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Chapter 28 - The Treasure of Terra Madre

The yawning gap between the traditional adivasi worldview and that of modern humans is most succinctly brought out by a quaint story set in Mexico. There was an indigenous tribal there who used to weave eye-catching baskets out of a weed dyed in organically prepared colours. An American businessman on seeing these baskets immediately saw a market for them back home in New York as containers for chocolates. Since the baskets were selling at a cent a piece, he expected to make a commercial kill and asked the tribal to weave him ten thousand baskets at a discounted price. The tribal after some thought answered that he would sell the baskets at a hundred dollars a piece. When the startled American asked why he was asking such a high price the tribal replied that in making ten thousand baskets in so short a time he would permanently exhaust the sources of the weeds and dyes and so lose his livelihood. So to make up for this permanent loss he would have to charge the higher price.

The answer of modern humans to this sound environmental logic of the adivasis has been to forcibly dispossess them of the natural wealth they have so wisely husbanded and then use it up recklessly disregarding the future consequences. The tragedy in Mehendikhera came in a long line of such tragedies that first began with the Columbian encounter between these conflicting worldviews in the Bahamas all of five centuries ago. The Europeans came out victors in that first fateful confrontation because of two crucial developments that occurred at about that time that gave them a clear advantage over the rest of the world. The first was the invention of a better flintlock gun using "corned" gunpowder (Wakeman, 2006). Even though gunpowder had been invented long back its reliability and power remained low and the guns and cannons that used it too were inefficient. While the process of corning improved the quality of gunpowder, the flintlock mechanism increased the efficiency of guns and the two together gave the Europeans a tremendous advantage over their opponents in warfare. The second was the Polish scientist Copernicus's revolutionary hypothesis that the earth moved round the sun (Vollmann, 2006) which set off the modern observation and analysis based method of scientific enquiry into the working of the universe, challenging the animistic conception of it being controlled by divine forces and culminating in Newton's laws of mechanics later in the seventeenth century.

The imperial mastery of European nations over their colonies resulted in huge amounts of capital accumulation in these countries for the funding of industrial production with the help of machines invented with the application of scientific methods which also improved hygiene and medicinal practices and freed human beings from the fatal grasp of killer diseases like small pox, malaria, cholera, plague and the like. Thus from the eighteenth century onwards there began a phenomenal spurt in world population and economic wealth, the former growing from about 500 million in 1600 to 1.5 billion in 1900 and 6.5 billion in 2000 and the latter from an average annual per capita income of 700 \$ (International Value of 1990) in 1600 to 1000 \$ (International Value of 1990) in 1900 and 5700 \$ (International Value of 1990) in 2000 (Maddison, 2001). The immense resources required for this phenomenal growth considerably increased the devastation of nature by leaps and bounds. Thus an exploitative world system developed, that continues to this day, in which these processes had an uneven effect with the excess population of Europe being exported to the other continents and the latter economies being forced into a relationship of unequal exchange wherein their human and natural resources were bought cheaply by the European economies which sold their manufactures and services dearly to these colonies. Later the

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settlers in North America and Australia freed themselves from European domination and joined them in exploiting the rest of the world (Wallerstein, 2004).

The two crucial factors responsible for sustaining this developmental surge over the past four centuries or so have been the supply of cheap food in adequate quantity for the vastly increased population and natural resources for the ever-increasing needs of industry and trade. The most important natural resources were fossil fuels, which provided the energy to run the machines, which tremendously improved the productivity of human labour. Crude oil and natural gas have now become the most important of natural resources as they not only are the main providers of energy but are also the raw materials for a variety of other products like plastics, fibres, chemical fertilisers, pesticides and drugs that have become indispensable to the modern industrial economy. Europe in this expansionary developmental phase was deficient in both food and natural resources and also in providing a big enough market for the products of industrialisation and so relied heavily on its military control of the rest of the world. As we have seen this led to inter-imperialist rivalry between European countries for the control of the colonies beginning with the Anglo-Spanish wars of the late sixteenth and early seventeenth centuries, the Anglo-French wars of the twentieth century.

Indeed military power is so indispensable for the continuance of modern industrial development that despite Japan being on the verge of defeat at the fag end of World War II, the United States of America dropped two nuclear bombs in Hiroshima and Nagasaki in August 1945 to cynically underline its superiority in the emerging world order. This sparked off a nuclear arms race subsequently with more and more nations including India and Pakistan gradually acquiring nuclear arms capability. Thus it ill befits the US now to threaten action against Iran and North Korea because they too want to follow suit and put the whole planet in risk of extinction. Robert Oppenheimer, one of the scientists who were part of the team that designed the first test nuclear bomb that was set off in Los Alamos in Nevada, is reported to have been so overawed by the sight of the flames pluming into the sky as to have uttered a couplet from the Bhagvad Gita - "Brighter than a thousand suns is the effulgence of the supreme spirit" (Jungk, 1970). Unfortunately this radiant brightness of the modern God of industrial development also has an equally dark shadow of a probable nuclear winter that can shut out the sun's rays from the earth for months on end in case of a world wide nuclear war. While the rest of us must keep our fingers crossed that this does not happen, the indigenous tribals living near the Nevada test site and the Utah waste nuclear fuel site in the USA and those in the remote South Pacific atolls have already been forced into a hell of deadly nuclear irradiation from the fallout of hundreds of nuclear test bombs that have been set off over the years by the USA, UK and France in what is perhaps the most blatant exhibition of the racism that has been part and parcel of modern industrial development ever since the Columbian encounter (Salvador, 1999).

