

FARMERS' FORUM

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Issues and Ideas for Indian Agriculture



LAND ACQUISITION 07
What's Public about 'Public Purpose'?

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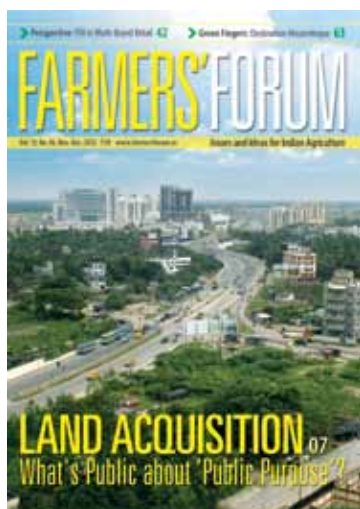
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2013: Wishing the FARMER Safe 'land'ing

"I run so very fast that all the trees get left behind," says an excited little village boy to his father. The father replies: "Run with your cousins to know how fast you really run."

Policymakers would have one believe that Indian farmers are running very fast on the road of progress. Reality, however, is far removed from the world of make belief. Without a fair examination of the context of the perceived pace of growth for farmers vis-à-vis the other participants in the great Indian race for progress, there is no means of knowing what the comparative pace of progress of the various players is; whether or not the race is fixed; what disadvantages some players are being put under; and what the resultant inequalities are.

The net worth of the 10 richest Indians is documented to be in excess of \$100 billion, which is more than the wealth of the millions of marginal farmer families in the country who account for possibly nearly 30 per cent of India's population. This glaring inequality is not palatable to those living on the margins. As a farmer, I wish I were wrong but wishes are not horses. The \$100 billion translates to nearly Rs 600,000 crore, excluding the value of undocumented undeclared assets. The dozen zeros can boggle any brain, especially in terms of the immense inequality that is now becoming more appalling and visible. Numbers around the gross domestic product, touted as the right measure of a growth of a nation, have ceased to be relevant.

There are sharp stratifications in not only the three components of the human development index – economic, health and education – but also divisions in the crucial decision-making process in India. Nearly half of India's population is directly employed in agriculture but it would be useful to find out how many members of the policy-making core group in New Delhi, chief ministers or other ministers have ever been dependent on agriculture for a living or, for that matter, have ever really worked the land.

How far India has deviated from the aspirations of the visionary freedom fighters! The skewed distribution of wealth gets translated into the choices made by the people who govern the country; who write policies for its growth; and who determine who is on the fast track to progress. It provides insights into policies that have led to vast tracts of the Indian countryside getting alienated from the mainstream.

The prime minister's decision of UID-based cash transfers is an excellent concept. The proposed land acquisition bill is, however,

**NET WORTH OF
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THE STATE IS LIKE AN UNSEEING EMPIRE PASSING LAWS TO ACQUIRE LAND FROM UNWILLING FARMERS FOR PURPOSES THAT ARE OPEN TO MIS-INTERPRETATION AND AT PRICES THAT CAN BE INFLUENCED BY ARBITRARY POWERS OF THE DISTRICT ADMINISTRATION.

another story altogether. Various government organizations together own more than two lakh acres of unused land at various places across the country. Most of these are well located for setting up industries. They even have environment clearances and very good infrastructure connectivity. In the national capital region of Delhi, there are hundreds of acres of unutilized land available for use with the government. These figures exclude the vast tracts of land owned by the ministries of railways and defence.

Instead of seeking to acquire farmers' land against their wishes, the government would be well advised to first gather and tabulate information about its own unused land. This has never been done because government departments and public sector undertakings do not want to give up control of land allocated to them decades ago but still lying unused. Such lands could be offered at attractive prices for use to industry. Yet policy makers choose to ignore the obvious solution but lasciviously look at the land owned by poor farmers, treating their protests and agitation with ill concealed disdain. Alienation has begun to replace hope on the farms.

Land is not just the only source of income for a farmer, it is all that he has and that he will ever have in future. Cultivating it is the only knowledge that he possesses. Taking it away, even for a price, would mean denuding him of his only source of livelihood. Yet the state is like an unseeing empire passing laws to acquire land from unwilling farmers for purposes that are open to misinterpretation and at prices that can be influenced by arbitrary powers of the district administration. Farmers seek progress and do not relish being taken advantage of. Indeed, the private sector should seek to make an offer that the farmer cannot refuse.

Albeit the government is trying to mend its ways under intense public scrutiny. As India gets set to launch its 12th Plan with fresh hopes of reforms and investment, as India welcomes a new year, it is time for policy makers to accept all wise and credible counsel so that agriculture can be rescued from the hands of vested interest and good intention is backed by even better application of mind so that the end result is a resolution of the crisis facing Indian agriculture; the end of the heartache around land acquisition. ●



Ajay Vir Jakhar
Editor

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To the Editor

Clearing cobwebs around FDI

Sir, Apropos of your report on the seminar, "FDI in retail: Will it benefit the Indian farmer?" organized by the Bharat Krishak Samaj in August 2012, I was most impressed by the quality and the range of discussions that were reported in *Farmers' Forum* (September-October 2012). Such discussions and debates are really useful for clearing the mindset of the people of all misinformation that is purveyed. I look forward to reports on more such seminars on issues of import for Indian agriculture and hope that you will organize more of them.

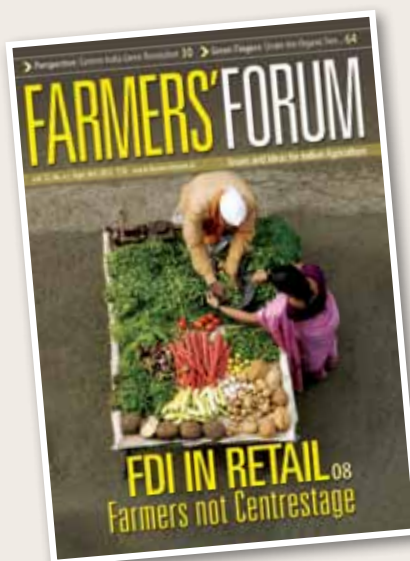
Rajender Rawat,
New Delhi

Sir, Your views on FDI are very straight-forward and your editorial, "Time for the farmer to act" (September-October 2012) makes the point without beating about the bush on this very important issue that everyone is trying to confuse. Indeed, as you say, it is not a little curious how the addiction to power guides and motivates politicians, who are now trying to take advantage of the confusion that they have created. We need more of such straight talking comments from *Farmers' Forum*.

