to the farmers in backward regions of our country.

(e) In the process of competition and conversion of Indian agriculture into cash crops or export oriented crops may raise the question of food scarcity.

(f) Prices of farm products have lowered in the international market due to the introduction of scientific farming and bio-technology in particular which are made available to the farmers of the developed countries.

(g) Even today India is importing edible oil from other countries at high prices.

(h) Failure to take timely steps to improve the productivity and production, may lead to invasion of our markets by foreign goods and services.

(i) On the other hand, removal of the quantitative restrictions on thousands of products is bound to affect millions of small and marginal farmers and agricultural labourers.

Various studies which have analysed the impact of trade liberalization policy on prices, exports, marketable surpluses, subsidies etc. don't give encouraging result.

But here the question arises, can India opt out of multilateral trade system ? No, certainly we can not do so. The process of globalization is a reality which cannot be denied and also should not be avoided. We should take certain effective measures to improve the productivity of agriculture for which there is great scope. The following measures need to be taken.

(a) To meet the domestic demand food-grains and export abroad the productivity has to be raised. The per hectare product of serials is vary low hence if the productivity is increased by 50 per cent India can emerge as a larger exporter of food products.

(b) As productivity levels under irrigated conditions are significantly higher compared to unirrigated conditions, irrigation must continue receiving priority. Resources are to be mobilised as allocated for extending the irrigation network, their maintenance and water management.

(c) There are large regional variations in productivity within the country. Raising agricultural productivity in more advanced areas would involve more cost in comparison to underdeveloped regions, emphasis is to be given on areas specific programmes and the potentials of underdeveloped regions should be properly utilised.

(d) Due to declining public investment in agriculture not only the physical infrastructure is becoming low but also the technological impact is not taking place. All these stand in the way of growth of productivity and efficiency.

(e) Domestic liberalization is important in improving productivity and efficiency. All the formal and informal restrictions on the movement of farm products must be reduced to encourage greater private participation in marketing, processing and distribution.

(f) There is a growing demand abroad for Basumati, Wheat (drum type), Cotton, Spices and Vegetables. But in spite of these opportunities a smooth trend of export growth of agricultural allied products is still not visible.

CONCLUSION :

Notwithstanding the dismal performance of the Indian economy in the post liberalization period India has to continue with the pace of globalization. At present no country can afford to remain in isolation. The cost of severing relationship is huge and unbearable. Globalisation cannot wait for any country. The process of globalization is neither reversible nor can be stopped. Hence, every country has to learn and qualify itself for global partnership. India has to continue with the pace of globalization with more than 100 crore population. In fact, it is not an easy task. Due to globalization large sections of Indian society are feeling insecure. Again due to political compulsions India cannot follow China. Hence, the government has a crucial role to play.

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WORLD AGRICULTURE SCENARIO UNDER WTO AND REFORMS IN INDIA TO FACE CHALLENGES

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The establishment of World Trade Organisation is an important landmark in the history of international trade. It has given birth to multilateral trade in the principle of non-discrimination. With this the systematic liberalisation world trade has begun. The basic objective of establishing the multilateral trade regime is to maximise the welfare of the world community by increasing the living standard and income, achieving full employment, expansion of production and trade and ensure optional use of world resources. The WTO agreement on agriculture is stipulated to bring agriculture effectively for the first time under the discipline of a multilateral trading system. However there has been existence of distortions in this sector through domestic subsidy and procurement policies thus creating barriers on import. On the other hand, export subsidy results in excess supply having a suppressing impact on price. So the objective of agreement in agriculture is to eliminate these barriers and facilitate to achieve free trade.

Rational behind WTO :

In the pre and post world war period, the international economic relation including trade had created a climate of uncertainty with trade wars by many trading partners imposing various restrictions. The great depression in 1930's and its aftermath induced the world community to think some sort of harmonious trade relation globally. As a result of which, the multilateral trade negotiations were started since 1948. Under the aegis of GATT, there were eight trade rounds conducted from 1948 to 1994. The eighth round known as Uruguay Round continued for eighth years and had been the most comprehensive and the most contentious one. It covered the whole gamut of trade in commodities and services. Besides, all outstanding policy issues like Trade in Services, intellectual property, reforming in trade in textiles and agriculture etc. were encompassed. The difference among the nations on various issues has so acute that the round failed several times during these eight years. The then Director General of GATT Mr. Arthur Dunkel presented the first draft which became the basis for the final agreement. Finally on 15th April,

1994 the agreement was signed by the ministers of almost all the participating countries who were representing their Govt's. at Marrakesh, Morocco.

At the early stages of international trade, the agriculture sector had a bigger share particularly before the industrial revolution took place in the western industrialised nations. In the new liberalised trade regime of WTO, its impact on agriculture exports governed by multilateral trade rules has taken different turn. If we have a look on the development of agricultural trade over the years, the GATT accord of 1947 allowed differential treatment for trade in agricultural commodities as opposed to trade in industrial products. Countries were used to impose quantitative restrictions to get relief from critical food shortages, enforcement of domestic marketing and control programmes and providing subsidies to export surplus agricultural products. These exceptions virtually pushed agricultural trade outside GATT frame work and led to increased friction between USA and countries of EU. Multilateral Trade Negotiations (MTN) initiated in 1986 brought some corrections of this imbalance. In 1994, the MTN finally concluded and came into force with the establishment of WTO on 1st January, 1995. The WTO principles have considered certain important issues like the differential level of development of member countries and provided lower level of commitments in the implementation of the accord for the developing countries against developed ones with a view to integrating all the economies in a global trading environment in the long run. With strong rules and enforcement mechanisms, the issues which were brought within the discipline of GATT are domestic support to farm sector, export subsidies, removal of non tariff barriers, conduct of trade relations under a system of transparent tariffs and minimum market access for agricultural commodity and sanitary and phyto-sanitary measures. Before we analysis on Indian's prospects and measures taken to reap the benefits, let us ask some basic questions on agriculture vs. basic principles of trade and approach of developed and developing countries.

Does it Satisfy Ricardo's Comparative Cost Principle ?

If transactions between parties could be spontaneous because they are mutually beneficial to the parties concerned, then where is the need for a multilateral institutional framework like the WTO with mutually agreed and enforceable rules ? The simple answer is that countries differ not only in regard to the comparative advantage in producing various goods and services but also in respect of the level playing field. The principle of comparative advantage is built on the basis of the inter-country differences in costs and returns between different commodities, abstracting from taxes and subsidies influencing these costs and returns. In the chapter dealing with foreign trade in David Ricardo's *The Principles of Political Economy and Taxation* one does not find any mention of taxes or subsidies determining the relative costs of production or prices of commodities. In his examples, one finds only production factors like land, labour & capital constituting the cost of production. Now, if some countries because of their ability to subsidise

agriculture can sell their produce an artificially lower prices and thus undercut the market for the genuinely efficient or low cost produces, then the playing field is highly uneven as the principle of comparative advantage is not followed or is even thrown overboard. Similarly, with same countries taxing or discriminating against agriculture by heavily protecting their industry and through overvalued exchange rates, as most developing countries have been doing till recently, then their competitiveness is eroded vis-a-vis countries which do not tax agriculture. In this case too, the principle of comparative advantage is denied free play. Therefore, institutional arrangements such as the WTO are essential for ensuring level playing field so that considerations of comparative advantage can have a free and fair play.

Why do the developed countries support agriculture despite high productivity ?

A major issue of contention during the Uruguay Round of negotiations was the high domestic support being provided to agriculture in the developed countries, especially the European Union in the west and Japan in the east. Apart from restrictions on the imports of farm products through various tariff and non-tariff barriers, this support consisted of measures such as high support prices for farm produce and export subsidies, which are now shifted to direct measures for income support under the so-called Blue Box.

But why do the developed countries have a tendency to subsidise agriculture ? The question assumes significance as this pattern has been in evidence with almost unfailing regularly in the process of development. It was the US first in the 1960s, then come Japan and the European Union and, more recently, the Republic of Korea. The fears of Thomas Malthus a contemporary to David Ricardo– in regard to population growth outpacing the growth in food output were first proved wrong in Europe on account of technological changes and rise in agricultural productivity.

Role of Blue Box and Green Box

The situation can change overtime due to only the pressures from the members of the WTO. There is a marked shift away from support prices subsidies, which are considered highly trade distorting, towards direct payments in the form of deficiency payments and compensations related to acreage and livestock numbers, which are considered 'minimally trade distorting' and hence placed under the 'Blue' and 'Green' boxes which are exempt from reduction commitments. It would be a misnomer to call these payments as 'minimally trade distorting'. This is because such payments, in so far as they are not fully delinked or de-coupled from the use of inputs, do influence the allocation of resources, in the sense that in the absence of such payments, fewer resources would be committed to agriculture, leading to lower output, higher prices, and smaller export surpluses. Taking into consideration of the above facts a country like India needs to prepare itself for competing with low-cost farm products rather than expecting a significant rise in their prices via reform induces reduction in the export surpluses from the developed countries.

Disprotection of agriculture in developing countries :

While the advanced countries have been heavily protecting agriculture, leading to over production, rise in costs and distortion in world trade, several developing countries have been disprotecting agriculture by discriminating against it basically through the heavy protection of domestic industry and overvalued exchange rates. This is a consequence of the pursuit of an inward looking and import substituting development strategy which had an in-built bias against agriculture. The terms of trade were thus deliberately kept unfavourable to agriculture in keeping with the prevailing wisdom to 'extract' surpluses from this sector for promoting industrialisation. Such discrimination has led to less than optimal allocation of resources to agriculture as well as denial of avenues for its technological upgradation in a liberalised trading environment, resulting in its slower growth.

This has proceeded independently of the protectionist policies pursued for agriculture in the developed countries. Already, the unshacking of agriculture through market reforms in developing countries like China and Viet Nam has led to high agricultural growth and rise in their trade in agricultural commodities. Number of exercises on the post-Uruguay Round scenario have concluded that the expected rise in the prices of farm products on account of reduction commitments by the developed countries would be mitigated and even neutralised by these surges in output and trade due to market reforms and unilateral liberalisation in certain developing countries.

It is clear from the above that liberalisation of agriculture in developing economies has to proceed basically through macroeconomic reforms which do away with high protection accorded to industry and liberalised trade and the exchange rate regime. Viability of Indian agriculture in the new international trade regime. Scenario has, therefore, to be seen not in isolation in terms of the prospects fro each agricultural commodity under the provisions of the WTO, but in the wider context of the liberalisation of the Indian economy. They fortunes of Indian agriculture, which now accounts for around 30 per cent of GDP, depends crucially on its relationship with the rest of the economy which contributes as much as 70 per cent to GDP. As such, the impact of macroeconomic reforms on the terms of trade for agriculture, private investment, and its ability to access modern technology and inputs deserve attention, in addition to the consequences of these reforms for public investment in agriculture.