The Second World War saw the USA amassing huge surpluses from the sale of food and arms and ammunitions to its European allies, which along with the axis powers were devastated totally at the end of it. Thus the military - industrial - agricultural complex that emerged in the United States of America during the war was in danger of collapsing in the post war era unless the shattered economies of Europe and Japan were boosted up again. Moreover, the way in which the Soviet Union had overrun Eastern Europe and established a socialist bastion also preyed on the minds of the capitalists in Europe and America. So a massive transfer of resources through outright grants were made by the USA to its allies and to the defeated axis powers to rebuild the world capitalist economy (Milward, 1984). Trade

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and not imperial preference was to be the new watchword of capitalist development and so many countries including India were gradually given freedom and they were sold the spiel that they were on a lower stage of growth than the developed nations of the capitalist world and all they had to do was open up their economies and follow the path of market led and high mass consumption driven development being prescribed by the developed capitalist nations (Rostow, 1960). The "unholy trinity" of The World Bank, International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade, which was later to become the World Trade Organisation (WTO) in 1994, were set up to oversee this reworked capitalist world system and ensure that the exploitation of human and natural resources continued unabated (Peet, 2003).

So the ground rules for a new kind of colonialism orchestrated by the Multinational Corporations and backed by the military might of the USA were put in place with international institutions to oversee their implementation and the worldview of consumerist modern development personified by the American wanting to buy colourful weed baskets to sell chocolates in was popularised throughout the world. Unlike the wise Mexican tribal in our story the leaders of the poor countries, like our own Jawaharlal Nehru, happily became acolytes of this new religion and started their modern temple building with gusto. The MNCs of the capitalist countries led by the American ones crisscrossed the globe penetrating hitherto untouched areas and buying off the baskets of the adivasis cheaply and selling them all kinds of products and services from the cities at an exorbitant price. Aid and loans were given to the poor countries so that they could buy these goods and services but this was in miniscule proportion to the surpluses that were taken out by the MNCs through trade and other financial skulduggery (George, 1990).

Initially immediately after the war the USA was faced with the problem of reorienting the production of its massive war oriented industry and agriculture. This was done on the one hand by making civilian cars, trucks, planes and cargo ships instead of armoured vehicles and on the other by transforming the explosive manufacturing units into fertiliser and pesticide producing units. Obviously so many cars, planes and ships and so much fertiliser and pesticide could not be consumed by the Americans alone and so the high flying consumerist lifestyle of cars and private jets and heavy eating of processed meat and cereals was spread all over the world and a market created for these products. Cattle can eat much more cereals than human beings and so the people of the developed world were encouraged to eat the former and the people of the poorer countries were fed the excess cereals resulting from increased use of fertilisers and pesticides along with the cattle (Friedmann & McMichael, 1989). A significant development was the worldwide adoption of soybean at the behest of the Americans who pushed its exports and cultivation through cheap aid to developing countries so as to provide cheap feed for beef production and also cheap edible oil for processing this food into ready to eat marketable forms. Thus an artificially highly productive and environmentally unsustainable agricultural system was established worldwide backed by massive state subsidies. A golden era of capitalist development, booming on the production and sale of the "world car" and the "world steer" by MNCs, ensued in the nineteen fifties and nineteen sixties.

The party came to an end in the nineteen seventies with a double whammy being delivered by nature. Firstly the biologist Rachel Carson sounded the first warning cry in 1962 about the way in which chemicals and especially pesticides were causing immense environmental and health hazards thus sparking off the modern environmental movement and seriously questioning of the excessive gorging of the world steer (Carson, 2002). The

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tremendous groundswell of protests that followed led to the problem of environmental pollution resulting from modern development becoming a burning issue by the early nineteen seventies with the holding of the first United Nations Conference on Environment in Stockholm in 1972. Secondly the finiteness of the natural resources that were being so wantonly used up was driven home with the Arab crude oil producing countries increasing its price by a whopping four times in 1974 thus pushing the capitalist world economy into a deep recession by undermining the very basis of the world car. The ghost of nature which is being indiscriminately slaughtered to facilitate modern development and which had been seen but wished away by all the classical political economist Horatios from Adam Smith to Karl Marx has finally come back to haunt the modern Princes of Denmark with the demand that they stop this "foul and most unnatural murder"! (Shakespeare, 2003)

