Chronicles of Tragedies and Harbingers of Hope

Resistance to Neo-Liberalism: People's Movements and Alternatives

Repositioning the Land Question in the Era of Neo-Liberal Economic Policies

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Neo-liberal economic policies have threatened land security, security of employment opportunities and food security. In the background representatives of the peasantry have to transform themselves into harbingers of hope. There is need for intervention of the Peasant Movement at the production level to ensure food security, security of employment opportunities and also to reverse land insecurity. The System of Rice Intensification (SRI), also known in popular parlance, as the 'Madagascar System' can be an effective method of overcoming the technology gap to exponentially increase production, in the traditional rice growing regions and probably also in some of the semi-arid regions presently reeling under starvation. The dissemination of such technologies has to be taken up as a mass movement by the Peasant organisations and political parties representing the interests of the oppressed peasantry as a strategy that would strengthen the struggle against Neo-Liberalism.

> My land is my backbone… I only stand straight, happy, proud and not ashamed of my colour because I still have land. I can dance, paint, create and sing as my ancestors did before me…. My land is my foundation. I stand, live and perform as long as I have something firm and hard to stand on. Without land…. we will be the lowest people in the world, because you have broken our backbone, took away my arts, history and foundation. You have left us nothing. --Jane Roberts, *From Massacre to Mining: The Colonisation of Aboriginal Australia,*CIMRA,London,1978.

The quote mentioned above attributed to an Australian Aborigine underlines the seminal importance of land in raising the self-esteem of an oppressed peasant and as the key to later agricultural development. Landlessness and land insecurity have historically been considered to be the most significant causes of poverty and hunger and access to land has been considered to be a *sine-qua-non* for reducing inequality.

Land Reforms in the long run are expected to liberate the productive forces through transformation of production relations, especially the surplus labour power of the peasantry and bestow them with security of land and tenure, which is considered to be a determinant of agricultural production as there is a propensity to produce more among those who own land or cultivate it under secure tenure. The returns from the land acquired become the incentive for increasing production and there is an expansion of productive activity. New lands are brought under cultivation and there are greater employment opportunities as the workdays also steadily increase, thereby leading to increasing household incomes also. Land security has hence been considered to be a guarantee of economic security and food security forthepoor.[1]

The redistribution of land has been on the political agenda of the country through much of the period of the freedom struggle and the slogan 'land to the tiller' was a tool of political mobilisation against feudalism and imperialism. The country also witnessed series of legislations on Land Reforms and Tenancy Reforms, the efficacies of which have been widely debated. The absence of comprehensive Land Reforms is a direct concomitant of a compromise and creation of a class coalition between the bourgeoisie and the landlords. Land Reforms in today's context connotes an entirely different meaning which in fact has

lost its redistributive objective aimed at demolishing monopolies over land in favour of the dominance of the market processes which would in effect give a new lease of life to the very forces which it originally sought to contain. The agenda of Land Reforms as posited during the freedom struggle has been relegated to the background and the emphasis has shifted from a focus on land redistribution to the tillers, provision of security of tenure, ceiling on surplus land and fixation of fair rents to a focus on 'efficiency' of agriculture.[2]

Large farms are considered to be more efficient in the present scenario and there is a drive towards consolidation in the official circles.[3]

State governments have in the realm of land legislation been discussing the questions of land ceilings and Tenancy Reform in an altogether different paradigm. The present proposals of 'Land Reform' is aimed at facilitating corporatisation of agriculture and large-scale agriculture which is supposedly more 'efficient' than small-scale agriculture on small size of land holding. 'The current proposals for "Land Reform" are primarily concerned with liberalising land markets and raising ceilings to enable corporate agri-business, both domestic and foreign, to enter agriculture in a big way'.[4]

The facilitation of land markets will only induce mass sell-offs of land causing increased landlessness, land concentration and rural-urban migration. The resource rich may buy large tracts of land and the landlords and capitalist farmers grow stronger while the direction of the redistribution itself may be reversed to move from the poor towards the rich and the corporate houses.

Present day 'Land Reform' calls for direct farm production by large companies by substantially extending the ceiling limits or altogether abolishing any such limits. Ceiling laws are being shelved on the pretext of making Indian agriculture compete globally. States like Karnataka and Maharashtra have brought changes in the ceiling provisions. Karnataka has raised the ceiling limit to 20 units for industrial development, upto 4 units for educational institutions, 10 units for housing projects and upto 20 units for agro-based units (a unit for ceiling being 10 acres of double cropped irrigated land or 54 acres of un-irrigated land).[5]

The Maharashtra government has granted exemption in landholding Act to trusts, companies and cooperatives for horticulture purposes..[6]

Thus the farm size in both these cases can be up to 1000 acres.