Measures taken by India to protect agriculture from world competition :

The product-specific support for Indian agriculture in the year 1995-96 the year for which latest official information from WTO is available- was negative to the extent of 38.5 per cent. However, because of the recent fall in the international prices of farm products and the steep rise in the minimum support or procurement prices for wheat and rice in the country, it is possible that the rate of disprotection would not be much lower. Since the non-product

specific support amounts to 7.5 per cent of the value of agricultural production, the aggregate measures of support (AMS) to Indian agriculture could still be well below the *deminimis* of 10 per cent in terms of the Uruguay Round stipulations. In its proposals on the negotiations on WTO, Agreements on Agriculture, India has suggested that the Aggregate Measure of Support (AMS), as the term suggests, be calculated as a sum of the product-specific and non product specific support. As is, input subsidies to resource poor farmers which come under non-product specific support are exempt from reduction commitments under the WTO provisions. For its further growth, Indian agriculture is in need of substantial public investments in irrigation, power, roads and agricultural research and extension, rather than subsidies on inputs.

Besides, India's stand on agriculture in the WTO has to be an integral part of the overall position it takes on trade liberalisation, through the process of bargaining, which necessarily involves some trade-offs.

As for the protection through tariffs, India has already negotiated tariff bindings at the level of 100% for raw commodities, 150% for processed agro-commodities and 300% for most edible oils. These may be considered sufficient to protect the relevant commodities against cheaper imports sustained by high domestic support in the countries of their origin.

The major challenge to the viability of agriculture of most developing countries, including India, is posed by the high domestic support, export subsidies and denial of market access through various tariff and non-tariff barriers in the developed countries. India has been fighting in league with other developing countries in the WTO for the removal of such barriers. In the recently concluded Doha Ministerial meeting of the WTO, the implementations issues including agriculture related issues came into force. The reason is that EU and Japan were totally opposed to further liberalisation of agriculture while USA and the Cairos group (18 countries having largest export interest in agriculture) were pressing for greater market access.

Negotiations were already under progress as per the 1st so of the AoA since the beginning of 2000. The Doha Declaration Sets the substantial importance in market access reduction of, with a view to phasing out, all forms of export subsidies and substantial reductions in trade distorting domestic support.

Some judicious Agricultural Reforms :

1. Though the WTO Agreement on Agriculture (AoA) came into force with effect from January 1, 1995, it was only in the preceding couple of years that the agreement got to be seriously debated in India. The virtual removal of the quantitative restrictions (QRs) on agricultural imports with effect from 2001-2002, several concerns have been raised by farmers groups in India, regarding their fate in the post-QR phase. To a large extent these reactions explain the hike in customs duties on a wide range of agriculture products in the union budget for 2001-2002. It is also noteworthy that the Exim Policy of

2001-2002, despite removal of QRs on practically all agricultural commodities, had sought to hedge this liberalisation with its own systems of "Checks & Balances". Meanwhile, India has also taken up certain important concerns, relating to food livelihood security in the current round of negotiations on the AoA. It is apparent that the Govt. of India has followed a two pronged strategy to address the trade liberalisation issues following from the AoA.

(a) In the first the plank of the strategy hinges on tough negotiation position on the AoA, with a view to seeking special dispensation for agricultural sector in developing countries.

(b) In the second the plank of the strategy has been to adopt national level measures to minimise the likely damages arising from import liberalisation on the country's agriculture sector.

2. In the developing countries, emphasis is given on 'income support' and 'income diversification' which offer strategic advantages to traditional agricultural systems. In Developing countries with agrarian economies, are characterised by 'eco systemic multifunctionality' and common natural resources, have the scope for providing income diversification opportunities to the weaker sections of the farming communities through development of common property resources.

3. The national and sub national level debates in India on the AoA since the year 2000 have raised fundamental concerns on the impact of the forces of globalisation of Indian agriculture. The virtual removal of QRs, the phenomenon of declining agricultural commodity prices in India since 1999-2000 and a spate of farmers 'suicides in Punjab, Rajasthan, Karnataka & Andhra Pradesh have contributed to widespread apprehensions on the AoA among farmer's groups. Since the year 2000, the AoA has become the object of State Govt. attention as well. In general, State Governments (notably Punjab, Karnataka & Andhra Pradesh) have been wary of the AoA disciplines on members countries, particularly 'market access'. This has led to two forms of response on the part of the Govt. of India. One, formulation of renewed negotiation positions on the AoA. Two, measures to address the immediate impact of QR removal on the Indian economy in general and the Indian agriculture sector in particular.

4. One notable emphasis in the Govt's. recent negotiation position on the AoA has been on the issue of food and livelihood security. By viewing food security as a socio-political and economic concern, closely linked to the agriculture sector of developing countries, India has been arguing for a special dispensation by the AoA towards the agrarian economies in developing countries. India has also proposed that in the ongoing negotiations on AoA, the issues of food security needs to be addressed upfront.

5. Simultaneously, at the national level, with a view to addressing the situation arising from the virtual removal of QRs on agricultural commodity imports, the Exim Policy of 2001-02 has set up a "War Room" to track import trends for nearly 300 sensitive items, including a wide range of agricultural commodities. The canalisation of 27 sensitive items (including sensitive agricultural commodities such as rice, wheat, copra & tejpat) through State Trading Enterprises (STEs) and the requirement of bio-security certification by the Ministry of Agriculture for imported primary products of plant and animal origin have been additional measures designed to address the immediate fall out of QR removal.

6. India's arguments about the complexity of the food and livelihood security problems affecting developing countries need to be advanced further to highlight the special significance and possible vulnerability of the agriculture sector in developing countries in the wake of the AoA and related WTO agreements. The concept of agro-eco-systemic multi-functionality, characteristic of the agrarian economies of developing countries, could form a major argument for extension of special dispensation of the agriculture sector of developing countries under the AoA.

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WTO AND THE INDIAN AGRICULTURAL ECONOMY

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INTRODUCTION

This paper surveys the literature and evidence on the impact of the provisions of the World Trade Organisation on agriculture in India. It is organised into five sections. Section I deals with the issues and the objectives of the survey. Section II outlines the provisions of WTO agricultural package on domestic support and export subsidies. Section III examines the working of WTO agricultural package on domestic support and export subsidies and their impact on agriculture in India. Section IV reveals the findings and the conclusion of the survey of this paper. Section V concludes with policy suggestions.

SECTION-I

Issues and the objectives of the survey :

World Trade Organization (WTO), a multilateral trade organization with multilateral commitments involving almost all the spheres of human existence including agriculture, industries, services, technology, the role of Govt. and intellectual property rights, was born on January 1, 1995. It is part of the Final Act embodying the results of the Uruguay Rounds of Multilateral Trade Negotiation in the international trading system. It is a multilateral institutional framework for the promotion of the international trade. The GATT-WTO agreement includes 19 agreements which are clubbed under four categories such GATT, GATTS, TRIPS and Dispute Settlement. The WTO Agreement on Agriculture (AoA), which was signed at Marrakesh in 1994 by 120 countries, came into force from January 1, 1995.

The share of agriculture in GDP in South Asia was 27 per cent in 1999 and its agricultural exports and imports constituted 7.1 per cent and 10.6 per cent respectively of the total merchandise trade in Asia compared to 10.6 per cent and 6.4 per cent of exports & imports respectively in North America.

Indian agriculture is a sector of major proportions supplying food for country's population and raw material for industry. 75 per cent of the country's population is in rural areas and hilly terrains. Near about 60-70 per cent of GDP from agriculture comes from subsistence agriculture. Although agriculture contributes 25 per cent of GDP, its share on world merchandise trade is insignificant. With a negligible 0.7 per cent share in world imports and 0.6 per cent in world exports, India will enjoy very little power in influencing W.T.O. rules and regulations. At the back drop of such insignificant share of India as well as of the developing countries in the world trade, the following issues crop up under WTO regime. First, whether the people of these developing countries stand to gain or lose from the international trade with reference to agriculture. The second issue is that during 7 years of WTO regime the developing countries have been disappointed to discover several asymmetries and inequalities inherent in the agreement which are not conducive to their trade interest.

Keeping these facts into consideration the first objective of the paper is to assess whether the WTO agricultural package on domestic support and export subsidies has created a level playing field in agricultural trade for developing countries such as India. The second objective is to examine whether WTO agreement has reduced trade distortions and increased agricultural exports from developing countries such as India.

SECTION-II

WTO agricultural package on Domestic Support and Export Subsidies :

The WTO Agreement on Agriculture (AoA) which was signed at Marrakesh in 1994 by 120 countries came into force with effect from January 1, 1995. The WTO agreement envisages two kinds of support for agriculture namely, domestic support and export subsidies. Domestic support is further classified into five categories namely, (a) Aggregate Measure of Support (ASM), which includes product specific and non-product specific support; (b) Green Box Support; (c) Blue Box Support; (d) De minimus support and (e) Special and Differential (S and D) Treatment Box. Of these the WTO agreement requires a reduction only in AMS and exports subsidies, whereas support under all other heads is exempted.

WTO Agreement and reduction in Agreegate Measures of Support :

Aggregate measure of support is the sum total of all kinds of non-

exempted support. "As most of the developing countries were familiar only with support in the form of input subsidies and price and marketing support, at the time of signing of the GATT Agreement, developing countries got the impression that reduction in AMS would imply reduction in overall support for agriculture. These countries were not quite familiar with the support provided by developed countries in different forms of direct payment to producers, infrastructural services, pest control, environment programmes, inspection market intelligence, which, as per the WTO agreement, is clubbed under the green box and is exempt from reduction commitments. With the implementation of the WTO agreement, several member countries realised the seriousness of Green Box Subsidies, level of export subsidy and AMS in developed countries agriculture. It is now said that developed countries shifted support from non-exempt categories to exempt category, which is providing their produce advantage over the produce of developing countries. When one considers several kinds of support extended to agriculture by developed countries, it looks more apt to call the Aggregate Measure of Support as a partial Measure of Support" (Chand and Phillip). Therefore, it seems that the developed countries have manipulated and taken the advantages of WTO Agricultural Agreement in favour of their own nations.

WTO Agreement and Reduction in Export Subsidy :

Most of the industrialised developed countries provide export subsidy to their agricultural products. "In some of these countries, domestic prices rule higher than international prices. In order to maintain this price level for agriculture in domestic economy and to encourage disposal of surplus in outside markets, these countries provide huge export subsidy".

SECTION-III

Impact of AoA on Indian Agriculture : Though the contribution of agriculture to national income in India is more than 30% and 50% of the national export is from agricultural sector, the domestic support to agriculture in India is very low. "The product-specific support for Indian agriculture in the year 1995-96 the year for which latest official information from WTO is available- was negative to the extent of 38.5 per cent (Gulati 2001). However, because of the recent fall in the international prices of farm products and the steep rise in the minimum support or procurement prices for wheat and rice in the country, it is possible that the rate of disprotection would now be much lower. Since the non-product specific support amounts to 7.5 per cent of the

value of agricultural protection, the aggregate measure of support (AMS) to Indian agriculture could still be well below the de-minimus 10 per cent in terms of the Uruguay Round stipulations. In its proposals on the negotiations on WTO; Agreements on Agriculture, India has suggested that the aggregate Measure of Support (AMS), as the term suggests, be calculated as a sum of the product-specific and non-product specific support (WTO -2001). If the product specific support is still negative in the case of India, then the aggregate measure of support would be below 7.5 per cent of the value of agricultural production. As it is, input subsidies to resource poor farmers which come under non-product specific support are exempt from reduction commitments under the WTO provisions. If India avails of this, the non-product specific support may come down to less than half of what is being shown today (Gulati 2001). In view of this, it may not be in India's interest to fight within the WTO for greater domestic support to agriculture, especially if it can blunt our opposition to slow reduction in farm support and inadequate access to markets in the advanced countries. For its further growth, Indian agriculture is in need of substantial public investments in irrigation, power, roads, and agricultural research and extension, rather than subsidies on inputs. Indeed, there is a consensus now among planners and policy-makers that the declining investment in agriculture is basically attributable to the mounting subsidies on irrigation, power and fertilisers (Government of India 2001).