Ever since then our modern day princes whether from the sphere of politics or from that of business have been confronted with a situation, which is characterised in political economy as a prisoner's dilemma (Poundstone, 1992). In the classical form it goes like this two suspects are arrested by the police who have insufficient evidence for a conviction and having separated both prisoners, visit each of them to offer the same deal: if one testifies for the prosecution against the other and the other remains silent, the betrayer goes free and the silent accomplice receives the full 10-year sentence. If each betrays the other, each will receive a two-year sentence. If both stay silent, the police cannot get the prisoners sentenced because of lack of sufficient evidence but they do not reveal this to the prisoners. Each prisoner must make the choice of whether to betray the other or to remain silent. However, neither prisoner knows for sure what choice the other prisoner will make and also that they will both go scot free if they both keep mum. So the question this dilemma poses is: How should the prisoners act? Since one prisoner does not know what the other is going to do and the prisoner who remains silent will be made to bear the whole prison term if the other prisoner squeals, the tendency is for both prisoners to betray and so get sentenced.

In the case of modern humans faced with the choice between environmental sustainability and modern development this dilemma takes a form in which if all people cooperate and keep their consumption within safe limits and redistribute drastically the immense wealth that has already been created instead of blindly going on accumulating further wealth then both nature and human beings will survive. If, however, some people limit their consumption while others go on satisfying their greed then those taking the saner environmentalist path will be the losers as they will be pauperised even more by the rapacious policies being followed by the greedy ones. The best example of this of course are the adivasis who have been continuously dispossessed of their lands for the purpose of modern development. Faced with the serious economic and environmental crisis brought on in the nineteen seventies the MNCs which straddle global production, finance and trade put pressure on the US Government, the World Bank and the IMF to push a policy, known as the "Washington Consensus" that would further open up the economies of the developing countries to exploitation through free flows of finance and commodities which has plunged most of these economies further into debt and stagnation (Williamson, 2003).

Since the MNCs and the world's rich people are refusing to follow a saner environmental path and pushing the world towards an inevitable environmental disaster which will kill everyone anyway the tendency is for all people rich and poor, even the once environmentally wise adivasis, to consume as much as they can lay their hands on leading to ever increasing and irreparable environmental damage. We are all borrowing indiscriminately from the future and spending in the present and so sentencing ourselves to rocking in the

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jailhouse! Thus despite the overwhelming rhetoric of bringing about environmental sustainability that has been piously mouthed by the modern day Hamlets at the environment conferences held by the United Nations at the beginning of every decade, there is little real cooperation between them on the ground to limit consumption and collectively "be" and instead they are all merrily competing with each other to bring about the "quietus" of the human race with the "bare bodkin" of environmental destruction! Whereas the Prince of Denmark had only feigned madness our modern Hamlets are well and truly insane!

So enamoured are the global decision makers of the market led profit oriented capitalist system which is now being followed worldwide with the exception of Cuba that markets have now been created for trading carbon and water credits under the Clean Development Mechanism through which MNCs of the developed countries can compensate for the pollution and devastation they cause by buying these credits from companies or NGOs in the developing countries who do positive things like tree planting and building water and soil conservation structures to absorb the polluting gases or compensate for the water and soil depletion (Baumert et al, 2000). Earlier to this an effort was initiated through the Global Environment Facility involving the United Nations and the World Bank to provide funds to tackle the problems arising from global warming, biodiversity loss, maritime pollution and ozone layer depletion once again without questioning the paramountcy of the market led growth paradigm (GEF, 1998). Earlier still the trend started of calculating the economic costs of environmental pollution and degradation and working them into the calculations of overall costs before determining profits (Dasgupta & Heal, 1979). All these approaches give primacy to the competitive and environmentally wasteful market mechanism and relegate cooperative activity to the peripheral work done by NGOs and are flawed by the inevitable play of economic power in the marketplace which leads to cooked up calculations of costs and skewed terms of trade against the poor making the latter the recipients of not more than a subsistence dole or not even that in lieu of which they have to bear with such environmental disasters as the Bhopal Gas Leak apart from the continuing displacement due to big dams and forest sequestration. Anyone who dares to step out of line is given the stick in no uncertain terms as we have seen.