Oral tenancies are replacing written contracts and there is a visible trend towards tenancy. It has been argued that the equity implications notwithstanding, Land Reforms have failed to contribute to agricultural productivity and in transforming agriculture into a 'surplus generating and high-value agriculture and much less into precision agriculture'. The ceiling on land holding has been cited as the stumbling block to high capital investment in agriculture and there has been a call for liberalising tenancy provision to unfreeze the land-leasemarket.[7]

It was claimed that the freeing of the leasing of land would help in improving land-use efficiency and simultaneously attract more investment in the rural areas without sacrificing the principle of equity and a case was made out for liberalising the land markets and altering landrelations.[8]

The need for outside capital in the form of investment is cited as the reason for allowing the penetration of private capital in the field of agriculture. The lifting of ceiling was considered to be of primary importance to ensure that the peasant would have the capacity to generate surplus and re-invest it back in agriculture to improve the farm and productivity.[9]

The World Bank economists have also suddenly discovered that 'extremely inequitable access to productive resources like land prevents economic growth.[10]

that poverty cannot be alleviated without Land Reform and has also resorted to financing of Land Reform in countries such as South Africa, Guatemala, Honduras, Mexico, Colombia, Brazil, the Philippines, Thailand, Indonesia and India.[11]
The World Bank package however, involves the advancing of loans to the poor to buy land in the open market, seeds and other inputs for promoting the cultivation of non-traditional exportcrops.[12]
The World Bank Reforms relied on land privatisation and free market forces. The market-driven reforms only envisaged the role of a facilitator for the state, and as a provider of the necessary legal framework, while 'land must be distributed from "willing sellers" to "willing buyers" through a market transaction.'[13]However, these Reforms only lead to a reversal of the redistributive Land Reforms that have been implemented before and lead 'revanchist forces' to 'repudiate Land Reform'.[14]The experience of the Central and South America, South Africa and countries like Egypt which went in for market assisted reforms have shown that in reality they neither benefit the poor nor are they fiscally sustainable.
Even in the absence of lifting ceiling on land holdings, by the sheer operation of the Neo-liberal policies in the field of credit, inputs and markets, we have witnessed that the cumulative result has been heightened indebtedness, which has led to distress sale of land. The lifting of ceilings would further accelerate the alienation of land from the peasantry. The process of land consolidation into large plots is taking place in many Third World countries; including in India and it coincides with a general reduction in the demand for land redistribution.[15]
In this context it is significant to note that even economists who are otherwise inclined towards radical Land Reforms and even peasant organisations are positing the price question as more important than the land question given the impact of trade liberalisation on the agricultural prices. The wage question according to them has emerged as an important class question with the old complaint of high agricultural wages emerging again and leading to widening divide between agricultural workers and the peasants. They suggest that the primary goal was to ensure resistance to the policies of globalisation that lead to falling prices.[16]Increasing landlessness and a price squeeze according to them has led to rural class structures being no longer determined by land. The focus of peasant associations has shifted away to other more immediate peasant problems such as issues centring around remunerative prices, irrigation, electricity, subsidies, loan-waivers, credit facilities etc, from the central one of 'land to the tiller'.[17] The struggle for land and the struggle against Neo-Liberal Economic Policies cannot remain mutually exclusive.
Land remains the central question in the rural countryside. Our study differs on the complaint of high agricultural wages as the respondents belonging to the cultivating peasantry have blamed exorbitant input costs other than that of labour, high land rents, absence of remunerative prices and lack of proper procurement facilities as the main reason for making agriculture an unattractive proposition. The agricultural wages in Andhra Pradesh being low, it was not a matter, which was considered to be a very serious problem in the state. Even in Kerala nearly hundred percent of the respondents have opined that if the government procurement was improved, agriculture would be a viable proposition and agricultural wages were not an inhibiting factor. The wage-question is relevant in the case of Wayanad district that has seen a fall in wages in the wake of falling agricultural prices. Here the relevance of the argument of high agricultural wages is questionable. It is to be noted that the benefits of high profits in the event of a rise in world agricultural prices never accrue to the agricultural workers.

The penetration of MNCs into the rural countryside especially in Andhra Pradesh has had far-reaching implications. The small peasants are being dispossessed and land consolidation is taking place by purchasing of land at low prices and even a system wherein the land owning peasantry have no control over the production process and marketing; is tied by bondage to the MNCs which advance inputs at exorbitant rates and usurious rate of interest is under a perpetual threat of loss of land. The landless are in a state of abject poverty and their insecurity including with regard to food is very high, while there is a return of absentee cultivation.