Besides, India's stand on agriculture in the WTO has to be an integral part of the overall position it takes on trade liberalisation, through the process of bargaining, which necessarily involves some trade-off. For example, the consequences of the Uruguay Rounds agreements for the rural poor depend not merely on their possible impact on agricultural growth and employment but on wages and employment in the economy in general following complete Uruguay Round Trade Liberalisation including the phasing out of the Multi-fibre Agreement (MFA). It has been estimated that the additional welfare gains for the countries of the ESCAP region from complete liberalisation of trade, including the phasing out of the MFA, could be two and half times as high as the welfare gains arising from global agricultural liberalization only (ESCAP-1995).

The major challenge to the viability of agriculture of most developing countries, including India, is posed by the high domestic support, export subsidies and denial of market access through various tariff and non-tariff

barriers in the developed countries. India has been fighting in league with other developing countries in the WTO for the removal of such barriers. "In the process of bargaining in India's own interest, the protection to its industry which used to be among the highest in the world has been brought down to less than half of its earlier level. Indian agriculture is a major beneficiary from this reduced protection to industry" (Rao Hanumantha). Therefore, in the context of WTO agreement on agriculture India needs more domestic support in order to negate the domestic support tendency of the developed countries and in the face of stiff competition from foreign countries. For attaining a Level Playing Field in trade India should fight along with other developing countries against the manipulated efforts and vested interest of the developed countries.

SECTION-IV

Findings and Conclusions :

(i) One of the most important goals of the World Trade Organisation's Agreements on Agriculture has been removal of trade distortions activities resulting from different levels of input subsidies, price and market support, export subsidy and other kinds of trade distorting support across countries. The agreement allows for support within some limits, known as de-minimum level, but seeks to reduce domestic support exceeding the exempt level. This was seen as a very favourable factor for countries such as India, where support given to the agricultural sector was found negligible or negative. On the other hand OECD countries were found heavily subsidising their agriculture. Based on this, it was expected that the implementation of the Agreement on Agriculture (AoA) would result in reduction of domestic support in OECD countries, which would in turn raise international prices of agricultural commodities, and would improve export prospects for India and other countries. However, contrary to predictions, international agricultural prices in the post WTO period have declined sharply, and agricultural exports from developing countries such as India have declined.

(ii) Current levels of agriculture support in developed market economies are still high and continue to encourage domestic production, distort trade and depress world prices. It is estimated that prices received by these farmers were on an average 43 per cent above the world market prices. As such, the anticipated benefits of expansion of market access have not accrued to the developing countries. In fact, the share of developing countries in world

agricultural exports remained virtually unchanged; the percentage which had marginally, risen to 42 per cent and 43.5 per cent respectively during 1997 and 1998 slipped to 43 per cent in 1999. Growth of agricultural exports from developing Asian countries in the post Uruguay period, i.e., 1995-98 declined steeply to 0.5 per cent from 8.2 per cent in 1990-94. At the same time, Asia's merchandise import growth in 2000 was the strongest of all the regions (23.5 per cent) and exceed its export growth for the second year in a row in this period.

(iii) The average annual growth of GDP in agriculture and allied sectors slowed down in the post-reform period of nineties when compared to the preceding decade, while the growth of crop output especially foodgrains output decelerated.

(iv) The failure of public investment effort is responsible for the inability to benefit from trade liberalization by stepping up and diversifying agricultural output in a cost-effective way.

(v) On the trade front, there is need for external vigilance so to be able to take timely measures, within the existing tariff binding, to arrest heavy import of certain commodities.

(vi) The agricultural package of WTO on domestic support and export subsidies provides for complex classification of support and subsidies for agriculture, some of which are totally exempted from reduction commitments. This classification favours developed countries, particularly EEC, the US, Canada and Japan, which are able to maintain very high level of support for Agriculture in the exempt category. The Agreement provides enough room for maneuvering subsidies to provide protection for domestic produce. The level of non-exempt subsidies in developed countries remains high even after meeting reduction commitments. These subsidies empower developed countries to cause distortions in the international market and protect domestic production from competition against imports. Compared with developed countries, the level of support in developing countries such as India is so low that a level playing field in agriculture trade is a far cry.

(vii) The developed countries are very well equipped with technical and legal expertise, even though these capabilities are used for advancing their case towards perpetuation of domestic support to agriculture and restrictions of market access that are quite untenable. On the other hand the capabilities of developing countries including India are poor in this respect, despite of

their approach and line of action on matters relating to agricultural trade being justifiable on theoretical as well as practical grounds. Therefore, there is need to give a high priority to the development of these skills in the country.

SECTION-V

Suggestions for Policy Measures :

The Indian Govt. has to adopt the following measures :

(i) Govt. of India has to monitor and regulate the inflow of imports and movement of international prices of agricultural commodities and take appropriate action to protect the interest of the farmers.

(ii) Being a labour surplus economy there is need for proper management of human resources for creating technical and legal expertise in India. Upto date information on domestic and international prices and demand should be made available to farmers through local Panchayats.

(iii) Raising productivity by stepping up public investment by accelerating the evolution and adoption of cost-reducing technologies by removing restrictions on agricultural trade, marketing and processing within the country.

(iv) We should evolve national consensus on the series of upcoming issues in the coming years and take care not to get into a bind in regard to new issues. Since WTO has gone beyond its brief of disciplining trade and extended its purview to non-trade issues, like investment, services, labour standard, and environment, it is our prerogative to place our views on each issue in the interest of our economy in the coming round of WTO negotiations by sending technical and legal expertise for rigorous negotiation in league with other less developed countries. Combined efforts by developing countries should be made to modify most of the ambiguous and contentious Agreement and also nullify the games of interpretations of worlds in these Agreements by developed countries of the West.

With a negligible 0.7 per cent share in world imports and 0.6 per cent in exports, we enjoy very little power in influencing WTO rules and regulations. However, being a member of WTO, it gives India the Most Favoured Nation (MFN) status with all other WTO members automatically. If India leaves WTO, It will lose this status instantaneously. Hence, in the wake of globalization, the strategy should be to remain as a member of WTO and strengthen this

multilateral trade organization and coordinate Indian activities with the support of other less developed countries on a concerted basis. Because WTO is forum for future negotiation and a platform for bargaining on trade.

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Abstract

AGRICULTURAL SUBSIDIES UNDER WTO REGIME

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The major challenge to the viability of agriculture of most developing countries including India is posed by the high domestic support export subsidies and denial of market access through various tariff and non-tariff barriers in the developed countries. India has been fighting in league with other developing countries in the WTO for the removal of such barriers.

Developed countries can afford to give very high support to their agriculture as this sector constitutes 2-4% of their total economy. To subsidise agriculture to the extent of 50% developed countries have to spend 1-2% of the GDP whereas developing countries would require about 14% of their total GDP to match the support given by developed countries. This reveals that it is not possible for developing countries to offset the disadvantage to their agriculture due to high level of subsidies provided by developed countries by raising the level of support. The principle of level playing field, distortion of free trade and efficiency require that high level of subsidies provided by developed countries must be brought down. To achieve this developing countries in the next round of WTO negotiations should press for clubbing of all kinds of support to agriculture in one category and then seek reduction in total support rather than AMS alone to achieve some parity among developed and developing countries. Besides to reduce the advantage to developed countries agriculture due to high Govt. support other member countries should have the freedom to impose protective tariff linked to differences in domestic support.

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Abstract

WTO AND INDIAN AGRICULTURE

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The WTO agreement on agriculture (AoA) has been designed to bring agriculture, under the purview of multilateral trading system, Needless to mention that agriculture occupies a crucial position in Indian economy in terms of employment and income. Hence, in order to derive optimum benefits out of liberalised trading system under WTO agreement, the productivity in agricultural sector must be enhanced to make it competitive. In its strategy for agricultural development, India must make radical changes by improving agricultural productivity through technological development coupled with land reforms and optimum use of irrigation facilities. With regard to food security to our poverty stricken population and safeguarding rural employment, there is a need for flexibility in the provisions made for domestic support.

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Abstract

WTO AND ITS IMPACT ON INDIAN AGRICULTURE

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Everything is not well with economic reforms in India like in other developing countries. The overall impact of reforms on agriculture is a mixed one. There are some positive impacts of reforms on Indian agriculture bringing dynamism and diversity in some sub-sectors. But the reform measures have not yielded the desired results in agricultural exports or improving the production and productivity. Further the WTO brought in with them some new problems like insecurity in food and seed, ecological imbalance and bio-piracy. Therefore, the net outcome of the impact of WTO in Indian agriculture yet seems indeterminate. All the same it can be assumed that globalisation of the Indian agriculture is more harmful than good.

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Abstract

PROSPECTS OF INDIAN AGRICULTURE UNDER WTO-REGIME

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Agriculture in India operates amidst a numbers of restraints and controls and that farmers do not receive the benefit of free trade as compared to other sectors of the economy

In order to make agriculture viable, agricultural productivity should be raised through enhanced public investment, adoption of cost effective technology and removal of control on agricultural trade & marketing.

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Abstract

THE WTO AND INDIAN AGRICULTURE

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The provisions of W.T.O. have helped the developed countries to secure more advantages than developing countries in the field of agriculture. However, India should not withdraw from W.T.O. but modernise of international competition.

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Abstract

WTO AGREEMENTS, PROSPECT OF AGRICULTURE AND ENVIRONMENT IN THE CONTEXT OF INDIA

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The move towards globalization of the Indian agriculture through the mechanism of free trade, complying with WTO agreements, may lead the country to more precarious conditions of the agricultural sector and environment besides a threat to food-security. The main reason is that India's main trade-partners, the developed nations, have conspiratorially made the trade 'playing field' quite uneven, in favouring them through the process of creating non-tariff barriers under the veil of SPS and TBT measure and disguising the reduction committed part of the domestic support to agriculture (AMS) under the canopy of 'Green Box' and 'Blue Box' measure which are to be exempted from reduction commitment. Under the existing global trade environment, India should not aspire much to any concrete economic gain from agricultural trade by liberalizing. There is implication that the steps for globalization of agricultural sector along with its existing structural, technological and institutional setup may entail for the country the problems of over-exploitation of natural resources, excessive use of agrochemicals, socio-economic inequality, higher incidence of poverty and over pressure on public property resources.

The excessive use of agrochemical in some pockets of green revolution areas in India has become a matter of concern for water pollution in rivers, lakes and sea-basins, air pollution, loss of biodiversity, land degradation, groundwater pollution, toxicity of agricultural products harming human health, etc. Farmers' selfishness and commercial motive of maximizing returns from fixed arable lands very often lead them towards a short-sighted resource management. The Government of India has undertaken some policy steps to control agrochemical pollution.

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Abstract

WTO AND INDIAN AGRICULTURE

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Agriculture is a way of life in India. But due to stiff global competition under the aegis of W.T.O. our agriculture is facing many challenges. Trade liberalisation provides market access abroad. This will be beneficial only when India has the ability to supply goods at a price and quality level demanded in those markets. So all the sectors of the Indian economy including agriculture should take measures to prepare the country for global competition.