All this has had a devastating effect on Indian agriculture and the millions of people who are dependent on it for their livelihoods. The vast majority of farmers in India cultivate small plots of land on terrain that is unsuitable for flood irrigation and they have traditionally been driven by the desire to produce for subsistence rather than for profit. They have over thousands of years developed a system of agriculture that makes the most of the locally available resources in terms of seeds, organic fertilisers, soil moisture and natural pest management. This led Sir Albert Howard, the pioneer of modern organic farming who did most of his work in Indore, to remark some sixty years ago, "What is happening today in the small fields of India ... took place many centuries ago. The agricultural practices of the orient have passed the supreme test, they are as permanent as those of the primeval forest, of the prairie, or of the ocean" (Howard, 1940). The clever use of rotation of a bewildering variety of crops ensured that despite flood and drought some part of the harvest was always saved. Famines occurred not because of the failure of agriculture but because of socio-economic factors such as excessive levies by kings and colonial rulers or due to usury and hoarding by sahukars (Patnaik, 1991). Indeed the levying of excessive taxes and usury have been a severe constraining factor on the development of agriculture all over the world from ancient times and in India this was intensified greatly because the sahukar doubled up as the tax-collector

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also, resulting in one Bhili proverb that goes - " I love the Sahukar so much that I have given him a fat belly" (Hardiman, 2000).

Thus what was necessary after independence in India was to remove the obstacles in the path of development of this traditional agriculture and strengthen it with further research, extensive land reforms, cheap institutionalised credit and market support. Studies have shown that the indigenous agricultural practices of India, which have been honed by farmers over the centuries, are as productive as the HYV seeds and artificial input based green revolution agriculture (Richharia & Govindaswamy, 1990). But this was not to be because the Americans had in the meanwhile since the nineteen thirties devised a new model of industrial agriculture in which hybrid seeds, fertilisers, pesticides, big dam irrigation and machines were used to ramp up agricultural production with huge state subsidies which eventually went to the corporations which not only supplied these inputs but also owned most of the farms and traded in the outputs. So farm gate prices remained low leaving the actual small farmers who had always struggled against usury like elsewhere in the world no alternative but to gradually sell out and become unemployed leading to tremendous destitution (Wessel & Hantman, 1983). Moreover, the post World War II urgency to sell the excess production of fertilisers, pesticides, tractors and trucks arising from the reorientation of production in plants from explosives and armoured vehicles necessitated the replication of the American agricultural system worldwide.

So at the behest of the research foundations set up by American MNCs and with financial support provided by the World Bank and the money from the exports of American wheat to India which were recycled for this purpose the American agricultural pattern was promoted with the introduction of foreign hybrid varieties of wheat and rice as green revolution agriculture in the late nineteen sixties in a few pockets in the country leaving the other areas literally high and dry. The Americans forced the Indian government to forcibly sideline Indian agricultural scientists who had developed indigenous strains and opposed this introduction of foreign hybrids (Richharia, 1986). This form of agriculture has now become problematical throughout the world because of reasons to be discussed a little later and can be continued only through the provision of massive state subsidies to the MNCs that produce its inputs and trade in its outputs. The direct government subsidy to agriculture in the USA peaked in the year 2000 to US\$ 30 billion and constituted about 40% of the net cash income derived by it. The biggest 10% of the recipients of these state subsidies, which are big corporations, which included billionaires like the media mogul Ted Turner, cornered 65% of this huge amount (Riedl, 2004). Somewhat in the same way as our own movie star Amitabh Bacchan has got himself recorded as a farmer to be able to own large tracts of agricultural land that he does not himself cultivate. A less dramatic but similar state of affairs prevails in Europe. In this way the comparative advantage that the third world countries have in the agricultural sector is not only neutralised but the excess production thus achieved is dumped in those countries devastating their agriculture. In fact the current Doha round of trade negotiations of the WTO has brought out as never before the hollowness and hypocrisy of the WTO's claims of promoting "free trade" and it is deadlocked at the moment because the developed countries are refusing to reduce these subsidies.

According to an estimate the input subsidies in India's case had reached the unsustainable level of 164.02% of the central government's planned annual expenditure on agriculture by 1992 (Gulati & Sharma, 1995). When the subsidy that was being given in the form of free electricity and free water from dams and for the procurement of the produce of the farmers at artificially supported high prices is also taken into account the long-term

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economic un-sustainability of this agriculture was inevitable. Unlike in the USA a greater proportion of the subsidies in India were going to the actual farmers big and small. The pursuit of economic liberalisation from the nineteen nineties and financial constraints forced the Indian Government to drastically reduce the quantum of subsidies in agriculture, investment in irrigation, price support and budgetary support for cheap institutional credit to the farmers (Vaidyanathan, 2000). This withdrawal of support came precisely at the time when green revolution agriculture was beginning to fail. The main problem with artificial input agriculture is that there is a natural limit to the artificial inputs that the soil can take and so the amount of fertilisers, pesticides and water to be applied goes on increasing while the yields go on falling and sometimes the crop fails altogether. Consequently the economic costs go on increasing while the realisation of the value of agricultural products in the market does not keep pace (Rahul & Nellithanam, 1998). Inevitably this leads to farmers falling into the clutches of sahukars and spiralling debt. The crisis has now assumed serious proportions with thousands upon thousands of farmers having committed suicides, sold their lands, houses and even their kidneys (Bhagwat, 2006). Things have come to such a sorry pass that forty percent of the respondent farmers expressed the desire to give up farming and take up other professions in a survey conducted by the National Sample Survey Organisation of the Government of India in 2003 (NSSO, 2005).