Bharat Solanki,
Bharatpur, Rajasthan

The organic way

Sir, The story of Jitendra Singh in the Green Fingers, Under the Organic Tree, Who Loves to



The foreign exchange question

Sir, How come no one is highlighting the problem of foreign exchange deficit and loss to Indian industry because of imports by foreign companies when FDI in retail becomes a reality? I do not believe that FDI will benefit India as a whole. More importantly, farmer gains will be very limited and should not be given as a reason for allowing FDI. India must proceed with caution.

Mukesh Kumar,
Neem Ka Thana, Rajasthan

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is now up and running.
Log in to check out all
earlier numbers.**

Lie with Me... (*Farmers' Forum* September-October 2012) is very inspirational for those who are looking to shift from agriculture and move into other vocations. That a well-educated man like Jitendra Singh wants to engage in organic farming is doubly encouraging. I hope the article on him is sent out to a lot of people so that they can be inspired to go in for farming organically.

Lalit Bhatt,
Uttarakhand

Sir, It is good to read your focused articles on organic practices under the Green Fingers column of *Farmers' Forum* and the dangers and consequences of the first green revolution being repeated in the second green revolution. One cannot depend on GM crops.

Jaipal,
Bhopal, Madhya Pradesh

Look before you leap

Sir, I read with great interest the article by Dr Aditi Mukherji, No Green Revolution without Right Policies, (*Farmers' Forum* September-October 2012) and the series of articles on the proposed eastern India green revolution. I find it hard to accept that rampant use of groundwater can be the basis for any new strategy given the contested nature of West Bengal's groundwater status. I believe that one should examine and understand this issue very critically before launching into any programme at a state level.

Sripada Goswami,
Kolkata, West Bengal

AGRICULTURE LAND

**The Compulsory Acquisition Law,
Its Abuses and Remedies**

Ram Singh

Land acquisition has become one of the most contentious issues for the political economy of India. In most cases of compulsory acquisition, agricultural land is transferred to industrial, commercial sectors as well as to other developmental activities. Invariably, land is acquired without prior consent of farmers. Understandably, compulsory land acquisition has direct consequences for the welfare of not only farmers but also of the agricultural workers. What is more, it has come to raise serious concerns about the food security of the country. Popular protests against land acquisition have delayed many infrastructure projects. Be it Singur or Bhatta-Parsole, farmers are ready to brave the bullet rather than part with their land. Therefore, the issue of land acquisition concerns not only farmers but the country as a whole.

Inadequate compensation is indeed one of the causes behind farmers' staunch resistance to compulsory land acquisition. However, it is not just scanty compensation that is to be blamed for the violent protests against land acquisition. There is

have compelled the central government to take these issues seriously.

Accordingly, the Ministry of Rural Development, Government of India, introduced in Parliament the "Land Acquisition and Rehabilitation & Resettlement (LARR) Bill" 2011. However, scathing comments made by the Parliamentary Standing Committee have forced the government to revisit the Bill. The Cabinet Committee has approved the amended Bill which has been rechristened as "Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Bill". The new version of the Bill is very similar to the LARR Bill 2011.

The stated objective of the Bill is to rectify the failings of the archaic Land Acquisition Act 1894; the existing law on compulsory acquisition of land and private property. According to official sources, the new Bill will facilitate transfer of land from agriculture to other developmental activities while protecting the interests of farmers and the affected people. The Bill has several desirable features. For instance, it creates legal entitlement to

Popular protests against land acquisition have delayed many infrastructure projects. Be it Singur or Bhatta-Parsole, farmers are ready to brave the bullet rather than part with their land

much more to the issue than meets the eye. Several questions warrant serious discussion. For instance, why is there a dramatic rise in the number of such incidents in recent years? Why are farmers refusing to part with their land, even when profitability of agriculture is at an all-time low level? This article analyzes these and several other related issues in detail as it seeks to provide solutions to minimizing the need for compulsory acquisition of land and associated problems.

At present, the use of agricultural land for other purposes is subject to many obstructive regulations, which preclude a large number of potential transactions and put a heavy downward pressure on transaction prices. Thus, there is a need to facilitate land transfer through voluntary transactions that call for immediate reforms in the legal and regulatory framework governing land and its use. There are legal and regulatory reforms that can help facilitate development while safe-guarding the interest of the farmer. There is also the "land acquisition bill". There are, besides, frequent and unrelenting protests against land acquisition that

compensation and rehabilitation and resettlement (R&R) for not only the owner farmers but for all livelihood losers. Besides, it restricts the scope of the notorious emergency clause. Yet, the proposed law has several limitations. It completely ignores the causes behind the grossly inadequate compensation provided to the acquisition affected parties and the resulting litigation. In fact, as will be demonstrated, some of the new provisions in the Bill have the potential to further intensify litigation.

The Bill also fails to address some of the on-going abuses of the eminent domain—that is, the power of the state and its agencies to compulsorily acquire private property for 'public purpose' activities. Besides, the Bill offers various opportunities for the states to favour powerful private companies at the expense of the rights of the farmer and the forest dweller. The compulsory acquisition of land is inherently prone to litigation over compensation. Also, the litigation over compensation is demonstrated to be both socially inefficient and regressive in its effects since it is relatively much more profitable for the rich than the poor.





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To support these two contentions, two unique datasets have been used in the study; one compiled from 525 judgments of the Additional District Judge (ADJ) courts in Delhi and the other from 305 judgments of the Punjab and Haryana High Court. Moreover, compulsory acquisition is intrinsically vulnerable to failures on the fronts of efficiency as well as fairness – even though it involves acquisition of only a fraction of the required land and is accompanied by presumably benevolent schemes (compensation in the form of land-for-land and/or the R&R packages).

As highlighted in several studies, in the absence of compulsory acquisition, many developmental projects will get held-up together with the growing national need for industrialization, urbanization and development and the LARR Bill seeks to rationalize the compulsory acquisition of land. It also enhances the scope of compulsory acquisition for all sorts of activities of private companies by diluting the crucial public-private distinction. This article highlights that it is in fact the regulatory hold-up and not the hold-out by the owners that is the biggest impediment for voluntary transactions in land.