Mencher's contention that Corporate farms attempt to eliminate as much labour as possible, in a move to avoid having to deal with 'people who feel they are entitled to a living wage' and even in Kerala it was the farmers who owned larger plots of land, and operated bigger economic enterprises who had exhibited similar behaviour is worth noting and our study concurs with this point.[18] This only reinforces the importance of land question in the context of falling agricultural prices and fall in labour opportunities. The question of falling prices vis-à-vis Land Reform has to be placed in the context wherein no state in India has implemented confiscatory, radical, redistributive Land Reform. Land Reform even in Kerala although of a qualitatively better nature at best provided homestead land security of tenure and access to land for a large section of tenants. The condition of the SC/ST is still not very satisfactory on this count. Yet, the access to land and security of tenure has ensured a greater economic stability than in Andhra Pradesh and greater resilience in countering the impact of Neo-liberal policies.

In addition to this situation which has kept the agrarian structure in most parts of the country relatively unaltered with the monopoly over land vested in a few, the advent of the TNCs into the rural countryside and the demand for removal of ceilings and gradual tightening of their absolute control over land makes the land question seminal. In a situation of falling prices the land question has become even more important as a site for intensified struggle. The relegation of the land question to the background will only lead to the gradual abandonment of redistributive Reforms and pave way for a strengthening of the role of the TNCs in the rural countryside as the dominant proprietors of land and the proletarianisation of the peasantry adding to the already large army of landless agricultural workers. Land remains even to this day like in the colonial period, the most effective slogan of mobilisation against feudalism and Neo-Liberalism.

Distress sale of land was witnessed in large numbers in Andhra Pradesh during our Survey. In Karimnagar this was rampant wherein one-third of the people surveyed had sold their land to clear debts, which also included prosperous farmers. There were also two cases of suicides due to debts. In the Anantapur village there were 5 cases of farmers' suicide and a peculiar situation wherein the money lenders refused to take land for loans taken by farmers as repeated droughts and crop failures had made land less of an asset and more of a liability, with an acre of land costing only anything between 6,000/- to 20.000/-.[19] The farmers who lent money instead preferred to keep the debtors as Jeethagallu for meagre wages. However, these peasants were under a constant threat of losing their land, which ensured the continuation of the system in a hereditary succession. More than one-third of the respondents either faced the threat of loss of land, or lost land due to indebtedness. The West Godavari village which was one of the first in Andhra Pradesh to experience Green Revolution techniques, however, saw the most severe cases of the Jeetha system wherein land was usurped by big farmers for non-repayment and workers turned into Jeethagallu. One-sixth of the respondents had lost land due to indebtedness and an equal number were working as Jeethagallu. In Chenguballa Gram Panchayat at least one-tenth of the

respondents had lost land and many more were in a contract with the BHC, which is a TNC, at unfavourable and unequal terms. In recent years the pace of Land Reform in Andhra Pradesh has lost momentum. This is generally attributed to the relative absence of pressure from the grass-root level and weakness of the peasant movement.

In Kerala also tenancy is making a return in some regions with resort to cash payments. In Kainakary village we witnessed two cases of land sale to repay debts while in Nenmeni also there were about one-sixth of the respondents who were threatened with the possibility of loss of land against accumulated debts. This is in conformity with our hypotheses that "emerging contradictions in the agrarian scenario with economic liberalisation and structural adjustment under the aegis of the WB-IMF-WTO leads to reversal of the gains of Land Reforms" and "the ability of the landless to retain control of the land received depends on the stability of economic environment. This stability stands attacked with the phasing out of Quantitative Restrictions which protected farmers, falling agricultural prices and exposure of the peasantry to unfair trade."[20]

Relevance of Addressing the Land Question to Overcome the Problem of Caste

India has been witness to the continuation of the vestiges of the feudal past in the form of the caste system, which has been striking at the very foundations of human dignity. Kerala was a state in which till the early 20th century one of the most rigid caste system and extreme inequalities associated with it including untouchability and unapproachability was normal accepted practice. The organised Left Movement and the unionisation of the workers and the hitherto unorganised peasants and agricultural workers along with the Social Movements against caste discrimination gave a deathblow to the caste inequalities and caste hierarchies were given a decent burial with the implementation of Land Reforms. The Kerala society which was once witness to the most oppressive variety of agrestic slavery today has no signs of any such forms of servitude and even an indebted agricultural worker is not held in bondage.

The situation in Andhra Pradesh although undoubtedly better when compared to earlier times, the caste hierarchies are continuing unfettered and the most immediate manifestation can be witnessed in the land holding structure. The least disconcerting nature of the existence and continuation of the two tumbler system and the Jeetha system which is a variant of the bonded labour system or *Bhagela* system that was predominant in the Nizam era even in the 21st century is a case in point.