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POWER SECTOR REFORMS IN ORISSA

ORISSA ECONOMIC JOURNAL,
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In This Section :

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THE PROBLEMS AND PROSPECTS OF ELECTRICAL ENERGY IN ORISSA

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I. INTRODUCTION :

The Eighties and Nineties have seen several developing countries making a radical step towards a market economy. Several developing countries have started opening up the generation and distribution of electricity to the private sector. The Government of Orissa is the first to initiate reform of the State Power Sector to make the operation of the sector more efficient and financially viable. The present paper concentrates on the problems and prospects of electrical energy in Orissa. The study is based on Secondary data.

Electrical energy keeps life's clock tickling on the earth. There is substance in the argument that, energy is an essential input of all productive economic activity. Energy is required to cook our food, to light our houses, to run tractors and pumps in farms. All forms of transport like cars, scooters, trains and planes need energy to run or fly. Availability of electrical energy in adequate quantities is an indispensable condition for achieving sustained growth of industries. The primacy of power sector in the development of the economy has been well recognised by planners of Orissa and investment in power sector development has claimed a sum of Rs.4,622.79 crores in the Ninth five year plan.

It goes without saying, that a nation is illumined with power it produces commercial sources of energy includes energy obtained from consumption of minerals and fuels like coal, oil, uranium and fossils and electrical power obtained through nuclear power generation or hydro electrical process, pecuniary payment is necessary to secure the use of commercial energy. Non-commercial energy includes energy derived from human or animal efforts, bio-mass relating to cow-dung, solar photo voltaics, wind mills and geo-thermal process.

In pursuance of the of Orissa Electricity Reforms Act, 1995, the functions of OSEB were entrusted to GRIDCO (GRID Corporation of Orissa) and Orissa Hydro Power Corporation (OHPC). The existing transmission and distribution system were entrusted to GRIDCO. All hydro power stations including projects under construction were transferred to OHPC. The OPGC looks after power projects in the State. Ever since 1997, the distribution function of GRIDCO was separated. Four distribution companies, namely, Central Electricity Supply

Company of Orissa Ltd. (CESCO), North-Eastern Electricity Supply Company of Orissa Ltd. (NESCO), Western Electricity Supply Company of Orissa Ltd. (WESCO) and Southern Electricity Supply Company of Orissa Ltd. (SOUTHCO) were set up as wholly owned subsidiaries of GRIDCO, GRIDCO disinvested 51% equity each in WESCO, NESCO and SOUTHCO in favour of Bombay Suburban Electricity Supply Ltd. (BSES) and disinvested 51% equity in favour of a consortium between M/s. American Electricity Supply Company Ltd. (AES) and M/s. Jyoti Structure Ltd. The equity of GRIDCO in each of these companies is 39% and the remaining 10% is held by the Employees Welfare Fund. GRIDCO is the sole transmission licensee for Supply of power in Orissa and is owned by the Government of Orissa. The accent of the new power policy as embodied in the concept of Independent Power Producer (IPP) is on competition and it was never intended to supplant the power sector but only support the public sector.

II DEMAND FOR ELECTRICAL ENERGY:

Orissa's energy requirement is considerable and growing. The estimated demand for power in the State has increased from 1114 MW during 1995-96 to 1270 MW during 1999-2000, showing an increase of 14.00% over the period. The underlying tendency is accounted for by urbanisation, industrialisation and rural electrification.

One feather to the cap of successes of plan exercise in Orissa is the increase in the per capita consumption of electricity from 79.31 K.W.H. in 1971-72 to 349.16 K.W.H. in 1997-98. The users of electricity can be grouped under nine categories, namely (a) Domestic (b) Commercial (c) Low Voltage Industry (LVI) (d) High Voltage Industry (HVI) (e) Agriculture and Irrigation (A & I) (f) Public Lighting (g) Tractation (h) Public Water Works and (i) Supplies in Bulk. Analysis of data available shows an increase in the consumption of electricity for domestic and commercial uses from 30.94% and 4.67% in 1995-96 to 31.54% and 6.40% respectively in 1998-90. A similar trend is noted in respect of industries, public lighting, railways, agriculture and irrigation. With regard to public water works, a declining consumption behaviour has emerged in recent years. The overall picture of consumption of power in the State reveals a decline to 5131 (MU) million units in 1998-99 from 5571 (MU) million units in preceding years.

Power Structure in Orissa :

The State of Orissa draws power from its own sources and from the Central Projects. The State equally draws the share of power from Farakka and Chukka. Development and generation of power by captive power plants like NALCO, Angul and RSP Rourkela was mooted to avert chronic power shortages in the State. The total installed capacity of the State was 3556.25 M.W. out of this, the share of Hydro Power Projects i.e. Hirakud Burla, Hirakud Chipilima, Balimela P.H., Rengali P.H., Upper Kolab P.H., Indravati P.H. and Machhkund P.H. is 1676.25 M.W. The share of Thermal Power Projects i.e.

I.B. (I & II), TTPS Stage-I and TTPS- Stage-II was reckoned at 880.00 M.W. One disquieting feature of power sector development in Orissa is dependence of the economy on Hydro Power Projects fold meeting energy requirement of the state. The wheels of progress of the economy are pushed backwards during years of inclemental weather.

Demand-Supply mismatch :

A visible trend in power sector relates to demand supply-imbalance. The demand-supply imbalance has been widening rather than bridged. The estimated demand for power from various quarters of the economy in the year 1999-2000 was 1270 M.W. The total amount of power available from various sources was only 1206 M.W. It follows that, there is short fall in supply of power to the extent of 64 M.W. The recent initiative undertaken by the Government of Orissa directed to expand electrification of rural areas explains the observed trend. One feather to the cap of plan performances in Orissa is electrification of 74.89% of villages of the state till now. The commitment of the State Government to provide irrigation in areas, where irrigation is not a profitable proposition accounts for demand-supply imbalance. While only 704 Lift Irrigation Points were energised in 1971-72, as many as 14,79 L.I. points were energised in 1998-99.

Efforts are to be made to accomplish capacity upgradation for generation of 840 M.W., as the State Sector Projects and Centre Sector Projects together generated merely 1091 M.W. of power in the year 1999-2000. The harbouring hopes of planners of the State are generation of installed capacity of 606 M.W. from the ongoing projects like Upper Indravati and Potteru. Planners pin faith on novel Schemes like I.B. Thermal Units- 3 and 4 O.P.G.C. and I.B.- 5 and 6 AES for creating an additional capacity of 420 and 520 M.W. respectively. In addition, Balimela Units 7 and 8 and Samal Barrage may create an installed capacity of 150 M.W. and 18 M.W. respectively.

III. PROBLEMS OF GRIDCO :

In recent years, GRIDCO has accumulated huge losses. This is due to rampant power theft, free supplies to Electricity Board Employees and non-metered consumption of Electricity Employees and illegal sales. These factors are to be considered, while measuring T and D losses, instead of considering merely the difference between energy available for sale and energy used. Rural energy is not a profitable proposition to SEB because of lengthy network, scattered roads and unremunerative tariffs. Overloading of transform is another barrier in our path. Power sector performance in terms of bringing down T & D losses is modest, as the concerned losses have moderately come down from 46.49% in 1995-96 to 46.30 in 2000-2001 with a view to deterring power theft in the State, persons found guilty of power theft may be subject to severe punishment of imprisonment and fine of Rs.5.000/-.

It is deplorable to discern that, in recent years, there has been a sharp increase in the average cost of production of electricity from Rs.40.24 per

K.W. to Rs.84. This is due to increase in fuel expenses, wages, maintenance charges, central excise, interest payment and administrative expenses. It is no surprise, therefore, that, the I.B.R.D. has expressed its reluctance to lend money to power sector during last year. In the current year, however, the World Bank has come forward, to extend loan facilities to power sector. Another area of concern is sub-optional performance of Thermal plants leading to low capacity utilisation. The poor quality of coal received from plants and deficiencies in operation and maintenance of plants have resulted in low capacity utilisation of plants. Of late, the Sovan Kanungo Committee has emphasized on over valuation of assets at the time of transfer of assets to the utility which require higher progression for depreciation of capital and return of capital. Neither of these could be provided for due to short-falls in revenue. The O.S.E.B. is unable to arrive at an economic tariff due to powerful lobby from agriculture and domestic sector for subsidised rates to them.

IV. SUMMARY AND CONCLUSION :

The professed goals of plan exercise in Orissa are utilisation of power already generated in an optimum manner and addition to generation for meeting the anticipated increase in demand for power. The study gives rise to the following suggestions which may be considered while formulating power policy of the State.

(1) Price Policy :

Of late, there is an increasing realisation among policy makers of the state that, under-pricing of electricity brings about, loss of revenue for the State. So, a rational price policy is the need of the hour.

(2) Expansion of Electric Power :

Some of the recent initiatives undertaken by the Government aim at expansion of power in the State. While hydro-electric power, a replenish form of energy is cheaper with marginal pollution implications, long time is involved for the construction of the project. It needs recognition that, scarcity of water level may act as a barrier on development of Hydro-Electric Power. So, reliance may be placed on Thermal Power to generate electricity. But, thermal power can not be relied on indefinitely because, there is scarcity of coal or oil, which requires huge capital and higher costs. It seems inescapable, therefore that, plan endeavour may have to embark upon another untapped source, namely Solar Energy for meeting its energy requirements. Solar photovoltaics is commendable for Orissan economy, which is characterised by tropical climate. Further, Solar Energy is free from pollution effects. Policy initiatives, in the ensuing years may have to focus on non-conventional energy sources, such as wind mills, gobar gas, tidals and ocean.

(3) Conservation of Energy Use :

It is endorsed by scholars of all shades that, conservation of energy use should be put at the forefront of power sector reforms. It is high time, people

are educated on austerity measures like putting off lights, and other electrical appliances. It is no gainsaying that customers, who consume electricity directly from overhead lines by hooks should be subject to severe punishment. To what extent, T & D losses of GRIDCO can be minimised, depends largely on measures like, regular testing of meters of customers, and provision of subsidised rates to consumers who make use of energy saving equipments. One more initiative needed to deal effectively with chronic power shortage is development of Gobar Gas. Strengthening of infrastructure in rural areas is a must for national renewal for a resurgent India. The concern of rural development embodied in plans and the poverty of a vast segment of population in rural areas makes it imperative for the state to go ahead with rural electrification programmes in the ensuing years. Creation of generation of capacity with the state, is an urgent necessity.

Undoubtedly electricity can not be stored nor imported. So, generation of capacity within the State is indispensable to meet the State demand for power. So, the State Government has taken up the construction of seven mini hydro projects in various districts of State so as to create an installed capacity of 5.075 M.W.

The new initiatives at the State level, namely Indravati Hydro Electric Project and Potteru Hydro Electric Project are striving hard to generate capacity of 600 M.W. and 6 M.W. respectively.

Long-Term and Short-Term measures :

Energy consumption of the poorest is one of the indicators of the level of development of that society. GRIDCO may combat the battle of power shortage with weapons like augmenting distribution of transformer capacity, balancing of loading arrangements and installation of express feeders. Increasing the number of distribution systems and upgrading of 33 K.V. are the noteworthy measures, that may have to be tried to tackle alarming power shortage in the state. With a view to minimising technical and non-technical losses of T & D system, adoption of a low tension loss distribution through the use of a small capacity single phase distribution is necessary.