Compulsory Land Acquisition Law: Misuses, Disputes and Litigation

Traditionally, compulsory acquisition of land used to be for public purpose, that is, for building of roads, railways, schools, dams, mega-plants and so on. Very rarely was the land acquisition law used to acquire land for private entities and individuals.

Therefore, the intention behind acquisition was generally not questioned. However, the last decade has experienced a phenomenal rise in the number of compulsory acquisitions for private companies. There have been several instances where the states have exploited ambiguities in the archaic Land Acquisition Act (LAA), 1894, to acquire land for private companies and the powerful. For instance, land for private companies can be acquired if it can serve some social purpose. There is a separate part (Part VII) in the Act for such acquisitions. However, there is no provision for emergency acquisition under this part of law. Nonetheless, the states have used the emergency clause to acquire land for all sorts of activities of companies, including ones that, even remotely, cannot serve any public purpose.

Part VII of the LAA provides several safe guards against the misuse of the law in favour of companies. To circumvent these safeguards, states have frequently used Part II of the Act to acquire land for companies. The Act is ambiguous as to when acquisition for companies can be undertaken under Part II. Judicial interpretations of the Act have only aggravated its misuse. For instance, the judiciary has treated acquisition for companies as public purpose acquisition, as long as a part of the compensation cost is paid out of the state exchequer. Even worse, the Supreme Court upheld an incredibly bizarre contention of the Gujarat government, which claimed that a contribution of even one rupee from the exchequer is sufficient to validate the acquisition

for companies under Part II.¹ Since then the states have been contributing nominal amounts toward the cost of acquisition, to justify acquisition for companies. Some governments have gone to the extent of contributing just Rs 100!

As if this was not enough, there have been other abuses of the land acquisition laws as well. The state governments have often acquired agriculture land citing public purpose but subsequently transferred it to private companies. The other notable abuses include: adoption of pick-and-choose method for selecting project site; and the use of the denotification clause to exempt land belonging to the powerful but simultaneously acquiring all neighbouring properties.

In such a scenario, private interest, rather than public purpose, has come to dictate the decision-making of state governments. This phenomenon has become especially pronounced during the Eleventh Five Year Plan. The plan has made special economic zones and other public-private partnerships the mainstay for making provisions of public goods. Under the partnerships, the government concerned acquires land and transfers the control rights over it to the partner companies on the basis of a long-term and renewable lease. Invariably, excess land is acquired to be used by companies for real estate and other commercial purposes. Post-acquisition, companies make huge fortunes by leasing out the developed land. At times, they charge as much as 100-150 times the price they pay for the land, making the compensation received by farmers look like a pittance. Several states and central government departments have formed such "partnerships". Delhi airport, the Posco project in Orissa, the Yamuna and Ganga expressway development projects in Uttar Pradesh are a few of the many examples.

Apart from unnecessary acquisition, under the existing law, the acquisition affected owners are forced to go for litigation. It is generally seen that compulsory acquisition of land is invariably followed by disputes and litigation over compensation. LAA required the government to compensate the affected owners for the 'market value' of their property, which is to be determined on the basis of the 'circle rates' and/or the sale-deed of a similar property. Due to several reasons, the government provided compensation is significantly lower than the market value of the land.

For one, the market price of agricultural land is acutely suppressed due to unreasonable restrictions

imposed by the change-in-land-use regulations as one will see in the pages that follow.

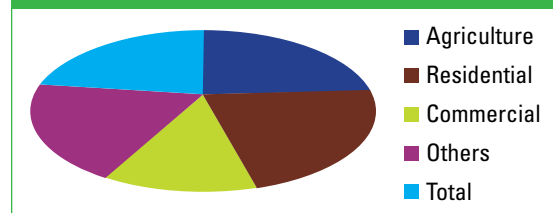
Two, the price reported in a sale-deed is generally much lower than the actual transaction price to save on stamp-duty charges.

Three, the circle-rates fixed by the states are perpetually outdated and are much below the market rates. This implies that both sale-deeds and circle rates under-represent the true market value of land; with circle-rates being lower than the price mentioned in the sale deeds. The land acquisition collectors (LACs) award compensation on the basis of the low value circle-rates. This is the primary reason for the inadequacy of the government provided compensation and associated disputes.

When owners are inadequately compensated, excessive acquisition for companies causes substantial and extensive redistribution of income and wealth. This is especially true in the case of agricultural land. The acquisition means significant wealth gains for companies who get to own or use the land at an extremely low price. There are income gains for the educated and skilled workers who get hired by companies using the land. Also, there are benefits for users of the service for which land is acquired. In contrast, acquisition results in loss of wealth as well as income for farmers, since they are inadequately compensated for their assets and lose their primary source of income. It also reduces employment opportunities and, therefore, income for agri-workers.

Understandably, adversely affected people find the redistribution of land in favour of companies totally unacceptable. It is not a coincidence that most of the violent protests are related to the acquisition of land for private companies. The perception of corruption among decision-makers makes things even worse.

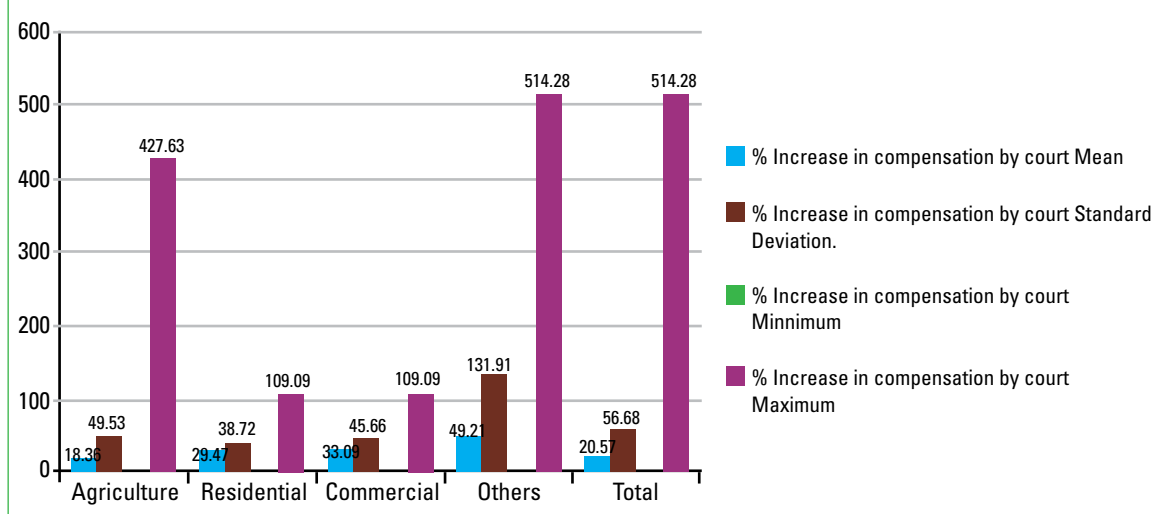
Figure 1: Percentage of Cases with Court awards > LAC award



Source: Data from the ADJ Courts (Delhi) judgments delivered in 2008, 2009 and 2010

¹ See *Indrajit C Parekh vs State of Gujarat* AIR 1975 SC 1182. Also, see *Devinder Singh & Others vs. State of Punjab & Others* 2008(1) SCC728, among others.