This collapse of the agricultural sector, not only in India but also all over the developing world, has created a parallel problem of massive seasonal or permanent migration from the rural areas to the cities which offer comparatively better livelihood opportunities due to the greater investments taking place there. However, once there these migrants occupy the base of the occupational pyramid earning only subsistence wages. So even after working for a considerable time these people cannot afford to buy legal accommodation and other civic amenities and so have to live in illegal slums without proper drinking water and sanitation facilities continually under the threat of eviction. Given the severe lack of resources with governments for the provision of proper infrastructure in these slums and the pressures from private property developers to displace them and build high value buildings instead, urban sustainability has become the newest challenge for development planners (UN HABITAT, 2003). In the developed countries on the other hand there is the problem of inner city decay as regular manufacturing jobs are decreasing due to the shift of manufacture from these countries to the developing countries leaving the once comfortable working class in dire straits doing casual menial jobs for a living and unable to maintain there homes any more. The affluent people are moving out of the cities to the suburbs thus reducing the tax base of urban governments and their capacity to renew the inner city areas (Harvey, 1989). So the movement of capital is creating problems in both the rural as well as the urban areas all over the world by changing the structure of the global economy in ways that harm the poor.

The tremendous economic and political power of MNCs like Monsanto, Dupont, Syngenta, Dow and Bayer, which are directly or indirectly in control of the input industries, the agricultural processing industry and marketing entities that make up the agriculture cum food chain has meant that instead of turning to more sustainable agricultural practices the crisis in modern agriculture is being sought to be solved through the application of even higher and far more costly bio-technology (Hendrickson, 2005). This involves further state subsidies given the higher levels of funding required for the expensive research and application techniques involved and also uncharted environmental dangers resulting from gene tampering. The American MNCs' maniacal obsession with promoting more and more beef eating worldwide as the panacea for the ills of the inevitable market slumps that hound

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capitalism has now manifested itself in the development of genetically engineered Bovine Growth Hormones to push up beef production which has driven the cows also mad! The continuing loss of natural bio-diversity, the concentration of genes of landraces in the hands of MNCs and patenting of life forms by them have together created a serious danger of the future of the planet being permanently mortgaged to their greed for profits (Shiva, 2001).

While the Americans have become obese from this over consumption of beef and are suffering from a number of physical and mental disorders as a result, the Bhil adivasis in Madhya Pradesh have become proportionately under nourished so as to be able to provide for this overeating of the former. With the reduction in the acreage under coarser cereals and pulses which have been replaced by soybean and the greater monetisation of the rural economy, the marginal adivasi farmers have had to buy their food from the market instead of getting it cheaply from their farms and this has reduced their nutritional levels well below healthy standards (Khaperde, 2001). Thus they have become sufferers of the problem of chronic hunger that today engulfs the poor in much of the developing world and even in the developed countries because the shrinking of livelihood opportunities has meant that they are not able to earn enough to buy wholesome and adequate food (Dreze & Sen, 1989). So the supply of cheap food to all, which is a basic requirement of running a capitalist economy is in jeopardy because nature has been ravaged beyond repair by the artificial input based agriculture for profit that has been intensively practised since the Second World War.

This deep tragedy of the ever-present hunger of the poor has been cynically parodied in a farce that is being enacted in Madhya Pradesh under the auspices of the cigarette manufacturer, Indian Tobacco Company (ITC). Faced with severe and increasing restrictions on the sale of cigarettes the company has diversified into the processed food and hospitality businesses. As a support to these ventures it has an International Business Division, which trades along with other agricultural unprocessed and processed products in soybean feed and soy oil in the international markets. To cut down on the costs of procuring soybeans through middlemen it launched a direct purchasing initiative called "e-choupal" or electronic agricultural markets in Madhya Pradesh. It set up Internet kiosks in villages where the farmers could get to know the price being offered for their soybean crop on a particular day by ITC. This price was more than what the farmers would get from the traders but considerably less than what the ITC would have had to pay to these traders to procure soybean from them. The catch was that the farmers would have to book their sale at that price with the agent running the kiosk and then transport their produce to the collecting centre, which was far away and get their payment there. This meant that only large farmers could avail of this opportunity as for small farmers the transportation cost would be prohibitive. So effectively what has happened is that the small farmers have continued to sell to the local traders at lower prices and the latter have then sold to the ITC! The big traders in the cities who used to supply to ITC earlier have lost out and so have raised Cain about this system. Moreover the e-choupals are now being used as platforms for marketing various products and services of the industrial sector including genetically modified seeds, pesticides and fertilisers. Thus the e-choupal has benefited ITC the most with windfall profits, the big farmers too have benefited somewhat and also the chemical and food sector MNCs who have now been able to integrate a peripheral agricultural region into the international capitalist economy while the small farmer adivasis have been left in a bigger lurch than before as the acreage under soybean has gone on increasing making them more and more dependent on the market for their food. The black comedy is that this fraud being perpetrated in the name of benefiting small farmers, has been hailed by a management guru as a great new rural