CONCLUSION :

To conclude, the performance of Orissa in terms of expansion of power, minimisation of power shortage and T & D losses have not been satisfactory. The process of power sector reforms has already set in and many continue in the foreseeable future. Analysts argue that SEBS, are to be manned by plant technologists and engineers in stead of being run by I.A.S. administrators. Poor project Management may lead to inordinate delays and cost over-runs. So, it is necessary not to award contracts to poorly qualified persons.

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OPERATIONAL EFFICIENCY AND CONSUMERS NEEDS– A CHALLENGING COMPROMISE FOR THE POWER SECTOR DEVELOPMENT IN ORISSA

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Power is a critical infrastructure for economic development and improvement in the quality of life. It is the basic input to improve the standard of living and agricultural and industrial development in the country. But it is distressing to note that Orissa stands at the bottom of the economic spectrum in view of the inadequacy of generation, transmission and distribution of power. The power system in Orissa is predominantly hydroelectric, though ample potentiality of thermal power as a commercial source exists. Besides these, non-commercial energy sources cover energy derived from human or animal efforts and biomass which include fuel wood, cow-dung, solar thermal devices, wind mills and geothermal process. Those are renewable and non-conventional in nature. Power is a concurrent subject matter under the constitution. The states have the greater share of generation and transmission assets and almost the entire distribution under their control, in effecting institutional and result oriented changes.

Despite the measures taken of increasing the installed power capacity it is matter of concern that the annual per capita consumption is among the lowest in the world. Further, people in large number of villages have no access to electricity. The end users of electricity like households, farmers, commercial establishments and industries are confronted with frequent power-cuts, erratic voltage and low or high supply frequency which have added to the 'power woes' of the consumers. These problems emanate from :

(i) Inadequate power generation capacity.

(ii) Lack of optimum utilisation of existing generation capacity.

(iii) Inadequate inter-regional transmission links.

(iv) Inadequate and ageing sub-transmission and distribution network leading to power-cuts and local failure/faults.

(v) Large scale theft and skewed tariff structure.

(vi) Slow pace of rural electrification

(vii) Insufficient use of electricity by the end consumer.

(viii) Lack of Grid discipline.

The Power Generation Scenario :

The sources of Hydro-electricity power are Hirakud, Balimela, Machhkund (Orissa Share), Rengali, Upper Kolab and Upper Indravati. Besides these, many other large and medium hydro power projects under execution are Bhimkund, Middle Kolab, Lodani, Mandira and Budhabalanga. Similarly, the Super Thermal Project at Talcher has widened the source of generation, Orissa gets more than 70% of its power supply from hydropower projects and about 30% from the thermal power projects. Generation from hydropower projects are subjects to the flow of monsoon through the country. Hence, it is desirable that power supply from the hydropower projects and thermal power projects be balanced to avoid fluctuations in the generation. The hydropower projects are of multipurpose nature of increasing irrigation potential and controlling flood, apart from generating power.

The following table shows the installed capacity and the electricity generated in Orissa.

TABLE-1

Installed capacity and electricity generated in Orissa

Sl. No.	Item	Unit	Reference Year	Magnitude
1.	Installed Capacity			
(i)	State Sector (State Share)	M.W.	1997-98	1691.92
(ii)	Central Sector (State Share)	M.W.	-do-	1187.91
2.	Electricity Generated			
(i)	State sector	M.W.	-do-	635.74
(ii)	Central Sector	M.W.	-do-	467.19
3.	Consumption of Electricity	M.W.	-do-	638.00
4.	Village Electrified	No.	-do-	33625
5.	Pumpset energised	No.	-do-	72016

Source : GRIDCO, Bhubaneswar

State's Economy in Figures 1999, Directorate of Economics & Statistics, Orissa, Bhubaneswar.

Table-1 shows that in 1997-98 the installed capacity in the state sector has higher than the central sector, taking the state's share. Similarly in terms of electricity generated the state sector has the magnitude of 645.74 MW which is higher than the Central Sector 467.19 M.W.

Though the installed capacity of different power projects has been taking a rising trend the power crisis continues to be as grave as before. As a solution to the problem the State Government have permitted a number of major industries in the public and private sectors to set up their own captive power

plants, such as Hindustan Steel Limited, Indian Ferro Alloys Ltd., Paradeep Phosphates and NALCO, to ease down the power problem to a considerable extent for the time being. On account of inadequate generation capacity the state is plagued by power shortages. Hydro-electricity is clean energy and its generation is not linked to issues concerning fuel supply, especially their price volatility of imported fuels. It enhances our energy security and is ideal for meeting peak demand. Less than one fourth of the vast hydel potential of 1,50,000 MW has been tapped so far. The large coal reserves provide a ready and economical resources and ensure energy security. It has been identified as the main stay fuel for power generation till 2012. A glance at the power sector today reflects that though growth of the power sector has been significant, the per capita consumption is one unit a day in India, as against 3 units in China and 30-40 units in developed countries and the energy shortages are 7.8% and peaking shortages are 13% during 2000-01.

In view of the fact that addition of new capacity takes relatively longer time, strategies have also been formulated to augment power supply in short/ medium run. These are :

(i) Increased generation through Renovation and Modernisation (R & M) of old stations and accelerating Hydro-projects.

(ii) Utilisation of the surplus capacity of the captive power plants into the grid.

(iii) Demand Side Management (DSM) to flatten the demand curves (introducing time of day tariffs and metering).

(iv) Introduction of a new system of matching time and load profiles for different zones in the country.

(v) Piloting of Energy, conservation Bill, when enacted, will provide necessary legal frame work for promoting conservation and efficiency.

(vi) Evacuation of power from the power surplus eastern region.

(vii) Accelerating Hydro Projects.

The Transmission and Distribution Network :

Inadequate investments in transmission and distribution infrastructure have resulted in power evacuation constraints from the generating stations. The problem has been severe in the eastern region. The problem of inter-regional imbalances continues. Electricity in the state is broadly demanded for domestic use, Kutir Jyoti, Commercial, Industrial, Street Lighting, Public Water Works, Irrigation Pumping, Public Institutions, Railway Tractions etc. Due to mismatch in generation and demand there is a tendency among state utilities to overdraw from the grid. This coupled with inadequate capacities results in low frequency and voltages and leads to colossal economic losses due to the collapse of entire regional grid.

The toughest road block stalling power sector development has been the poor financial health of the SEBs, which in turn is mainly due to poor performance on the distribution front. Out of the total energy generated only 55% is billed and 41% is realised. The gap between average revenue realisation and average cost of supply has been constantly increasing. During the year 2000-2001 the average cost of supply was 304 paise per unit and average revenue was 212 paise per unit i.e. there was gap of 92 paise per unit of power supplied. All this has caused erosion in the volume of internal resources generation by the SEBs. Theft of wires and unmetered supply have caused a colossal loss which is not the Technical loss. The Transmission and Distribution loss is about 50%. The growth and performance of the Central Power Sector Utilities (CPSUs) are also adversely affected by this. Poor credit worthiness of SEBs has adversely blocked investments by private sector despite the enabling and encouraging framework laid down by the centre.

In Orissa, power distribution by GRIDCO is made through four zones. They are NESCO, CESCO, WESCO and SOUTHCO. The major factors responsible for financial sickness are the followings.

(i) Skewed tariff structure leading to unsustainable cross subsidies.

(ii) Huge T & D (Transmission and Distribution losses) largely due to outright theft and unmetered supply.

(iii) Lack of accountability in distribution.

The development strategies kept in view includes :

(i) Matching development of transmission facilities.

(ii) Form National grid and enforce grid discipline. It will improve reliability, quality and economics of power supply.

(iii) Creation of 60 distribution circles as centeres for excellence in distribution at district level under the Accelerated Power Development Programme (APDP).

(iv) Hundred per cent metering.

(v) Privatisation/Corporation of distribution.

(vi) Tariff rationalisation.

(vii) Enactment of composite electricity bill.

Rural Electrification :

Rural Electrification has been proposed to be treated as a Basic Minimum Service in the Prime Minister's Gramodaya Yojana. Decentralised generation and distribution through district level Energy Committees has been envisaged to contribute in this endeavour. Scattered habitation in tribal and backward regions has increased the cost of electrifications due to low density. The programme of rural electrification involves forest clearance which puts a heavy toll on environment. A picture of District-wise achievement of Rural

Electrification reveals that the district Jharsuguda has the highest percentage of villages electrified (98.87%) followed by Bargarh (98.72%) and Cuttack (98.36%). On the other hand, the Deogarh district has the lowest percentage of villages electrified and 9 districts have remained below the All Orissa figure of percentage of villages electrified (78.82%). Hence it is concluded that there is wider inter-district disparities in distribution of electricity. Obviously this infrastructural bottleneck has impaired the agricultural and industrial development resulting in regional disparity in the development of the State. A dismal picture of the rural area is frequent theft of transmission wires and prolonged days of no power supply, low voltage and at the same time greater irregularity in payment of electric bills.

Operational Efficiency :

To make power sector truly efficient and competitive in the changing scenario training, research and human resource development are made on commercialisation of the sector and optimum utilisation of the infrastructure. The national level committee has been set up to formulate a 'National Training Policy for Power Sector'. With increasing prices of fuels and cost of installations, the cost of power generation has significantly increased. While emphasing on enhancing generation capacity, high priority is to be given to reduce the cost of power, to make it economically affordable for different sections of population and to achieve the goal of economy in utilising power. Competitive bidding will be adopted as a transparent and cost reducing approach. The payment security measures taken till now have not yielded the desired results. There is little doubt that resource generation within the sector through prompt and efficient collection of appropriate user charges from all the electricity consumers is the only long term solution to attract investment in the sector. The sector has to be made financially strong from within. Upgradation of technical efficiency and skill and reorientation will optimise the utilisation. Over the years, electricity charges has gone up but consumer service has been disrupted resulting low collection. Privatisation has not improved collection. While GRIDCO was able to collect 84% the Private Companies could collect 74% of the user charges. These are not healthy signs of power reforms.

Policy Measures Needed :

The National goal is to provide reliable, affordable and quality power to all, with the mission 2012. This challenge can be met by a collective and integrated approach and Action Plans Solution. A healthy and viable power sector will ensure this objective, if measures of reforms are taken on the following fronts–

(1) Tariff Rationalisation

A progressive reduction of cross subsidies, tariffs related to cost of supply, reduction of T & D losses, protect consumers interest via regulatory mechanism will rationalise the tariff charges.

(2) Efficient Enduse

Use of energy efficient equipments could result in 30%- 35% power savings. Conservation of energy can be secured by regulation of energy efficiency of major energy using appliances and rationing. Subsidies should be extended to consumer using energy efficient equipment and devices at home and work place.

(3) Accountability and Productivity

District level Development Committees should be set up and responsibility and accountability norms for supply billing and collection be made. Mobile Collection Centres be opened and sub-agents for collection be appointed with financial incentives on the amount collected. Theft must be controlled and heavy penalty imposed on the offenders.

(4) Awareness campaign, opinion building and consumer support

In order to focus public attention for speedy reforms a multimedia widespread mass awareness campaign must be launched. There is need to reach out for consumer support to secure understanding and achieve financial viability of all sectors– generation, transmission and distribution. A call for active participation in conservation power through better usage practices is needed to save electricity and reduce power bills. Consumer's consciousness must be created to stop people from stealing power or fixing there meters to pay less than they should. All measures of energy conservation be propagated and public opinion need to be generated and sustained to support change. The government have to awaken energy consciousness in the minds of the people.