Figure 2: Summary Statistics of ADJ Courts (Delhi) Awards



Source: Data from the ADJ Courts (Delhi) judgments delivered in 2008, 2009 and 2010

As mentioned, land acquisition inevitably results in litigation over compensation. The main reason for excessive litigation under the existing law is a different basis for determining compensation by the LACs and courts. On the one hand, LACs use the circle-rates and courts and on the other tend to be lenient and use relatively high-value sale-deeds as the basis for determining compensation. Notably, the sale deed rates do not reflect the true value but are generally higher than circle rates. Therefore, for the acquisition affected parties there is necessity as well as incentive to litigate. This inference is confirmed by an examination of court judgments.

Table 1 below displays summary statistics of the available 525 judgments delivered by the ADJ courts in Delhi delivered over the period of three years; 2008, 2009 and 2010. Figure 1 shows the proportion of cases where the ADJ court awards are strictly greater than the LAC awards. For instance, in approximately 86 per cent of the 525 cases studied, court awards are strictly greater than the LAC awards. In about 90 per cent of cases involving agriculture land, court awards are strictly greater than the LAC awards.

People, who can afford, approach the higher judiciary to seek further enhancement in compensation despite the increase in compensation by the ADJ court for the acquisition affected owners. Table 1 presents summary statistics of judgments of the HC pertaining to the years 2010 and 2011.

In many of the appeal cases, the owners did succeed in getting compensation even higher than what they had received from the ADJ court. Overall, in 96 per cent of the litigated cases, the court awarded compensation is much higher than the LAC award. Moreover, average court awards are almost 290 per cent higher than the LAC awards. In some cases, the difference between the LAC award, on the one hand, and the judiciary awarded compensation, on the other hand, is really startling. Here are a few illustrative examples:

In *Vineeta Kapoor and others vs State of Haryana and others*, 2010,² the judiciary increased the rate of compensation substantially. The LAC awarded compensation at an average rate of Rs. 40,000 per acre for different land categories. In contrast, the High Court awarded compensation at a uniform rate of Rs 2,17,800 per acre. This is about 444.50 per cent higher than the LAC compensation.

In *Ramavtar and another vs State of Haryana and others*, 2010,³ the LAC awarded compensation at an average rate of Rs 2,09,000 per acre for different land categories. In contrast, the High Court awarded compensation at the rate of Rs 13,63,966 per acre for different land categories which is around 552.62 per cent higher than the LAC compensation.

In *Dial Singh and others vs Union Territory, Chandigarh*, 2010,⁴ the rate of compensation awarded by the LAC was Rs 1,90,000 per acre.

² R. F. A No. 2987 of 1993, decided on 21st January 2010

³ R. F. A No. 699 of 2009, decided on 1st February 2010

⁴ R. F. A No. 614 of 1999, decided on 25th February 2010



TABLE 1: Increase in compensation by ADJ and the Punjab and Haryana High Court¹²

COMBINED	% increase in compensation by ADJ over LAC Total observations = 1,231	% increase in compensation by HC over ADJ Total observations = 1,361	% increase in compensation by HC over LAC Total observations = 1,137
Mean	214.26%	42.02%	290.16%
Standard Deviation	11.482689	2.0051	11.6957
Minimum	0.00%	0.00%	0.00%
Maximum	38400.00%	5205.85%	36810.26%

Source: Data extracted by author from the Punjab and Haryana High Court judgments delivered during 2010 and 2011.

Whereas, the HC awarded the compensation at the rate of Rs 9,85,000 per acre. This is about a 418.42 per cent increase from the compensation provided by the LAC.

In *Surjit Singh vs State of Punjab*, 2010,⁵ the compensation for land acquired was increased from Rs 1,75,000 per acre to Rs 8,00,000 per acre by the HC.

In *Sukhdev Singh vs Punjab State*, 2010,⁶ the HC increased the rate of compensation from 1,75,000 per acre to Rs 8,42,400 per acre.

In *State of Haryana vs Gulzar Singh*, 2010,⁷ the LAC awarded compensation at an average rate of Rs 17,000 per acre for different land categories. In contrast, the HC awarded compensation at a uniform rate of Rs 1,72,000 per acre, which is 911.76 per cent more than the LAC awarded compensation.

In *Jai Bhagwan Malik and others vs State of Haryana and another*, 2011,⁸ the compensation for land acquired was increased by 1,448.8 per cent, that is, from Rs 3,50,000 per acre to Rs 16,08,000 per acre by the HC.

In *Jagwati and others vs Land Acquisition Collector and another*, 2011,⁹ the LAC awarded compensation at an average rate of Rs 3,80,000 per acre for different land categories. In contrast, the HC awarded compensation at a uniform rate of Rs 58,85,440 per acre.

In *Chanchal Rani vs Union Territory, Chandigarh*, 2011,¹⁰ the LAC awarded compensation at an average rate of Rs 4,74,013.5 per acre for different land categories. In contrast, the HC awarded compensation at a uniform rate of Rs 2,25,16,000 per acre which is 4,650 per cent more than the LAC compensation.

In *Hirde Ram and others vs State of Haryana*,

2011,¹¹ the LAC awarded compensation at an average rate of Rs 21,500 per acre for different land categories. In contrast, the HC awarded compensation at a uniform rate of Rs 1,54,880 per acre.

Understandably, the acquisition affected people have strong incentives to go for litigation.