The hitherto oppressed castes in Kerala benefited from Land Reforms and over time these castes, which were once deprived of land, have emerged as prominent cultivators today. The condition of the SC and ST population, especially the Tribal population is still very poor even in Kerala. In Andhra Pradesh however, even to this day the high caste dominates over the land holdings, which is exposed quite starkly in our study. If one were to look at our study of the sample in the two states, it comes out clearly that in Andhra Pradesh an overwhelming number of Dalit respondents hold less than one acre of land and are agricultural workers, in most cases tied by contract to high caste peasantry. This amounts to 67.4 percent of the total Dalit respondents and nearly 25 percent out of all the respondents surveyed in the state. If the OBCs in the same grouping by acreage are taken into account jointly, it would amount to nearly 50 percent of the total respondents in the state. If all the respondents in the same category are considered then the Dalits account for 44.6 percent and so do the OBCs, while the higher castes account only for the remaining 10.8 percent. The entire sample did not have a single Dalit owning more than 10 acres in both the states

put together. Among the landless agricultural workers 91.5 percent belonged to Dalit and OBC communities. The Dalits are in most cases landless agricultural workers. Although the OBCs mainly the hitherto untouchable Ezhava caste have improved their economic condition over time, they also continue to remain in the lower rungs of the society. The Dalits in Kerala are also mostly agricultural workers who have gained Household Rights and a few of them are small peasants. In the case of India where archaic social relations still continue to exist with the rural countryside witnessing rigid forms of caste system, redistributive Land Reforms would be able to alter the situation in favour of the deprived sections of the society. Altering the existing land relations would hence be indispensable for any Movement that is genuinely interested in overcoming the problem of caste.

The System of Rice Intensification as an Alternative Strategy in Countering Neo-Liberal Economic Policies

In addition to the above problems the emphasis on export-oriented agriculture or aquaculture has seen the flight of the peasantry from the cultivation of food grains like in coastal Andhra where aquaculture has captured paddy lands or in Kerala where plantation crops are taking over paddy lands. The same is the case of other food grains grown in the semi-arid regions of different parts of India. The absence of remunerative prices for food grains in the context of high costs of production have also led to a situation where peasants are leaving their lands fallow. The insistence of peasants' and agricultural workers' organisations and the Left Parties especially in Kerala against conversion of paddy lands, while is very significant, would be an exercise in futility unless one is able to provide them with alternative technologies that would exponentially increase productivity of food grains. The Neo-Liberal Economic policies have threatened land security, security of employment opportunities and food security. In the background of such a situation while chronicles of tragedies are innumerable, representatives of the peasantry have to transform themselves into harbingers of hope. It is relevant to look into alternatives before People's Movements for resistance to Neo-Liberalism and there is need for intervention of the Peasant Movement at the production level to ensure food security, security of employment opportunities and also to reverse land insecurity. This obviously is suggested in addition to the time-tested methods of politicisation and unionisation. We do not visualise an immediate scenario of reversal of the Neo-Liberal Economic Policies, and hence believe that only when the oppressed peasantry will have the wherewithal to sustain a prolonged consistent organised struggle, will they finally emerge victorious.

The System of Rice Intensification (SRI), also known in popular parlance, as the 'Madagascar System' can be an effective method of overcoming the technology gap to exponentially increase production, in the traditional rice growing regions and probably also in some of the semi-arid regions presently reeling under starvation. Simultaneously from field trials it is also found to be an effective tool to ensure food security, security of employment opportunities and a counter to flight from cultivation of food grains to plantation crops or aquaculture. It also proves to be environmentally more conducive and also viable in semi-arid regions as the water usage is cut down by 75 percent. The dissemination of such technologies has to be taken up as a mass movement by the Peasant organisations and political parties representing the interests of the oppressed peasantry as a strategy that would strengthen the struggle against Neo-Liberalism.

Rice has been the principal food grain cultivated in Kerala and it forms the staple diet of the people in the state irrespective of their class backgrounds. The initial years after the formation of the state and the implementation of Land Reforms did witness the bringing

under cultivation large tracts of land and rice was cultivated in a big way even by the lowest strata of the peasantry. There was however, a reversal of this trend and the peasantry not only showed a propensity to shift to temporarily lucrative crops and to commercial crops like coconut and rubber, but also began to convert paddy lands into uplands by dumping soil from other places.

The eighties witnessed a systematic depletion in the area cultivating rice and the land utilisation pattern in the state in the last two to three decades reveals a trend towards putting cultivable land to non-agricultural use and large-scale conversion of land growing rice into plantation, especially coconut and also rubber plantations with the ulterior motive of circumventing the ceiling laws of the state.[21] The growing trend towards commercialisation witnessed in Kerala in recent times has been simultaneously accompanied by depletion in the land growing rice, which has decreased by half between 1980-81 and 1995-96 and is continuing its downward trend. Vested interests want conversion of paddy lands to uplands so that they can dabble with real estate business. This is in spite of it being illegal to convert paddy land into house plots or plots growing commercial crops.[22] Lack of remunerative returns has also led some peasants to leave their paddy fields uncultivated. The struggle of the Kerala State Karshaka Tozhilali Union against such trends is unique and assumes great significance in this context.[23]

Over the years the withdrawal of subsidies, high input costs and other factors, coupled with the limited procurement at Minimum Support Price and the peasantry being placed completely at the mercy of the market forces, rice-mill owners and the informal credit sources has only made rice cultivation a losing proposition. The problems of the rice growing peasantry have only been exacerbated with the advent of the neo-liberal economic policies. The peasants have been subjected to net loss in financial terms. Unfortunately, the dominant trend has been to blame the higher labour costs and unionisation of the agricultural workers and more often without any concern or sense of social responsibility towards the toiling masses who feed the hungry millions.