(5) Use of Non-Conventional Sources

There is imperative need to diversify the use of potential sources of power of non-conventional sources like solar cookers, improved chullas; gober gas plants, tidal power, geo-thermal, wind, bio-energy etc. Those are renewable, non-polluting and perennial source of energy for the domestic and industrial sector for sustained economic growth. Wide demonstration is needed for this. The OREDA offers enough vistas for transmission from the conventional and exhaustive sources to non-conventional sources by undertaking various micro-projects.

(6) AFFORESTATION

Enough plantation of fuel wood and afforestation by social forestry programmes will ensure a balance between power development imperative and emerging concern for the environment.

(7) Enactment of Legislations

Strengthening legislative enactments such as mandatory energy audit, promoting competition and efficiency, supporting commercialisation and stringent penalties against theft will achieve the desired goal.

(8) Increase in Generation

There is a need for renovation and modernisation of existing facilities and acceleration of hydro projects to meet the goal of 'power on demand'.

(9) Building of Captive Power Plants

The industrial users must build their own captive power plants and sale spare power to the local transmission grids.

A critical appraisal of the situation reveals that the achievement is neither significant in reducing loss nor in meeting the customer's needs. Positive action is needed at both the fronts as milestones to success. It is with the co-operation and understanding of all that the power sector can be efficient, commercially viable and the reforms can be pushed ahead firmly and expeditiously. All must realise that 'Power Saved is Power Generated'.

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POWER SECTOR REFORM IN ORISSA

YET TO SET AN EXAMPLE

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INTRODUCTION :

Electricity, now-a-days, has no more remained a luxury item only to urban elites but has become an integral part of man's life both personal and ecohomic. For effective implementation of various developmental programmes in agriculture, industry, science and technology, energy has been the mot important factor in the form of electricity (power).

With economic development in urban and rural sectors, demand for power is growing rapidly. It is indeed a big achievement that, in the last 50 years, since independence, the electricity generation capacity of the country has gone up from 1340 MW to more than 85,000 MW (Mishra, 2000).

The Indian Electricity (Supply) Act, 1948, provides for the formation of the State Electricity Board (SEB) for the rationalization of the production and supply of electricity and for taking measures conducive to power development in the country. Since then SEBs have been primarily responsible for generation, transmission and distribution of power in the country. Subsequent amendments to the Act of 1948 were also made in 1983 and 1984 to modify relevant sections and it was expected that the Boards should have necessary autonomy and should function as viable concerns on sound commercial grounds.

The Industrial Policy Resolution (IPR) of 1956 clearly spelt out the Government's policy that power development will be in the public sector and thereafter a process of taking over private sector licenses started. Since then public sector units were monopolizing in power sector management. However several organizational problems like chronic lack of funds and poor quality of services became obstacles to the efficient running of these institutional arrangements. There has been a majority opinion to bring institutional reform measures of State Electricity Boards. In this scenario, the new economic policy 1991 made the way clear for privatisation of these institutions. Eventually, Orissa became the first State to introduce reform measures in power sector.

Government of Orissa commenced the process of reform in 1993 and in 1995 the State Legislature enacted the Reform Act, which is the principal

instrument of reform of the electricity industry in the State. Accordingly Orissa State Electricity Board (OSEB), which was an integral unit responsible for generation, transmission and distribution of electricity in the State. Orissa Hydro Power Corporation (OHPC) and Orissa Power Generating Corporation (OPGC) were entrusted the responsibility of power generation. OHPC is operating in hydro power generation and OPGC is taking care of all the thermal power stations in the State. OHPC is at present wholly owned by the State Government. However 49% of equity of OPGC was dis-invested in 1998-99.

On the other hand, the responsibility of transmission and distribution, was given to GRID Corporation of Orissa (GRIDCO) which is fully owned by the Government of Orissa. Later in 1997, the distribution function of GRIDCO was separated and entrusted to four distribution companies namely Central Electricity Supply Companies of Orissa Ltd. (CESCO), North-Eastern Electricity Supply Companies of Orissa Ltd. (NESCO), Western Electricity Supply Companies of Orissa Ltd. (WESCO), and Southern Electricity Supply Companies of Orissa Ltd. (SOUTHCO) which were incorporated as wholly owned subsidiaries of GRIDCO.

However, GRIDCO dis-invested 51% equity each in WESCO, NESCO and SOUTHCO in favour of M/s Bombay Sub-urban Electricity Supply Company Ltd. (BSEB) and 51% equity in favour of a consortium between M/s. American Electricity Supply Company Ltd. (AES) and M/s. Jyoti Structure Ltd. The equity of GRIDCO in each of these companies now is at the level of 39% and the remaining 10% is held by the Employees' Welfare Fund.

The process of power sector reform in Orissa has undergone more than half a decade of experiment. At this point of time, it might not be inappropriate to evaluate its achievements. The present study, therefore attempts to draw an appraisal of the reform measures with a view to suggest policy measures for its better functioning in future.

OBJECTIVES :

- To study the demand for and supply of electric power in Orissa.
- To analyse the cost of power supply in the state.
- To highlight the difference on demand for and actual consumption of power in the State and the possible factors explaining the difference.

METHODOLOGY :

The above explained objectives are studied both in pre-reform and post-reform period. The information compiled in the present study takes 10 years data, chosen purposively as pre-reform period and post-reform period, each consisting five years of duration. For effective comparison, various statistical tools, like, coefficient of Variation and Exponential growth (least-square estimation) function have been used in the analysis. To find annual population figures from decadal census data, the method of interpolation has been applied.

DEMAND AND SUPPLY OF ELECTRIC POWER :

The demand for and supply of power and the gap between the two are shown in Table-1. Demand and supply of power in Orissa has increased in pre and post reform era. However the supply of power lags behind the demand for power in pre-reform period. The gap between demand and supply which is expressed as a percentage of total demand, has been too large in this period. From 11% to 30% of the total demand for power has remained unfulfilled during the pre-reform period of study. On the other hand the situation has changed in the reform era. The initial three years of the reform period, realized no power shortage in comparison to the existing demand for power. Even there was surplus production of power of 5.19% of demand in the year 1996-97. But unfortunately the situation again deteriorated and power supply fell short of demand by -2.34% in the year 1998-99, which again enlarged to -5.03 in 1999-2000.

Here it is seen that the annual compound growth rate of supply was higher than the growth rate of demand in pre-reform period (1.059>1.041) and lower in post-reform period (1.017<1.037). Similarly the growth rate of demand and supply has been decreased in the reform period. For demand for power, the pre-reform growth rate was 1.041 which declined to 1.037 in post-reform period. Similarly the supply growth rate was 1.059 in pre-reform era and declined to 1.017 in post-reform era. Moreover, in the pre-reform period the demand for power was not consistent whereas in the post-reform period it has increased continuously. In contrast the supply of power in the pre-reform period was consistent whereas in the post-reform period it has shown inconsistency.

Per Capita Availability of Electricity :

Table-2, addresses the power sector ability to provide electricity to every individual of the State. In pre-reform era the per capita availability of power was in an increasing trend from 25.28 W in 1990-90 to 30.34W in 1994-95. Quite contrastingly there was no specified trend in per capita power supply in post-reform period. There are ups and downs in the per capita power supply in this period. But the annual average per capita has increased significantly in the reform period. It was 27.62 W in pre-reform period and increased to 34.13 W in the post-reform period.

Cost of Power Supply :

There is no specific trend of unit cost of supply of electricity in pre and post reform periods (Table-3). Per unit mega watt cost of supply of power works out to Rs. 29.026 lakhs in pre-reform period. This decreased to Rs. 23.988 lakhs in post-reform period. There is no doubt that a significant improvement in the cost of power supply in the state has taken place. However if one looks to the variation in the unit cost of supply during the years, it is too high in post-reform era. The coefficient of variation of the unit cost of supply was 14.16 per cent in pre-reform period which is estimated as 40.98 per cent in post-reform period.

Consumption of Power :

The scenario of actual consumption of power vis-a-vis estimated demand for power is shown in Table-4. Demand for power has increased during pre and post reforms period. Actual consumption in absolute amount has decreased in the post reform era although it increased in pre-reform period. The gap between demand for power and consumption of power, therefore, has enlarged more intensively in post reform period. The annual average unfulfilled demand for power worked out as 468.2 MW in pre-reform period and 478.9 MW in post reform period. So there is increased unfulfilled demand in post reform era. The unfulfilled demand constitutes a high percentage of total demand calculated as 42% in pre-reform period which decreased to 41% in post-reform period. But the clear indication of the increasing trend of percentage value in post-reform era, shows that there is the increasing tendency of less consumption of power. This might be due to many reasons, studied by different scholars of which two of them are quantified as :

- Irregular and inadequate power supply, due to rising transmission loss.[1]
- Frequent hike of power tariff.[2]

Conclusion and Policy Implications :

The growth of demand for and supply of electric power in Orissa has deteriorated during the reform process. The average per capita availability of power has increased in reform era which might not be taken as a strong argument in favour of power sector reform since there was already an increasing trend in pre-reform period. However, the instability of per capita availability of power in post-reform period shows the negative side of the reform process. On the other hand the unstable and erratic behaviour of the cost of supply, probably, explains the incompleteness of the reform process. The power sector reform, therefore, needs measures to correct the increasing instability of the cost of supply and hence the market price. Another drawback of reform measures is the increasing tendency of transmission loss which needs urgent corrective measures. The growing difference between demand for power and its actual consumption is another cause of concern. And it will not be travesty of truth to say that in a growing economy decreasing tendency of power consumption is not a good sign for growth and development.

Orissa has shown strong commitment to the reforms and restructuring of the power sector in the state. The outcome of the pioneering effort of Orissa power sector reform is being closely watched by all other states of the country. It's success or failure will, therefore, be significant, to set an example for other states to follow suit. Hence there is the urgent need of controlling the transmission loss (price hike) as well as bringing reasonable stability in the supply and cost of power by well planned and efficient man power management. The Government

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[1] The transmission loss as a percentage of supply is worked out to 26.4 in the pre-reform period and 41.2 in the post-reform period.

[2] Electricity tariff has increased 17.5% in 1995-96, 17% in 1996-97, 10.33% in 1997-98, 9.3% in 1998-99, 4% in 1999-2000 and 10.2% in 2000-01.

of Orissa, should therefore be vigilant of the working of the reformed power sector management for the greater objective of securing consumer's interest and accelerating the pace of growth and development of the state.