It is important to emphasize that litigation is socially regressive. It is much more profitable for the owners of the relatively high-value properties than for those owning low-value properties. To see how, consider two parcels of land each measuring just 100 square-metres. Suppose the first parcel, say A, has market value of Rs 1,500 per-sq-metres but the second parcel, say B, has double the market value or Rs 3,000 per-sq-metres. As discussed, both circle rates as well as sale-deeds are below market value. In the present context, suppose the circle rate for parcel A is Rs 1,000 per-sq-metres. Besides, a sale-deed rate of say Rs 1,300 per-sq-metres is available for this piece of land. Keeping things symmetric, suppose for parcel B the circle rate is Rs 2,000 per-sq-metres and the sale-deed rate is Rs 2,600 per-sq-metres. Now, as is common practice, if LAC awards compensation on the basis of circle rates but court uses sale-deeds, for property A, the court award will be higher by Rs 39,000. In contrast, for parcel B, the court award will be higher by Rs 78,000.

Clearly, the gains from litigation are greater for the higher value property B. Besides, the high value property owners can put in intensive efforts during litigation. Above cited figures also show that the gains from litigation are higher for commercial and residential (plausibly higher value) properties than for the agricultural land. Therefore, it seems plausible to presume that the people with high value property and sufficient financial resources gain more from litigation.

5 R. F. A No. 836 of 2001, decided on 9th April 2010

6 R. F. A No. 955 of 2002, decided on 3rd August 2010

7 R. F. A No. 3788 of 1992, decided on 6th August 2010

8 R. F. A No. 390 of 2005, decided on 11th May 2011

9 R. F. A No. 52 of 2011, decided on 2nd December 2011

10 RFA No. 453 of 2009, decided on 23rd December 2011

11 RFA No. 1712 of 1987, decided on 7th December 2011

12 Total observations vary because of missing data in the judgements of ADJ and HC

India's cotton farmers' lives transform for the better

Research indicated that 87 per cent of Bt cotton farmers enjoyed higher standards of living, 72 per cent invested in their children's education and life insurance, and 67 per cent repaid their long pending debts*. Many more built *pucca* (stone) homes, purchased farm equipment and motorcycles, leased additional land for cultivation etc. Further, women from Bt cotton households had higher access to maternal care services, while children had higher levels of immunization and school enrolment*. Additionally, female earners witnessed a 55 per cent gain in average income, and 42.4 cr. additional days of employment across the total Bt cotton area**.

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*IMRB Somiksha 2007 ** Nature

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By comparison, small farmers and the poor, who generally own low value properties, cannot afford excessive spending on litigation. What makes things worse for them is that the burden to prove the market value is mostly on the owner, notwithstanding the fact that all relevant information – records of sale-deeds, land-type and such like – is solely possessed by the government.

However, litigation entails unnecessary spending of a great deal of money and other resources by the acquisition affected parties as well as by the state. The excessive litigation is partly attributable to the callous approach adopted by the LACs in determining compensation. However, there are inherent problems with the compulsory acquisition of land, even if the officials concerned are competent and upright. In fact, it is inherently litigious and can guarantee neither efficiency nor fairness of the outcome. For the acquisition to be efficient the resulting benefit should be greater than the cost (sum of the owners' valuations and other associated costs) and for the compensation to be 'fair', it should at least be equal to the owner's valuation, which is invariably different from the market value of the property. Consequently, there is inescapable variance between the awarded compensation and the valuation of affected owners.



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There is variance between the awarded compensation and the valuation of affected owners and land transfer happens even if it is inefficient from a pure cost-benefit standpoint

The land transfers may take place though it is inefficient even from a pure cost-benefit standpoint.

The Proposed Land Acquisition Law: Some Critiques¹³

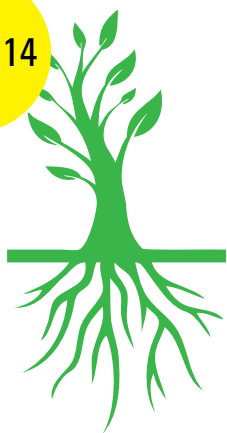
On the one hand, the proposed Bill allows for a creation of a legal entitlement to compensation and R&R not only for the owners but also for all other livelihood losers. On the other, the Bill fails to address the earlier discussed fundamental causes behind the disputes and litigation over compulsory acquisition. Moreover, it provides several opportunities to the state so as to favour companies at the expense of farmers' rights and livelihood of

forest dwellers.¹⁴ True, the Bill drastically reduces the scope of the notorious emergency clause but there are several limitations in the Bill as well, such as excessive use of the emergency clause, covert diversion of the acquired land to companies, adoption of a pick-and-choose method during acquisition and the misuse of the de-notification clause to exempt land belonging to the powerful.

Several clauses of the Bill give the states untamed powers to acquire land in the name of some public purpose and transfer it to companies. For instance, Clause 93 of LARR permits changes in the use of the acquired land; original purpose can be changed to a 'related one'. Clauses 94 and

¹³ At the time writing of this article, the "Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Bill" was not available in the public domain. However, media reports suggest that the bill is very similar to the "Land Acquisition and Rehabilitation & Resettlement (LARR) Bill", 2011. Therefore, the clauses mentioned here are from the LARR Bill.

¹⁴ For some other criticisms of the bill see Chakravorty (2011), Ramanathan (2011), and Sarma (2011).





96 allow transfer of acquired land to private entities for a consideration, as long as a fraction of the resulting profit is shared with the original land owners. Furthermore, Clause 87 allows for mid-way de-notification as well!

Also, the all-encompassing lists of public purpose activities in Sections 2(n) and 2(y) of the Bill allow the states to intervene in acquisition and transfer of land to companies for all sorts of essentially private activities. However, the public-versus-private distinction is important since the incentive to misuse eminent domain is especially pronounced for the private projects. For private projects the scope of compulsory acquisition needs to be reduced drastically, the use of the eminent domain should be restricted to large projects, by providing a lower limit for government intervention. The seller hold up is not a serious concern for small and medium size projects. On top of it, these projects have flexibility as to where they can be located.