At the peak in 1960s and early 1970s 14 lakh hectares were engaged in rice cultivation. This has now declined to about 3 lakh hectares only. The rice productivity, which was around 1.7 tonnes/hectare in the 1950s, jumped to around 2-2.5 tonnes/hectare with the advent of the 'Green Revolution' and the consequent use of the package of HYVs, chemical fertilizers, pesticides and other modern innovations. The current productivity lies at 2.2 tonnes/hectare for the entire state with the regional best average of around 3 tonnes/hectare in Kuttanad and Palakkad. The clear picture, which emerges out of these facts, is that there has been no marked increase in the productivity of rice over the years despite large investments made in research within the establishment of specialised Universities and Agricultural Research Stations. Notably even the rice yields achieved under Research Station conditions with optimum input and management has been around 4-5 tonnes only across the state; needless to say the field results for the farmers would show much lower figures. Undeniably at the current levels of productivity and the high costs of production, rice cultivation is not a profitable or viable proposition for the peasantry.

Kerala has been a chronically food deficit state with the state being only able to meet about 15% of its food requirements within the state. The state is to a great extent dependent on import of rice and for a state with rice as its staple diet, it may cause problems in the event of a crisis and absence of proper movement of rice from external markets. The gradual dismantling of the Public Distribution System and the debilitating effects that it could have on food security when coupled with the factor that there is a flight from rice cultivation and vanishing paddy lands paints a very bleak picture. The per capita food grain consumption in

the state is found to be below a state like Andhra Pradesh in an earlier study conducted.[24]The food security of the agricultural workers and the peasants with small land holdings will be put in peril. The social implications of the flight from rice cultivation could be far reaching. While on the one hand it would displace large number of agricultural workers from their employment, it could also be a cause of social tensions in the long run and there could be an acceleration of the process of reversal of Land Reforms even in a state like Kerala.

Any significant change in the Land Utilisation Act and the question of Land Ceilings, which are being contemplated by the neo-liberal set-up, will have a cascading effect leading to the levelling of paddy lands and conversion into uplands by dumping soil. Conservation of wetlands is a global environmental concern as it serves important ecological functions like providing habitat to birds and other species and acts as a filtering point for pollutants generated by us. The conversion of paddy lands thus could lead to environmental problems. Kerala has also over time developed massive infrastructure for irrigation in the different 5-year plan periods. This is ideal for rice cultivation and could be a colossal waste if it is not utilised properly.

This being the reality we make the following submission: The current level of productivity in the context of high costs of cultivation, cuts in input subsidies and lack of proper procurement policies or effective price support mechanism makes rice an unviable proposition in the state. In the absence of profit it is futile to expect the peasants to stay loyal to rice cultivation and the lure of commercial crops, which may temporarily offer a lucrative alternative will be insurmountable. The 'Green Revolution' model laying emphasis on HYVs and high input based agriculture dependent on assured irrigation has proved to be a failure in reversing this trend. The wage question and unionisation of agricultural workers is often posited as the reason for the flight from rice cultivation rather than the high input costs, low productivity and ineffective price support mechanism or procurement system. Costs of cultivation cannot be brought down beyond a particular limit. A discernible technology gap is undeniable and there is an urgent need to disseminate some technology that can bring about a quantum leap in productivity/hectare to retain the peasants under rice cultivation. A radical shift in our thinking is necessary to reverse the existing trend of vanishing paddy lands and chronic food deficit in the state. The System of Rice Intensification (SRI) reflects a radical shift in rice production technology and provides a promising alternative to the present morass.

The "Green Revolution" which used a combination of High Yielding Varieties, chemical inputs and mechanisation was predicated on assured irrigation and was accessible primarily to the resource-rich. It has often been criticized as an elite-biased strategy and also been under criticism for being environmentally unviable, provoking questions like "How Green is our Revolution?"[25] It however, cannot be possibly denied that the strategy had managed to bring about an increase in productivity of food crops like rice and wheat. Undoubtedly, the increase has not been commensurate to the investment involved and has failed in the context of withdrawal of input subsidies under the neo-liberal regime to retain the interest of the peasantry in the cultivation of food grains. The "One-Straw Revolution" put forward by Masanobu Fukuoka, based on organic farming also has not been able to make any remarkable increase in productivity and its claim to fame is largely restricted to the environmental concerns it raised. It involved mainly soil and nutrient management practices alone.[26] The other variants of such methods have also not met with much success.