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development initiative that will solve their problems (Prahlad, 2006). This is a typical example of Corporations spending miniscule amounts in ostensibly developmental initiatives that actually increase their access to remoter and remoter areas and so increase their profits. The e-choupal initiative has been awarded a prize of 100,000 US \$ in 2005 by the Development Gateway Foundation in the USA for having supposedly used information technology to enhance the incomes of poor farmers. Since in reality the incomes of poor farmers has not increased the prize must actually have been given to ITC for having ensured the supply of soymeal and uninterrupted gorging of roasted beef by the Americans!

The biggest problem arising from the adoption of green revolution agriculture, however, has been that of the increasing scarcity of water. Most of the water needed for irrigation in India is being provided by groundwater extraction and this has led to a situation of "water mining" wherein water collected in the deep confined aquifers over hundreds of thousands of years were used up in the space of a decade and large parts of the country have been facing a ground water drought from the nineteen nineties onwards (CGWB, 1995). Since then there has been less and less ground water available for not only irrigation but also for drinking and the cost of its extraction is continually going up. Big dams, however, are the environmentally and socially most harmful component of the green revolution package and have come in for serious criticism in recent years and dam construction has been totally halted in the developed countries with some dams even having been broken in the USA to limit environmental damage. The World Bank, which has been a major funder of dams worldwide, was forced by public criticism arising from the fiasco of its funding of the Sardar Sarovar Dam to constitute a World Commission on Dams to review the performance of big dams, which has submitted a comprehensive report (WCD, 2000). The report brings out the fact that the benefits in terms of irrigation and power gained from big dam construction have been at an unacceptable and unnecessary higher cost in terms of environmental destruction and human displacement. There has been lack of equity in both the distribution of benefits and costs with the poor having lost out on both counts. Considering the increasing importance of conservation and harvesting of water resources the WCD has recommended that in future people's participation in these processes should be made mandatory so that more effective and less harmful solutions to the problems in this sphere can be worked out.

Worldwide there is a burgeoning movement in ecological farming combined with local area watershed development that has come up as a reaction to the deleterious effects of modern agriculture. This movement is theoretically underpinned by the green ideology of development in harmony with nature and at its own leisurely pace. Many localised efforts have thrown up viable solutions to the intransigent problems created by unsustainable agricultural production and inequity in the distribution of benefits and costs of water resource development (TWN, 1990). In the western Madhya Pradesh region too there have been successful localised experiments in this sphere and a blueprint for the development of sustainable dry-land agriculture backed up by local area watershed development involving the poor in project formulation and implementation has been drawn up (Shah et al, 1998). Thus the comprehensive decentralised solutions to the problems of agricultural sustainability and the resulting threat to food and livelihood security of the poor are there, waiting to be adopted on a large scale. However, the World Bank acting as a front for the interests of the MNCs sees decentralised natural resource management only as a tool for the mitigation of the harmful effects of globalised industrial development and participatory group formation as a means of deflecting the discontent arising from this (World Bank, 1996). Given its near total hegemony over development thinking it is not surprising that governments and institutions all

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over the world follow its lead in not questioning the centrality of capitalist industrial development and only pursue decentralisation and sustainable development as a safety valve to let off the steam that is continually boiling up as a result of the former.

Faced with the reality of the destitution of billions of people and not being prepared to jettison the centralised industrial development paradigm the World Bank has embarked on yet another fraudulent game of wishing away the extent of this poverty by arbitrarily defining a poverty line consumption expenditure equivalent to the value of US \$ 1 in 1986 and then doing some dubious statistical estimating of the number of people below it from time to time to show that over the decade of the nineteen nineties the absolute numbers of people below this poverty line has decreased (Pogge & Reddy, 2006). The Indian Government too has not remained behind in this game. Dubious assumptions and calculations have been resorted to by the Planning Commission so as to show a decline in the poverty head count over the period of economic liberalisation in the nineteen nineties (Ray & Lancaster, 2005). This theatre of the absurd has reached the stage where the results of the actual household survey carried out for the purpose of the distribution of Below Poverty Line Ration Cards to those who are eligible for cheaper food grains from the Public Food Distribution System in accordance with the orders of the Supreme Court has been doctored so as to make the actual poverty head count tally with that calculated by the Planning Commission!