There is also nothing substantial in the Bill to change the process of litigation and the resulting wastage of private and public resources. If anything, litigation is likely to intensify further. The existing law provides for compensation including solatium, equal

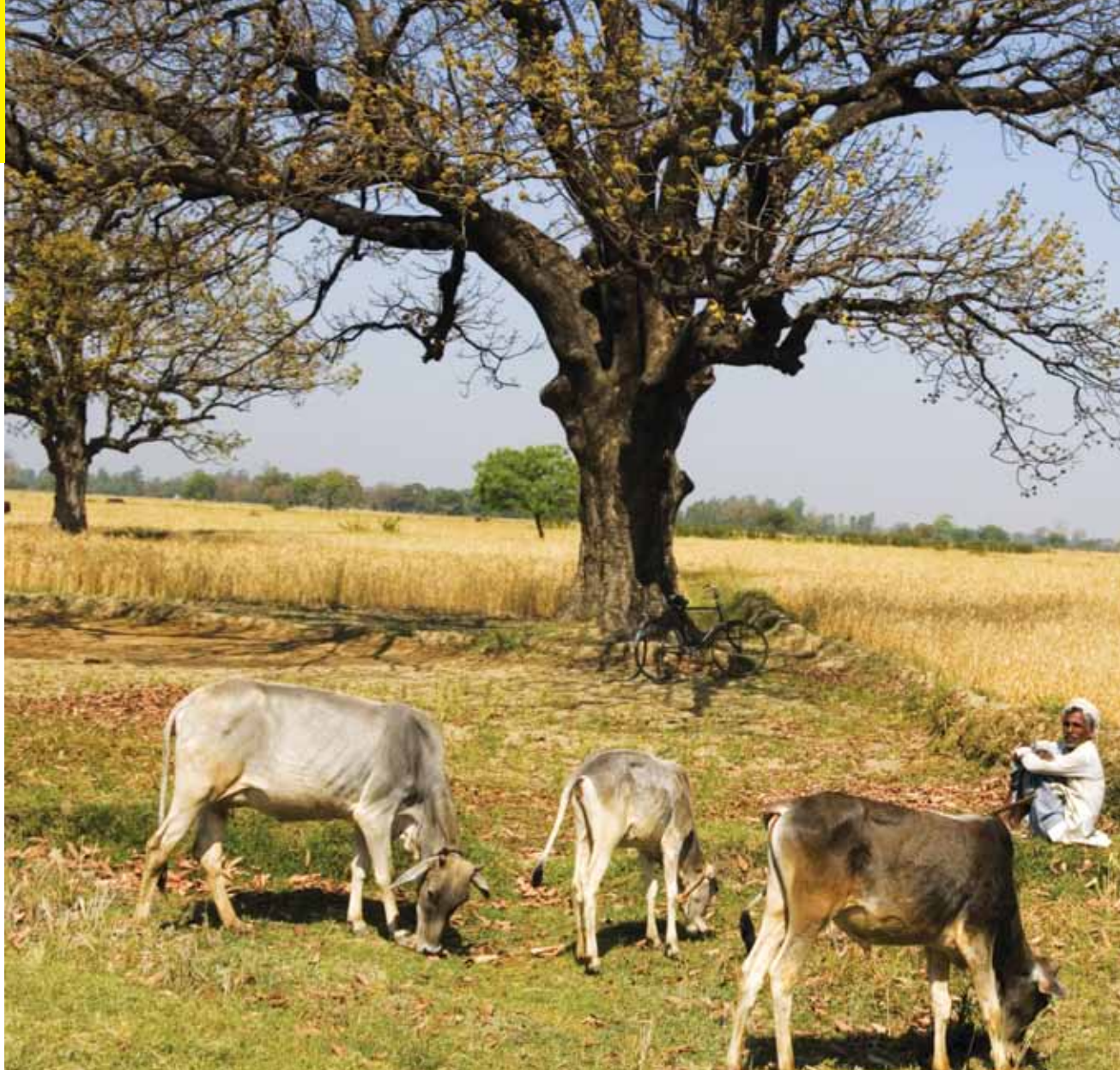
to 1.3 times the market value of the property. The proposed law increases it to four times for the rural areas; and two times the market value for urban areas. Now, consider an agriculture land measuring just 100 sq-metres. Suppose, a LAC uses a circle-rate of say Rs 1,000 per-sq-metres for determining compensation, and the court uses a sale-deed rate of say Rs 1,400. Under the extant law, since the multiplier is 1.3, the total compensation will go up by Rs 42,000.

By comparison, under the proposed law since the multiplier is four, the compensation will increase by Rs 1,60,000! That is, gains from litigation will be much greater under the proposed law, given the proclivity of the LACs and courts to use a different basis. The gains and therefore the incentive to litigate increases further, as the land size and/or the difference between sale-deeds and circle rates goes up.

The Bill does not address the fundamental causes behind litigation. As explained earlier, excessive litigation over compensation under the existing law is due to the fact that the land acquisition collectors (LACs) and courts use a different basis for determining compensation – generally, LACs use low value circle-rates but courts tend to use relatively high-value sale-deeds. All that the Bill does is replace the ADJ court with a ‘Land Acquisition Rehabilitation and Resettlement Authority,’ (LARRA) to adjudicate compensation related disputes. This replacement cannot reduce litigation. Moreover, for the litigant owners, the bill provides no safeguards similar to Section 25 of the existing LAA, which mandates that the court awarded compensation cannot be less than the LAC awarded compensation.

The report of the Parliamentary Standing Committee (PSC) on the Bill is laudable on several counts. However, the report has missed several issues. For instance, on the issue of compensation, all it does is insist on use of highest value sale-deeds as the basis for determining compensation. These measures cannot reduce litigation, unless the LACs are made to base their awards on high value sale-deeds.

In order to mitigate the problem of excessive litigation, it is important that the initial compensation itself is determined on the basis of all relevant information, such as records of the deeds, land-type, its future value and so on. All this information should be compulsorily shared with the affected parties before compensation awards are made. Here, it will help if the compensation is determined by an independent and representative agency set up for the purpose. This agency should be required



to use all of the above mentioned data relevant for determining compensation. Moreover, the scope of compulsory acquisition needs to be minimized.

Yet again, on the issue of food security, both the Bill as well as the report of the PSC leave much to be desired. Public-private-partnerships (PPPs) are confused with private companies, though the range of PPPs is wide and varies greatly in terms of funding and ownership structures. Some PPPs are indeed formed to acquire land for companies under the guise of public goods such as infrastructure. The Yamuna Expressway and the multi-product Special Economic Zones are examples of such partnerships. Real-estate considerations are the main force behind such ventures. So land acquisition for such PPPs is problematic. However, PPPs are also formed to consciously attract private funding for truly public interest projects – for example, PPPs on national highways. These PPPs have no real-estate component and do not create private ownership of any kind – only limited period revenue rights are granted to the investors.