The SRI method that we are proposing to adapt to Indian conditions offers a great promise in regard to intensification in rice cultivation and ensuring an exponential increase or

quantum jump in productivity. It could emerge as a truly "People's Green Revolution" as it is accessible to resource-scarce households, is an inclusive strategy which is labour intensive and also environment friendly while at the same time bringing about a quantum jump in productivity. The food security concerns of innumerable poor peasants and agricultural workers could be addressed and the under-employed family labour of families with small land holdings can be put to effective use while making them food secure. The conversion of paddy lands into plantations, commercial sites or into aquaculture will be reversible.

A Jesuit priest Henri de Laulanie developed the SRI method in Madagascar in 1983. Laulanie accidentally discovered a profound growth of tillers and a concomitant rise in productivity with early transplantation of rice. He later combined early transplantation with innovative soil, plant, water, and nutrient management practices that provided an optimal rice plant environment.[27] The SRI essentially combined practices witnessed by Laulanie in Madagascar, being already put into practice by the poor peasants based on their own experience, although as separate practices and it capitalised on an in-built pattern of development in rice and other varieties in the graminaceae family.

T.Katayama, a Japanese researcher had identified many years ago a regular sequential tillering pattern in rice and his tillering law explains how to get rice plants with often sixty tillers and sometimes even higher than hundred (the highest witnessed being 155 tillers). He also concluded that the first three primary tillers may bear 39.3%, 25% and 15.4% of the potential total, i.e. 80% of the possible production which commends an early and gentle transplantation for realising maximum productive potential.[28] The SRI capitalised on these discoveries.

Research has shown that when rice plants are kept continuously flooded, up to 78% of their roots degenerate under conditions where the soil lacks oxygen.[29] Both scientists and farmers alike have overlooked the negative effect of continuous soil saturation on root growth and functioning. Anaerobic conditions lead to lesser absorption of oxygen and the SRI method that stands for rice cultivation under aerobic conditions ensures greater root spread and absorption of oxygen.

In the SRI method the seedlings are transplanted from the bed when they are between 8-15 days old, taking care not to cause much trauma and planted in singles rather than in bunches of 3-5 plants in the conventional method, with wide spacing of at least 25X25 cm. The field unlike in the conventional method is kept moist but not kept under water-logged conditions. Weeding is done more frequently. This ensures an increase in tillering and stronger plants.

With SRI methods, one could see after the first month a much greater number of tillers, 30-50 per plant, with some plants producing even 80-100 tillers. If one pulled up SRI plants, one could see that they had much larger and deeper root systems. A pull test to measure the resistance that plant root systems give to uprooting found that it took 5-6 times more force (kg/plant) to do this for SRI plants. Having more roots can support more tiller growth and more grain filling, while plants having a larger canopy with more photosynthesis can support more root growth and root exudation benefiting soil microbes.

Experiences and Results of the SRI

SRI is one of the most remarkable agricultural innovations in the recent past. It has met with resistance, sometimes vehement, from the skeptical peasants, the agricultural workers and also from the scientific community despite the evident benefits that it offered particularly for poor farmers and for the environment. In Madagascar the peasants have been able to increase productivity to about 12 tonnes/hectare. The results have been higher than under conventional method in countries like Cambodia, Nepal, Indonesia, SriLanka, Cuba, China and Bangladesh with a near doubling of yield. There have been instances where China which has achieved up to 12 tonnes/hectare on an average with the SRI method has also witnessed as high as 27 tonnes/hectare on individual farms.[30]

In India SRI has doubled economic returns for the peasants in Tamil Nadu and the TNAU analysis of farmers' data has shown doubling of profits even as costs of cultivation is less by about 12 per cent The average yield in Tamil Nadu and Andhra Pradesh is around 7-8tonnes/hectare and individual farmers in Andhra Pradesh have also reported up to 17 tonnes/hectare![31]

Experience of Trials at Nallepally Village in Palakkad District of Kerala

Our trials have been restricted to the fields of certain enterprising peasants in the Nallepally village of Palakkad district of Kerala and not under any research station. The peasants involved here also like elsewhere relied on traditional method of rice cultivation under waterlogged conditions and were skeptical when the SRI method was sought to be introduced. Peasants tried it on their fields without any additional incentive from any agency. There were no changes made in the preparation of seedbeds, ploughing and use of chemical inputs in the tests conducted by us so far.