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TABLE-1

Demand for and Supply of power in Orissa

(in MW)

Period	Year	Demand (Estimated)		Supply		Balance
		Amount	Growth Rate	Amount	Growth Rate	(as % of demand)
	1990-91	917		780		-19.90
	91-92	1200		835		-30.42
Pre	92-93	1139	1.041	857	1.059	-24.75
Reform	93-94	1209		936		-22.58
	94-95	1121		997		-11.06
	95-96	1114		1114		0
	96-97	1136		1195		+5.19
Post	97-98	1162	1.037	1162	1.017	0
Reform	98-99	1236		1207		-2.34
	99-00	1270		1206		-5.03

Souce : Economic Survey of Orissa, 1997-98 & 2000-01

TABLE-2

Per Capita Availability of Power in Orissa

Period	Year	Quantity Supply (in MW)	Population (in lakhs)	Per Capita Availability (in W)	Average (in W)
	190-91	780	308.46	25.28	
	91-92	835	313.37	26.64	
Pre	92-93	857	318.37	26.91	27.62
Reform	93-94	936	323.44	28.93	
	94-95	997	328.60	30.34	
	95-96	1114	333.84	33.36	
	96-97	1195	339.16	35.23	
Post	97-98	1162	344.56	33.72	34.13
Reform	98-99	1207	350.06	34.47	
	99-00	1206	355.64	33.91	

Source : Economic Survey of Orissa, 1997-98 & 2000-01; Census Report (First Paper) 2001.

TABLE-3

Expenditure on Power and Renewable Energy in Orissa

Period	Year	Total Expenditure (Rs. in Crores)	Quantity Supply (in MW)	Unit Cost of Supply (in Rs.Lakhs)	Coefficient of Variation
	190-91	241.8	780	31.00	
	91-92	252.3	835	30.21	
Pre	92-93	246.8	857	28.80	14.46
Reform	93-94	236.7	936	2528	
	94-95	297.6	997	2984	
	95-96	133.4	1114	11.97	
	96-97	403.0	1195	33.72	
Post	97-98	154.4	1162	13.28	40.98
Reform	98-99	425.3	1207	35.32	
	99-00	310.5 (P)	1206	25.74	

P – Provisional

Source : Economic Survey of Orissa, 1997-98 & 2000-01.

TABLE-4

Demand and Consumption of Power in Orissa (in MW)

Period	Year	Demand (estimated)	Actual Consumption	Unfulfilled Demand (Gap)		Gaps as % of Demand	Annual Average
				Amt.	Avg.		
	190-91	917	560	357		40	
	91-92	1200	635	565		47	
Pre	92-93	1139	620	519	468.2	45	42
Reform	93-94	1209	691	518		43	
	94-95	1121	739	382		34	
	95-96	1114	860	254		23	
	96-97	1136	618	518		46	
Post	97-98	1162	636	526	478.5	45	41
Reform	98-99	1236	620	618		50	
	99-00	1270	N.A.	-		-	

N.A. – Not Available

Source : Economic Survey of Orissa, 1997-98 & 2000-01.

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THE POWER SECTOR REFORM AND CESCO IN ORISSA

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Khairabad, Mugpal, Jajpur.

A. INTRODUCTION

When the progressively increasing burden of subsidy could not be met by the State Government and the unpaid amounts due to OSEB went up to Rs.334 crores by 1994, the Government of Orissa enacted the Electricity Reform Act 1995 in the power sector which was implemented with the restructuring of the erstwhile Orissa State Electricity Board (OSEB) and establishment of an independent Regulatory Commission with the responsibility of promoting efficiency, economy as well as protecting the interest of the consumers. The OSEB was split up in to Grid Corporation of Orissa (GRIDCO) to look after the transmission and distribution business and Orissa Hydro Power Corporation (OHPC) taking over hydel power generation. OPGC which was incorporated in 1984 is looking after the thermal power projects in the State. Subsequently the distribution business of GRIDCO has been handed over to privately managed companies with effect from 01.04.1999 in respect of WESCO, NESCO and SOUTHCO and from 1st September, 1999 in respect of CESCO. Besides this structural reforms many functional reforms have been undertaken in the power sector. When the far reaching changes in power sector attracted the attention of all, the sudden decision of the Orissa Electricity Regulatory Commission (OERC) to increase the electric tariff on 19th January, 2001 has raised a question regarding the effectiveness of the reform measures of power sector in Orissa. So at the present juncture the time has come to probe into the effectiveness of private companies especially the CESCO in reforming the power sector of Orissa.

B. OBJECTIVES :

The study has been undertaken with the following objectives :

- To study the rate of tariff hike, the level of achievement of the rationale behind its fixation and social implications on various classes of consumers.
- To ascertain the extent of loss and its possible causes.
- To study the extent of maintenance of standard of performance level of improvement in quality of power.
- To study the type of commercial practices available and the quality of consumer services rendered and the level of civic sense of the consumers.
- To study the type of asset management and its shortcomings if any.

C. HYPOTHESES :

On the basis of the objectives outlined the following hypotheses have been developed.

- Tariff hike without consideration, the rationale behind its fixation and paying capacity of consumers creates discontentment and unrest in the society.
- Reduction in loss and protective measures enhance the financial position of the private company.
- Maintenance of standard of performance and improvement in quality of power create public confidence and reduce expenses of the distribution company.
- Improved commercial practices and qualitative consumer services augment the popularity of the company and creation of civic sense among consumers strengthens power sector.
- Better asset management reduces the unnecessary expenses and enhances the financial position.

D. METHODOLOGY :

Here the study has been undertaken collecting data in purposive sampling method from 10 consumers and 5 officials of CESEO of Cuttack district through developed questionnaire. Besides this, relevant informations have been collected both from published and non-published sources of certain government and non-government organisations.

E. BACKGROUND OF THE STUDY :

By the early 19 hundred nineties, the inadequate investment, poor management, dismal performance of thermal stations, mounting technical and commercial loss, skewed tariff, poor customer care, increasing gap between demand and availability of energy were all symptoms of the deepening malaise in the State Electricity Board.

Growing transmission and distribution loss (50 per cent during 1996-97), nagging power shortages (37 per cent in 1993-94), irritating power cuts, rotational loadshedding, huge investment (88 per cent) in generation and rural electrification, unacceptable technical loss (23 per cent by 1994-95) in HT and LT distribution segment, extremely poor plant load factor (29 per cent by 1994-95) had a crippling impact on the finances of the State Electricity Board. The negligence in the use of Aerial Bunched cables, LT-less distribution, energy audit to identify areas of large transmission and distribution loss, streamlining meter reading, billing and collection procedures compounded the problem. A number of steps like special police organisation, dedicated Magisterial Court could not produce desired results to check the theft of line material.

The cost of the OSEB multiplied like anything. Considering the financial burden of OSEB, the state government introduced reform measures with the

consultation of central govt. and World Bank which was prompted by the considerations to relieve government from providing financial support to power sector, to encourage private sector participation and to introduce efficiency and cost effectiveness in the newly created corporate entities such as GRIDCO & OHPC.

F. THE FINDINGS :

The findings of the study are as follows :

Though the rate of tariff hike in the post reform period is increasing at the diminishing rate, any subsequent rise magnifies the burden on the consumers. The authorities have given attention to achieve the rationale behind the fixation of tariff rise but its social implication on various class of consumers have been neglected. It has not taken in to account the paying capacity of the consumers and has put a deaf ear towards the hearing of public grievances which has created discontentment among the consumers.

The various types of loss in the power sector pertaining to transmission, distribution, methodology, technique, commerce and loss due to power theft remain at an unacceptable high level of around 45 per cent. The causes of the loss are high due to consumption by the unmetered consumers, defective meters, tampering and bypassing the meters by the consumers, hooking, power loss by accidents with birds, animals, trees, defective billing, cross subsidising, emergence of captive power plants, less collection, subletting and corrupt practices of the employees. Among the various causes the first six are more prominent which are to be dealt effectively.

The company fails to maintain the minimum standard of performances as it fails in certain directions like correction of the defective bills, connection of new lines, restoration of power supply and abnormal voltage, frequency variation to the prescribed standard within the stipulated time.

Quality of power relating to standard light with voltage, lack of load shedding etc. is yet to be improved.

The company is less careful towards consumers right to information at the time of scheduled outages exceeding 30 minutes. The existing staff is woefully inadequate to handle consumer complaints and collect revenue.

Asset management is not properly done by the company as a consequence of which the cost increases and the ultimate victims of which are the consumers.

The consumers and the stake holders are often ignorant of the new dispension, the ground rules created and the rights and obligations.

G. CONCLUSION :

Considering the findings of the study, the following suggestions are prescribed to strengthen the power sector.

(i) The authorities in the power sector while fixing tariff besides giving attention to achieve the rationale behind it, should give adequate attention on its social implication on consumers considering public grievances and the financial capacity of the consumers.

(ii) The authorities in the power sector should try themselves as far as practicable not to hike tariff henceforth.

(iii) Checking of hooks, replacing of LT line, metering in case of unmettered consumers, repairing and replacing the defective meters, checking tampering and bypassing of meters by squad, checking of defective billing, provision of quick service, encouragement to HT & EHT consumers, compulsory purchase of current by captive power plants up to minimum percentage, checking corrupt practices of the officials, taking line under the ground, centrally controlled meter, deployment of more staff for collection will reduce various types of loss to the minimum.

(iv) Company should maintain the minimum standard of performance discharging its various functions within the stipulated time.

(v) Quality of power is to be improved renovating old units, augmenting the distribution capacity, balancing load arrangement, upgrading 11KV to 33 KV, adopting low tension less distribution system through the use of small capacity single phase distribution transformer, installating of capacitors, express feeder, upgrading of 33 KV system to 132 KV and transferring of LT line to HT & EHT.

(vi) The company should be more careful towards consumers' right to information. The consumer affairs wings of the commission as well as company are to be adequately strengthened to cope up with increased volume of work.

(vii) Proper asset management of the company should be made taking the steps like store of assets inside the house, maintenance of accounts duly, protection from theft, purchase of qualitative assets. Obsoleteness and redundancy in stock management should be avoided at all cost.

(viii) The commission and the company should educate the public as well as the stake-holders regarding the new dispension, the ground rules created and the rights/obligations. The regulations procedures, practices, directions framed by the commission should be widely published to educate general public about their rights and duties.

Above all, a harmonious relationship between the employer and employees, government and the licensee, the licensee and the consumers having civic responsibility will definitely strengthen the power sector.

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REFORM IN POWER SECTOR OF ORISSA-IN A NUT-SHELL

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Reform in Power Sector is a debateable matter. Especially, this issue has been highlighted w.e.f. 19.1.2001, when the Orissa Electricity Regulating Commission enhanced the electricity duty. The Orissa State Electricity Board was constituted on 31.3.1961. This Board has taken responsibility from the State Govt. to produce and transmit the electricity power. Then many Private Electricity Supply companies have brought to the acquisition of O.S.E.B. By 1970-71 the total Electricity consumption was 1600 million units and at that time the total number of electricity consumers were 1,70,000. Then after by 1999-2000, the Electricity consumption increased to the extent of 6000 million units and the number of electricity consumers were increased to the tune of 16,00,000.

After 1990-91 the bulk of financial burden fell upon the Orissa State Electricity Board. Because, gradually huge amount of money was required for the electrification in rural sectors, especially for connection of electry lines and installation of Electry Substations. Therefore, the O.S.E.B. brought large amount of money from R.I.C., P.F.C. and L.I.C. in terms of loans.

By 1996, the extent of declared subsidy by the Govt. was more than Rs.369 crores. During that period, the Govt. was not in a position to give such huge amount of subsidy. There was no financial funds in the treasury of the Govt. In result, the supervising work in course of production, transmission and distributions was hampered. When the load of the Department was increased, construction of New Substations and connection work of electric lines were not started due to paucity of money. But, the demand of the Electricity increased more than the production. The State Govt. was compelled to short-cut the electricity expenditure by applying the method of "power-cut".