The Solution: Reduce Compulsory Acquisition and Encourage Voluntary Transactions

In view of the misuse and inefficiency of the compulsory acquisition, the scope of forcible transfer of agricultural land must be restricted. Compulsory acquisition should be allowed only for genuine public purpose projects. Here it is relevant to point out that in the absence of compulsory acquisition, there is risk of hold-up for really large and the location-specific industrial projects. However, even for this set of projects the choice of compulsory acquisition is not clearly superior. There is a trade-off between the inefficiency on account of hold-up, on one hand, and the earlier discussed inefficiency associated with the use of eminent domain, on the other. Moreover, the hold-up risk for large projects can be reduced substantially by removing the regulatory hurdles on agriculture land.

At present, there are several institutional and regulatory hurdles that thwart possibility of voluntary land transfers. For instance, before agricultural land



is within the permissible limits of the land ceiling rules. The formal and informal (kickback) costs of these clearances, especially the CLUs, are said to be a significant component of the project costs, which are comparable to the cost of land itself¹⁵ for real-estate projects and also for small and medium sized industrial projects. These 'regulatory' costs preclude a large number of potentially profitable transactions and put a heavy downward pressure on the price of transactions that still remain feasible and, thereby, affect the distribution of surplus funds to the farmers. To see how, suppose there are two industrialists, each needing to buy one acre of land. There are two farmers willing to sell their land. Each farmer values one acre at Rs 80 lakh. However, while the first entrepreneur finds each of the above acres of land worth Rs 100 lakh, the second one considers it worth Rs 110 lakh. In the absence of any regulatory costs, there is scope for two mutually

Not only agriculture land but any amount of fertile and multi-crop land can be transferred indirectly to other sectors without violating the proposed limits



can be used for other purposes, many regulatory clearances are required from the state and the local authorities. The most notable is what is called the change-in-land-use (CLU) clearance. These regulatory requirements prohibit large scale purchases of land for industrial and commercial purpose. To illustrate, the land ceiling regulation limits the size beyond which agricultural land cannot be owned. The limit varies from state to state. This means that an industrialist cannot buy the agricultural land of the required size. Moreover, he cannot buy the required land by changing the land use, since to get a CLU clearance the project developer should possess the land beforehand. Thus the only option the developers of big projects have is to 'persuade' the state government concerned to acquire the land.

The regulatory hold-up is an equally serious issue even when the land required for the project

beneficial transactions; each involving one of the farmers and one of the entrepreneurs.

However, if the 'rent-seeking' costs of land use clearances are Rs 25 lakh per-acre, the first entrepreneur's net gains from the land are reduced to Rs 75 lakh, which is less than the farmers' valuation. Consequently, a profitable transaction between the first entrepreneur and any of the farmers becomes impossible. In contrast, a gainful transaction between the second entrepreneur and any one of the farmers is still possible. However, now the entrepreneur would not pay more than Rs 85 lakh, his valuation of the land after factoring in the total regulatory costs. Otherwise, he would have ended up paying any price up to Rs 110 lakh, depending on the bargaining skills of the farmer.

More importantly, the CLUs threaten food security as well. To see how, note that the limits

¹⁵ See The Economic Times, 'What's wrong with the real estate sector in India', accessed on November 28, 2011 at <http://economictimes.indiatimes.com/markets/real-estate/realty-trends/whats-wrong-with-the-real-estate-sector-in-india/articleshow/8786642.cms>.

proposed by LARR bill and the report of the parliamentary standing committee apply only to compulsory acquisition of agriculture land – not to the indirect transfer of agriculture land to other activities by using these regulations. Moreover, these regulations make no distinction between fertile and unfertile lands. So, not only agriculture land itself but any amount of fertile and multi-crop land can be transferred indirectly to other sectors without violating the proposed limits!

The CLU clearances are generally not needed or are provided along with the land when land is compulsorily acquired and given to a private company ostensibly for a public purpose. Therefore, the project developers are better off bribing the concerned authorities to acquire the needed land. This route is profitable for the project developers since the land price under compulsory acquisition has been much lower than the market price, implying that the developers have been getting land at a rate much cheaper than they would have ended up paying under voluntary transactions. As a matter of fact, it is these obstructive regulations that are responsible for the absence of voluntary transactions involving transfer of agricultural land for other developmental

- The GMR group has purchased the 428 acres that it needed for its Chhattisgarh project directly from the villagers.

Indeed, there are several other examples also where the project developers have successfully purchased hundreds of acres directly from the owners.¹⁸ These examples must not be read to conclude that any amount of land can be purchased through voluntary transactions. A number of SEZ projects have got stuck since the developers were very ambitious and wanted to buy 10,000 acres of land, all contiguous.

The examples here, however, show that the seller hold-out is not inevitable even for large projects, provided a facilitating environment is created; arguably voluntary transactions are much more likely to succeed for small projects and those that have flexibility about the location. It is not entirely plausible to attribute the lack of transactions in agriculture land only to the seller hold-out or other market-frictions. Such a misbelief can only serve to justify an excessive use of the compulsory acquisition laws.

Things can be much better if the devious CLU and the other regulations are replaced with transparent, objective and ex-ante zones. Different

Things can be much better if the devious CLU and the other regulations are replaced with transparent, objective and ex-ante land zones

activities. When granted exemption from them, the project developers have been able to buy large tracts of land through voluntary transactions. Here are some illustrative examples.

- The developers of Gurgaon SEZ have been able to buy several pockets of hundreds of acres of contiguous agricultural land directly from the owners.
- The promoters of the Kakinada Special Economic Zone in Andhra Pradesh have bought as much as 4800 acres by directly negotiating with the farmers.¹⁶
- In Maharashtra, the Navi Mumbai SEZ developers have been able to buy several thousand acres through voluntary transactions.¹⁷

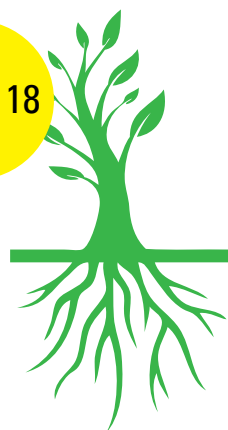
zones can be set up for different activities. Plausibly, all of multi-crop and irrigated land should fall into the agriculture zone, allowing only agriculture and related activities. For this zone there can be no acquisition save for linear infrastructure projects, like roads and railways. Industrial, commercial and the mixed-use zones can be set up on less fertile land. As long as the land is used for the permitted purposes, the state should have no role in further governing of land transactions.