The overall result was spectacular. Nallepally village had an average rice productivity of 2.7 tonnes/hectare under the traditional method using 'Green Revolution' techniques. Under the SRI method the peasants got between 6-8 tonnes/hectare and a consistent average of 6 tonnes/hectare. This is noteworthy given the fact that the Research Station yields realised across Kerala is only around 4-5 tonnes/hectare and the peasants will not be able to realise more than half that on their fields.[32]

The Advantages of the SRI Method

In addition to the quantum jump in production, which has its larger positive socio-economic implications a cursory look at the SRI method also brings out the following advantages:

- The SRI method overcomes the technology gap that had till now been a major reason for stagnancy in rice productivity.
- The exponential increase in production would reverse the trend of conversion of paddy lands into plantations or commercial plots.
- The drastic reduction in seed requirement nets the peasants nearly 100 kg/hectare of rice even while also increasing the fodder produced.
- It could be adopted in semi-arid conditions also and requires less than a quarter of the water required in the traditional method.
- The unemployed family labour of families with small land holdings can be utilised effectively and their food security could be ensured.
- In the SRI method rice is cultivated under aerobic conditions. In such a situation the emission of methane gas into the atmosphere is negligible. Methane gas is 32 times more

powerful than carbon di-oxide in its influence on global warming. Rice cultivation in Asian countries is blamed as the major source of emission of methane gas into the atmosphere. The SRI method could be a boon under such circumstances.

The impressive gains made by the SRI method would force anyone to ponder as to why such seemingly simple practices were never adopted before by our peasants. This has to be seen in contrast with the misplaced enthusiasm for temporarily lucrative crops and BT cotton; all of which have received an aggressive advertisement support from the MNCs having stakes in the same.

Political will and initiative is indispensable in ensuring the effective dissemination of the most modern of innovations. Resource persons from the different Panchayats can be trained in the technique involving Scientists who still have a concern for society and they can in turn act as the harbingers of change in our rural countryside. This assumes greater relevance in the context of the gradual collapse of the extension services. What is essential is to draw from the experiences worldwide and transform the present individual experiences into a true mass movement for food security and self-sufficiency. The AIKS in Karnataka have already reacted positively to this initiative and taken preliminary steps in this direction and two Panchayats in Kerala have also expressed interest to replicate the Nallepally experience on wastelands in their possession. The opportunities are enormous, the responsibility is historic and it needs to be seen as to who would show the political courage to take up an uncharted course that can possibly alter the rural agrarian scenario radically.

Notes

[1] John Madeley, *Food for All: The Need for a New Agriculture*, Zed Books, London, 2002, p-82.
[2]Op.Cit, Joan.P.Mencher, 2002, p-214.
[3] This has been rejected by Lenin who pointed out that the acreage is never a direct indication that a farm is really big as an economic enterprise or that it is capitalist in character in his " New Data on the Laws Governing the Development of Capitalism in Agriculture", Part One: Capitalism and Agriculture in the United States of America" in V.I.Lenin, *Collected Works, Vol.22, December 1915- July 1916*, Progress Publishers, Moscow, 1964, pp-13-102.
[4] Venkatesh Athreya, "Redistributive Land Reforms in India: Some Reflections in the Current Context", Paper Presented in the All India Conference on Agriculture and Rural Society in Contemporary India, Barddhaman, December 17-20, 2003, p-1.
[5] Op.Cit, Y.V.Krishna Rao, 1999, p-68.
[6] Op.Cit, Jaya Mehta, 2003, p-35.
[7] K.C.Hiremath, "Reform for Making Indian Agriculture strong, Sustainable and Globally Competitive" in C.Narasimha Rao (Ed.), *A Decade of Economic Reforms in India*, Serials Publication, New Delhi, 2004, pp-281-82.
[8] S.S.Acharya, "Indian Agriculture: The Current Concerns" in D.Narasimha Reddy, Surjit Singh and Dolly Arora (Eds.), *Political Economy of WTO Regime: Some Aspects of Globalisation and Governance*, Indian Political Economy Association, Rainbow Publishers, New Delhi, 2002, pp-68-69.
[9] V.M.Dandekar, IASSI, n.d, p-182.
[10]"Food First 'Backgrounder'", *Institute for Food and Development Policy*, Oakland, California, June 2000. Website: http://www.foodfirst.org/pubs/backgrdrs/2001/WOIV7nI.html.
[11] Op.Cit, John Madeley, 2002, p-84.
[12]Gumisai Mutume, "World Bank Land Reforms Collide with Civil Society", http://www.50yers.org6April.2001.
[13] Op.Cit, Venkatesh Athreya, 2003, p-2.
[14] William Hinton, "The Importance of Land Reform in the Reconstruction of China", in Op.Cit, Fred Magdoff and Frederick.H.Buttel (Eds.), 1998, p-151. Hinton talks about revanchist forces repudiating Land Reform, especially in the context of what he terms as the 'reformist' attacks in the 1980s against Land Reforms. Revanchist forces here denotes the dispossessed landlords who return with a vengeance to reclaim their confiscated land. We use it here to signify the force with which there is a reversal of Land Reforms in our country and the distress sale of land by the rural poor to the big peasants and landlords, who have emerged as 'agricultural moneylenders'.
[15]Op.Cit, Joan.P.Mencher, 2002, p-216.