All this statistical jugglery was not able to hide the stark reality of increasing poverty due to the failure of structural adjustment policies adopted by developing countries in consonance with the Washington Consensus in the nineteen eighties which became evident by the end of that decade (Zuckerman, 1991). This led the World Bank to review these policies and search for ways in which "growth with equity" could be ensured and poverty "attacked" (World Bank, 2000). One major failure that was pinpointed was the inability of financial institutions like banks and credit cooperative societies to address the credit needs of those living in poverty. This led to the search for alternative modes of credit delivery. The initial success of some NGO initiatives in providing easy access to credit to the poor in Bangladesh and Indonesia and a consequent reduction in their economic vulnerability, was picked up and modified by the World Bank and formalised into a model to be replicated worldwide and so the micro-finance boom of the nineteen nineties was kicked off.

Informal rotating savings and credit associations (ROSCA) have existed from medieval times for meeting the short-term credit needs of the poor. However, they cannot build up a continually increasing fund that can over time address the heavier long-term credit needs and so obviate the need to go to the usurer. In this respect the self-help groups (SHG) formed under the micro-finance initiatives are definitely an improvement as they have an accumulative component. Moreover, by linking up with banks these groups can access greater amounts of credit than would have been possible on the strength of their own savings. This linking up with banks and the consequent reduction in the transaction costs of credit delivery by financial institutions to a marginal clientele and better loan recovery through the use of group pressure has been publicised as the distinguishing feature of the micro-finance movement of the nineteen nineties (CGAP, 2003). However, unlike as in the case of the informal ROSCA the operation of SHGs requires formal rules and paperwork which increases with time as do the legal requirements. So while the former can easily be run on their own by communities of people who are illiterate or semi-literate the successful operation of the latter by such groups and especially by adivasis requires the intermediation of NGOs with adequate socially oriented financial expertise. Moreover, the basic economic weakness of the poor and their inability to cope with the expanding market system means that

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micro-finance by itself has not been a self sustaining intervention for bringing about an improvement in the condition of the poor (Dichter, 2006).

The experience of the operation of micro-finance worldwide has shown that with proper intermediation by NGOs this paradigm does improve the access of previously deprived poor populations to institutionalised credit with the reduction of transaction costs and so reduces their economic vulnerability (NABARD, 1999). However, if the costs of this crucial intermediation by NGOs in the formation and operation of SHGs, which is at present being met by outright grants or by the supply of subsidised credit from funding agencies, are factored in, then the economics of micro-finance begins to wobble. Thus without grant support the long-term viability of micro-finance is in doubt and with it micro-finance stands in danger of being overwhelmed by self-defeating bureaucratisation through its institutionalisation. The SHG members have little control over the actions of the NGOs and their sponsors. Without proper regulation there have already been cases of the funds saved by the poor from their meagre earnings being misappropriated by unscrupulous NGOs and non-banking financial companies who have resorted to disguised usury (BL, 2006).

The net result of this massive propaganda and funding by the World Bank and the central and state governments of a revamped version of green revolution agriculture has been that the ordinary farmers in this country are unable to pursue more sustainable agricultural alternatives as the switch from the one to the other takes time and money. The ground reality in the western Madhya Pradesh region is that the bigger farmers are still trying to continue in the green revolution regime and diversifying into the farming of fruits, horticulture and other cash crops and then storing the produce in cold storages with the intention of trading through the national commodity exchange but as yet with uncertain incomes. The smaller farmers and especially the adivasis have followed suit in a half-baked manner by switching to soybean cultivation at the behest of ITC and are contributing to the environmentally destructive production of the world steer. Bava of Jalsindhi, despite the moving deep ecological letter he wrote to the Chief Minister of Madhya Pradesh, has in reality become a shrewd man who has perforce to cleverly exploit the market to his advantage to survive. The market is inexorably penetrating into every corner of the world and hastening the depletion and pollution of nature.

After getting control of her share of her ancestral land in Jepra in 1999 Subhadra decided to revive the cultivation of the highly tasty, nutritious and scented indigenous Dubraj rice on it. After the first harvest came in, I packed two bags of twenty-five kilograms each with the rice and I took them with me to Indore. When I got down from the bus in Raipur and lugged these bags on to a cycle rickshaw to take them to the railway station, the rickshaw puller said to me "Babuji, you are taking Dubraj rice in these bags." I was surprised because the bags had been double packed and there was no outward sign that they contained rice. So I asked the rickshaw puller how he knew and he replied that he had got the scent of the rice. My city-bred nose had missed what this rickshaw-puller could scent and he went on to lament that he too had once grown Dubraj rice on his land but had been forced to sell out because of debt and now he was pulling a rickshaw for a living. Not many people grew Dubraj any more he said because it required a lot of tending and its yield was low compared to other varieties. He wondered how I, who obviously was a city dweller and could not even recognise the scent, had laid my hands on this rice little knowing that I was married to a person made of more earthy stuff! Unfortunately in later years Subhadra could not go to Jepra regularly to supervise the cultivation of her land because of the birth of our son and so her brother promptly switched to a hybrid variety, which was easier to cultivate and sell. This is what the market has done to agriculture and rural society in India. To break this destructive march

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towards environmental and social collapse it is necessary to proceed towards an "economy of permanence" (Kumarappa, 1984), which respects both nature and the human being and prioritises leisurely decentralised communitarian living based on the collective local consumption and husbanding of renewable resources over the frenetic non-renewable resource guzzling pulls of globalised market led industrialisation.