By 1993-94 during "peak" period, the demand and supply power of electricity reached at 47% and 40% respectively. The pressure fell upon the Govt. to execute the production of Iib Thermal units I & II as quickly as possible. It was anticipated to get 210 Mega Watt of electricity from each Iib unit. Moreover, by means of such huge production, the demands of the consumers might be satisfied. By 20.12.1994 the first unit of Iib valley and by 1996 the second unit came into working conditions and both the units were started functioning. Two Iib units were linked with GRID. At that time the starting works of the Central Sector Power Centres were neglected due to different reasons. Among them are Kaniha (2 × 500 Mega Watt) of N.T.P.C., Kahalagaon-Extension (2 × 500 Mega Watt), Faracca Expansion (2 × 500 Mega Watt). So, Orissa did not get its own share of electricity offered from the above centres.

The Govt. then realised the gravity of the situation as well as the future demand of electricity consumption. In the month of April, 1992, the Orissa Govt. and O.S.E.B. decided to reform the electricity power consumption and the administrative works. The Govt. sought the help of the World Bank to do reform in the energy sector. The objective of the power reform was mainly to privatise certain sectors of power generation of distribution. Starting from January, 1994 to January 1995, many steps were taken to bring out reform. A Steering Committee was formed under the Chairmanship of the Chief Secretary Orissa and a Task Force was constituted under the Presidentship of the Principal Secretary of Energy, Orissa. In the month of June, 1995 many working groups chalked out plans on various directions. In that year the Electricity Reform Act (O.E.R.-1995) was passed in Orissa State Legislative Assembly. On 3rd January, 1996, O.E.R. Act (Orissa Electricity Regulation Act) got the approval of the President of India.

The following proposal are included in the O.E.R. Act for the purpose of reform.

(1) **Reconstitution** : In this connection 3 things have been taken into the account.

  (A) Electricity Production or Generation.

  (B) Electricity Transmission (Transportation)

  (C) Electricity Distribution.

(2) **Control of Electricity** : An independent transparent Organisation will be in control ever the Energy affairs of the state.

(3) **Competition** : Competition will be held for New Production and afterwords process will be applied for transmission and distribution.

(4) **Privatisation** : The Privatisation is meant to attract private capital for the development of Energy sector. Again, it encourages participation of private sector in production, transmission and distribution.

(5) **Tariff** : On 1.4.96. O.S.E.B. was divided into 2 parts.

(A) O.H.P.C. (Orissa Hydro Power Corporation)

(B) GRIDCO.

GRIDCO took the responsibility of Transmission and distribution of power. The hydro-electricity responsibility was taken by O.H.P.C. from O.S.E.B. As per Electricity Reform Act, a Transformer Scheme was prepared in the month of April, 1996. In the year 1996, the Orissa Electricity Regulating Commission was constituted. On 19.11.1997, GRIDCO distributed its Electricity distribution work in 4 geogaphical zones. For instance, Western Zone, Nothern-Eastern Zone, South Zone and Central Zone. As per Indian Company Act 1956, the GRIDCO handed over some equity shares and respective share-assets to the CESCO, NESCO, SOUTHCO & WESCO. It was decided to make privatisation of electricity distribution process of the State of Orissa through joint and combined industrial basis.

"CONSUMPTION AND DISTRIBUTION OF ELECTRICITY IN ORISSA"- A FOCUS

Sri Premananda Pradhan
(Research Scholar)

Electricity is an essential component of economic development needed for commercial and non-commercial uses. Commercial uses of power refer to the use of electric power in industries, agriculture and transport. Non-commercial uses include electric power needed for domestic lighting, cooking, use in domestic machine etc.

TABLE-I

Utilisation of electric power utilities :

(Per cent)

	1970-71	1999-2001
Industry	68	40
Agriculture	10	25
Railway Traction	3	2
Public lighting	10	11
Domestic use	9	22

Source : Economic Survey 1999-2000 and Tata Services Ltd. Statistical Outline of India - 2000-2001.

With the growth of population and modernisation the demand for electricity has increased significantly. The electric use of pumps in agriculture has resulted in an increase of electricity use from 10% to 25% during 1970-71 to 1999-2000. As many large industrial units have started with their own captive power plants, as a result the dependence on public utilities has declined : thus the utilisation of electricity in industries has decreased from 68% to 40% during the said period.

In the context of Orissa, the enactment of Orissa Electricity Reform Act, 1995 has been considered as a milestone in the process of reform and restructuring of power sector. The GRIDCO of Orissa (GRIDCO) and ORISSA Hydro Power Corporation (OHPC) have been entrusted with the functions of O.S.E.B. since 1st April 1996.

The distribution function of GRIDCO was separated in Nov. 1997. Distribution companies namely, Central Electricity Supply Company of Orissa

Ltd. (CESCO), North-Eastern Electricity Supply Company of Orissa Ltd. (NESCO), Western Electricity Supply Company of Orissa Ltd. (WESCO) and Southern Electricity Supply Company of Orissa Ltd. (SOUTHCO) were incorporated as wholly owned subsidiaries of GRIDCO.

The estimated demand of power in the State for the year 1999-2000 was about 1270 M.W. The demand for power is increasing and is anticipated to reach 2150 M.W. in the year 2001-2002[1]. This increased demand for power in Orissa has been increasing because of industrialisation, urbanisation and rural electrification.

In the state of Orissa, the major industries are having captive power plants. Table No.2 reveals the list of Captive power plants, their installed capacity as well as the supply of power to GRIDCO.

TABLE-2

Major industries having captive power plants in Orissa During 1999-2000.

Sl. No.	Captive power plant	Installed capacity	Power supplied to GRIDCO. (in M.W.)
1.	Nalco, Angul	720.00	67.88
2.	ICCL, Choudwar	108.00	8.94
3.	R.S.P. Rourkela	248.00	1.64
4.	INDAL, Hirakud	67.50	0.70
5.	FACOR	21.00	-
6.	ISPAT Alloys	40.46	-
7.	Others	174.50	-
	Total	1379.50	79.16

Source : GRIDCO, Bhubaneswar.

To meet the growing requirement of power, capacity upgradation of generation of power has been planned, involving some new schemes alongwith on-going projects. Upper Indrabati and Potteru Power Projects have been functioning with a total installed capacity of 606 M.W. During 2001-2002, new schemes for availability of power have been started. These are Iib Thermal Unit 3 and 4 OPGC (Orissa Power Generation Corporation), Iib Thermal Unit 5 and 6 AES (American Electricity Supply Company), Balimela Unit 7 and 8, Samal Barrage with a total installed capacity of 1088 M.W.

Sectorwise consumption of power in Orissa :

It has been found that during the period 1995-96 to 1998-99, the total consumption of power in Orissa has decreased. During the said period the decrease has been from 7532 M.U. to 5431 M.U. while the domestic power consumption has increased from 1287 M.U. to 1713 M.U. during 1996-97 to

1998-99. The declining position of industrial power consumption is partly due to exclusion of power consumption by industries like NALCO, RSP, HPCL and ICCL etc. These industries used power from their own captive power plants. The consumption of power for public lighting has increased from 27 M.U. to 36 M.U. during 1996-97 to 1998-99. In the field of irrigation and agriculture there is a remarkable increase in power consumption. The increase has been from 150 M.U. to 258 M.U. during the period 1996-97 to 1998-99.

The distribution system of GRIDCO has been transferred to four distribution companies namely CESCO, NESCO, WESCO and SOUTHCO. Out of these four distribution companies, the Bombay Sub-urban Electricity Supply Company Ltd. (BSES) has taken operational control of three distribution companies (NESCO, WESCO and SOUTHCO) since 1st April 1999. The privatisation of distribution systems of GRIDCO has been completed with the taking over the fourth distribution company CESCO by AES since 1st Sept. 1999.

The Govt. of Orissa was constrained to privatise power sector because of recurring losses, inadequacy of capital for investment, heavy overdues and managerial inefficiencies. However, privatisation has not conferred social justice by supplying electricity to backward and tribal dominated regions of our State. Further it is lamentable to note that public has become silent spectators to the theft of electricity through working by dishonest and unscrupulous people of our state. Consequently, the incidence of inflated electric charges falls on honest consumers. Therefore, there is need for imposing penalty, punishment and creation of general awareness regarding the leakages of electricity.

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    SISI, Vikash Sadan,
    College Square, Cuttack-3.
15. Dr. Surendra Nath Mishra,
    Prof. of Economics,
    NCDS, Chandrasekharpur,
    Bhubaneswar-13.

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LIST OF PRESIDENTS

Year	Host	Venue	Presidents
1968	Ravenshaw College	Cuttack	Prof. Sadasiv Misra
1969	Dhenkanal College	Dhenkanal	Prof. Devendra Ch. Misra
1970	Khallikote College	Berhampur	Prof. Bidyadhar Mishra
1971	Utkal University	Vani Vihar	Prof. Baidyanath Misra
1972	Bhadrak College	Bhadrak	Dr. Chakradhar Mishra
1973	Panchayat College	Bargarh	Prof. R.C. Patnaik
1974	O.U.A.T.	Bhubaneswar	Prof. S.P. Gupta
1975	Kendrapara College	Kendrapara	Prof. H.K. Mishra
1976	S.C.S. College	Puri	Prof. Devendra Ch. Misra
1977	Nimapada College	Konark	Dr. S. Tripathy
1978	Berhampur University	Bhanja Vihar	Prof. Nilakanth Rath
1979	Utkal University	Vani Vihar	Prof. K. Kanungo
1980	G.M. College	Sambalpur	Prof. Pravat Ku. Patnaik
1981	O.U.A.T.	Bhubaneswar	Prof. Dayanidhi Mohapatra
1982	Municipal College	Rourkela	Prof. Bibekananda Das
1983	Ravenshaw College	Cuttack	Prof. Ghanashyam Das
1984	Berhampur University	Bhanja Vihar	Prof. Basudev Sahoo
1985	Vikram Deb College	Jeypore	Prof. Sanatan Mohanty
1986	Banki College	Banki	Prof. B.C. Parida
1987	Kendrapara College	Kendrapara	Prof. Benudhar Bhuyan
1988	S.C.S. College	Puri	Prof. Gyana Chandra Kar
1989	M.P.C. College	Baripada	Prof. N.P. Patro
1990	Not Held	–	–
1991	Utkal University	Vani Vihar	Prof. Khetra Mohan Patnaik
1992	Sambalpur University	Jyoti Vihar	Prof. Trilochan Satpathy
1993	Ravenshaw College	Cuttack	Prof. Surendra Nath Mishra
1994	B.B. Mahavidyalay	Chandikhol	Prof. Adwait Ku. Mohanty
1995	P.N. College	Khurda	Prof. Benudhar Mishra
1996	Paradip College	Paradip	Prof. Gajendra Nath Das
1997	Municipal College	Rourkela	Prof. Jyoti Prakash Patnaik
1998	Govt. Women's College	Kenojhar	Prof. Ajit Ku. Mitra
1999	Talcher College	Talcher	Prof. Binayak Mitra
2000	Govt. Women's College	Sambalpur	Prof. Satya P. Das
2001	D.A.V. College	Koraput	Prof. Kumar B. Das
2002	Bhadrak College	Bhadrak	Prof. Bhabani P. Dash
2003	S.V.M. College	Jagatsinghpur	Prof. R.P. Sharma

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