[16] Cf, "Discussion" in V.K. Ramachandran and Madhura Swaminathan (Eds.), *Agrarian Studies: Essays on Agrarian Relations in Less-Developed Countries*, Tulika Publication, 2002, pp-363-64.
[17] K.C.Suri And C.V.Raghavulu, "Agrarian Movements and Land Reforms" in B.N.Yugandhar (Ed.) *Land Reforms in India* Vol.3., Sage Publications, New Delhi, 1999, p-46.
[18] Op.Cit, Joan Mencher, 2002, p-216.
[19] This phenomenon has been reported in other parts of Vizianagaram and Srikakulam districts. Cf, Report of the Farmers' Commission of Experts on Agriculture in Andhra Pradesh, P-42.
[20] Op. Cit, Vijoo Krishnan, 2005.
[21] *Ibid*,p-52.
[22] Joan.P.Mencher, "What Happened to Land Reform?" in Sujata Patel *et.al*(Eds.), *Thinking Social Science in India:Essays in Honour of Alice Thorner*, Sage Publications, New Delhi, 2002, p-217.
[23] The KSKTU has been stalling the conversion of paddy lands into commercial plots, housing sites or for plantation crops and also cultivating paddy forcibly on lands left fallow by the cultivators.
[24] *Op.Cit*, Vijoo Krishnan, 2005, p-269.
[25] Vikram Sarabhai, "How Green is Our Revolution", First Lal Bahadur Shastri Memorial Lectures, 28 February, 1969 in *Agricultural Transformation in India: 25 Years of Lal Bahadur Shastri Memorial Lectures*, IARI, New Delhi, 1995.
[26] Masanobu Fukuoka, The One-Straw Revolution: An Introduction to Natural Farming, Other India Press, Mapusa, Goa, 2003.
[27] Justin Rabendrasana, 'Revolution in Rice Intensification in Madagascar', an oral presentation, Association Tefy Saina, edited by Coen Reijntjes for ILEIA Newsletter.
[28] P.Vallois with N.Uphoff, "Katayama's Tillering Law", www.simicro.mg/ipnr/IPNRenKa.htm.

[29] Kar, S., S. Varade, T. Subramanyam and B. P. Ghildyal. 1974." Nature and Growth Pattern of Rice Root System Under Submerged and Unsaturated Conditions"

[30] Norman Uphoff, "Questions and Answers About the System of Rice Intensification (SRI) for Raising the Productivity of Land, Labour and Water", CIIFAD.
[31] Norman Uphoff, "Report on SRI Field Visits in Tamil Nadu and Andhra Pradesh, India, CIIFAD.
[32] If the Research Station productivity is X, the productivity on the peasants' fields will at best be more or less equal to X/2. The consistent average of 6 tonnes/hectare achieved by the Nallepally peasants in private experiments has the potential of being replicated in other areas.

Referee's comments:

It will be useful if he can provide some more details about his fieldwork. He has reported some findings from Andhra without informing us about what did the fieldwork comprise (which villages and what kind of households were surveyed). It will also be useful if he can provide more detailed results in a few tables. At one place, he has written that "economists who are otherwise inclined towards radical land reforms and even peasant organisations are positing the price question as more important that the land question". This is neither a concensus position among economists on the left nor is it the position of the Kisan Sabha. But the author is entitled to his views and these may be discussed in the seminar.

Vijoo Krishnan's response:

The Field Survey was part of my PhD and was conducted in Four Gram Panchayats in Andhra Pradesh and Four in Kerala. The Gram Panchayats Surveyed in Andhra Pradesh are: Unagatla, a Slater village in West Godavari District, Sirisedu in Karimnagar District in the Telengana Region, Ipperu in Anantapur District and Chenguballa in Chittoor District, both in the Rayalseema Region. In Kerala the Gram Panchayats were Kainakary in Alappuzha District, Kurichi in Kottayam District, Nenmeni in Wayanad District, Karivellur-Peralam in Kannur District.
It was a questionnaire-based Survey that looked into PDS Access, Indebtedness and Source of Credit, Costs of Cultivation and Production Constraints, Loss of Land due to Indebtedness in the period 1990-2002, Literacy and Political Participation/Unionisation, Caste Composition of the Peasantry etc. The Sample itself was drawn with the help of

Panchayat officials from their records and the stratification was initially made along the size of landholding. The Assets held, both Productive and Unproductive was also assessed during the Survey. I shall provide a few tables based on my findings. However the constraint of the prescribed size of the Paper was a factor in avoiding some of these details.
I fully agree with your contention that the view expressed in the paper gives an impression that there is a consensus among economists on the issue. I do not believe either that such a consensus exists. I am aware of the Kisan Sabha position on the issue, and the hint was on certain representatives of other peasant organizations. I thank you for pointing it out and I will reframe the relevant portion.