This can provide the rural poor with sustainable livelihood opportunities for wholesome living while at the same time reorienting centralised industrialisation to the fulfilling of the needs of the majority and so deciding the kind of science and technology to be pursued. This will in turn ensure a much more peaceful world than at present and obviate the heavy and wasteful expenditures being incurred worldwide on the military and the police. Expecting this to happen, however, is as distant a dream as that of really finding a Mexican tribal who could answer the American businessman like the one in our story. The author of the story Berick Traven, was a mysterious German revolutionary anarchist and novelist who from the nineteen twenties onwards led a reclusive life in the Chiapas jungles of Mexico which were later in the nineteen nineties to witness the uprising of the Zapatista National Liberation Army. He is best known for his allegorical novel "The Treasure of the Sierra Madre" (Traven, 1980), which was later made into an Oscar winning film in 1948 by the American director John Huston and has been acclaimed as the best portrayal ever of what greed can do to human beings. Three down and out Americans in Mexico go to the Sierra Madre Mountain to search for gold and strike it rich. Then begins the drama as one of the prospectors, Dobbs, becomes greedy and wants to take more of the gold than the others. This makes the other two also greedy and they all begin distrusting each other in a typical playing out of the prisoner's dilemma. Then Dobbs runs away with all the gold dust after shooting and wounding one of his fellows while the other has gone away on some work. But he meets Mexican bandits on the way who kill him for his pants, boots and guns but throw away the gold dust thinking it to be sand. These bandits are later apprehended by the police and shot to death. A dust storm rises and disperses the gold dust all over the earth from where it had been extracted. All the treasure accumulated is lost and the greedy men die violent deaths.

Like Dobbs and his mates the modern tycoons have been accumulating the treasure of mother earth, Terra Madre, over the past three centuries at an increasingly more hectic pace and have been killing the common people in the millions to do so either directly through war or indirectly through lack of employment and food. Today this accumulated wealth amounts to hundreds of trillions of dollars and is being traded non-stop round the clock with the help of Internet connectivity between stock and currency markets around the world. Indeed the value of this virtual trading, supported solidly as it is by the unholy trinity, exceeds by quite a few multiples the value of the trade in goods and services (Clairmont, 1994). In a typically cynical prisoner's dilemma response the world's biggest currency speculator George Soros, confronted with his actions having caused financial collapses in England, Eastern Europe and Thailand is reputed to have said that if he didn't do what he was doing then someone else would and that "As a market participant, I don't need to be concerned with the consequences of my actions."!(Soros, 2006). If, as is claimed, the sun never set over the British Empire, then currency trading never stops in the present day American one. This latter is imperialism of quite a few orders higher pedigree since in today's greedy world the radiance of money is brighter than that of a thousand suns! Speculating and mining for real gold pales in comparison to the speculation involved in this trading of virtual gold accumulated from mining nature.

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Unlike the dumb witted Dobbs who met his nemesis for being too greedy and not wanting to share anything with his partners and lost both his gold and his life, the modern tycoons have been cleverer by half and have thrown a few crumbs here and there, notably by funding NGOs, and so they continue to thrive by co-opting opposition. However, the ominous portents are not very encouraging regarding the indiscriminate mining of natural resources and the pollution of the biosphere which has now begun to threaten the two basic requirements of capitalist industrial development - the adequate and assured supply of cheap food and industrial raw materials. This has resulted in the emergence of what has been termed as the second contradiction of capitalism between the need to go on increasing production to maintain the level of profit and the limited supply of natural resources (O'Connor, 1997). While the first orthodox Marxist contradiction between the need to increase production and reduce labour costs leads to the periodic crises of overproduction due to demand getting constrained this second neo-Marxist contradiction gives rise to crises of production itself because of the supply of food and natural raw materials getting constrained. For those not inclined towards Marxist theories there is the Gaia hypothesis that is influential among environmentalists, named after the Greek Goddess of Earth, which posits that the earth is a live system like any living plant or animal and tries to control its various components so as to stay alive in the same way as a living organism does. According to this theory the earth has through the millennia acted in such a way as to keep itself alive even if it has meant sacrificing some of the living organisms on it (Lovelock, 2006). These theories may be debatable but their prognosis of revenge by mother earth on a profligate human race may well come true. Since nature cannot be co-opted by bribing, there is every chance of the environmental backlash that has begun in agriculture spreading to other spheres of the economy creating a situation wherein the future of the human race falls in jeopardy as Terra Madre begins to reclaim all the treasure that has been looted from her.

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