The transactions cost of direct purchases can also be reduced greatly by making the ownership and land-type records clear and verifiable. The poor records and the resulting disputes have held back

¹⁶ See 'ONGC preparing ground for Kakinada refinery, SEZ', available at "<http://hindu.com/2006/12/15/stories/2006121508510300.htm>, accessed on January 6, 2012.

¹⁷ 'RIL deals directly with farmers for SEZ land in state' at http://articles.economictimes.indiatimes.com/2007-01-15/news/28483538_1_maha-mumbai-sez-purchase-land-stamp-duty. Accessed on November 28, 2011. Also, Status of MSEZ on <http://www.docstoc.com/docs/26228984/MAHARASHTRA-SEZs> accessed on January 6, 2012.

¹⁸ For more examples see "Who tilled my land and ate my pie?" at <http://www.rediff.com/business/slide-show/slide-show-1-special-who-tilled-my-land-and-ate-my-pie/20110629.htm>, accessed on October 20, 2011.





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not only development of an efficient land market, but the overall development of the economy. Consequently, farmers' access to bank credit and overall economic development are also hampered. Some of the measures like updating and digitalizing land records related to the ownership as well as the type of land, making these land records publicly available (which can be used by the owners, potential buyers and courts for verification of titles), ensuring a real-time coordination between the agencies responsible for registration of land deals and those responsible for maintenance of land records will go a long way in facilitating voluntary transactions by clearing uncertainty over the ownership. Moreover, these measures will help small farmers by easing credit-market frictions for them and will enable better targeting of government welfare programmes.

Collective bargaining with the owners or their representatives should be encouraged for they seem to offer another important channel for reducing the transaction cost. There are many such instances wherein the owners themselves have taken initiatives to pool and provide contiguous land. For example, more than 1,000 farmers from Avasari-Khurd villages along the Pune-Nashik pooled together over 2,665 acres to form a special purpose vehicle to set up a multi-product SEZ.¹⁹ This will help create a

facilitating environment for lease agreements over the land. In addition to increasing availability of land for developmental purposes, such agreements have the advantage of permitting sharing of ownership benefits over time thereby making farmers stakeholders in the project rather than land losers.

Magarpatta City, a 400-acre complex developed by a co-cooperative of farmers is an illustrative case in point. Other possibilities also exist²⁰ to help legalize the contingent-contracts for land deals. Under these contracts, the project developer can negotiate a 'future-sale-contract' with each owner. If the developer actually buys the land, the agreed price is paid to the owner; otherwise, the developer pays a small compensatory amount to the owner to cover the time and negotiation costs incurred by the latter. These contracts will not eliminate the problem of hold-up altogether but they can surely reduce its intensity.

The problem is that these initiatives can only be undertaken by the state government concerned since the land, its usage and the contracts over land are all in the state list. Thus, there is a serious need to incentivize the state governments to undertake reforms. Land acquisition being in the concurrent list implies that there is room for a centrally enacted land acquisition law to help in the process and thereby

¹⁹ See 'Farmers to set up own SEZ near Pune' at http://articles.timesofindia.indiatimes.com/2008-01-19/india/27773144_1_sez-avasari-khurd-village-barren-land. Accessed on November 28, 2011.

²⁰ On the merits of participatory development see Bhaduri and Patkar (2009) also see Arun (2011).

reduce the potential for misuse of eminent domain. The central law can determine the scope and dictate the terms for the use of compulsory acquisition laws.

The states have exhibited a strong tendency to use assembled land to attract big projects by offering lucrative land deals to the developers, leading to a race to the bottom. International experience shows that neither the sellers hold-out nor is land scarcity the leading cause for this race.

The use of the eminent domain principle for private projects is more frequent and controversial in land abundant USA than in the relatively land scarce and population dense England. Even though local bodies in both the countries have incentives to compete with one another to attract projects, in England there are several effective constraints on the use of land for the purpose of setting up industrial projects. The power to grant permission for the use of eminent domain is with the central authority (the office of the deputy prime minister of the U.K.) that keeps vigilance over land acquisition proposals and makes sure that the local authorities do not engage in a race to the bottom. The local authority has to publish, discuss and get the development plan approved by local legislators before initiating the land acquisition process. This process helps in resolving critical issues such as desirability of acquisition, alternative locations and such others. In contrast, in the US similar constraints on the use of eminent domain are missing.²¹

The Bill, does not have any clause to control the race to the bottom among the states, especially for the establishments of large projects. The new land

acquisition law should provide an independent state level institution to discuss all relevant project details pertaining to its size, location, costs, benefits, form of compensation, R&R package and so on. Such a discussion should be a prerequisite to the start of the acquisition process. The LARR Bill provides for a 'Land Acquisition Rehabilitation and Resettlement Authority,' (LARRA) as a supervisory authority but its role comes into play only ex-post. The final reviewing authority should be an independent and representative body for crucial issues like Social Impact Assessment and R&R, which have been delegated to committees comprising state level bureaucrats currently.

Apart from these suggested measures, it is crucial that the compensation amount should be increased substantially and be paid by the entity benefitting from the acquisition. When compensation is different from individual valuations, land acquisition is very likely to be inefficient. This risk is much higher if the compensation is generally less than individual valuations.

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²¹ For more on the comparison of the use of eminent domain in the US and England see Allen (2008) and Malloy (2008).



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The Law and Land Acquisition

**Public Purpose Rarely
for Public**

Pranab De

Is there something inherently fallacious in the expression 'land acquisition' for public purposes? Land acquired for public purposes has run into severe 'public' opposition in India. Where is the contradiction? What is it that prompts the public at large to refuse to associate itself with the declared purpose for acquisition of its lands?

The first decade of this century has witnessed a series of agitations against forcible acquisition of private lands in many parts of the country. The agitators have mostly been small land holders or marginal farmers and the acquisition, in most of the cases, has been in favour of large corporate houses. Fear of displacement, either physical or occupational or both, has broadly worried the affected persons, forcing them to take the path of agitation.

In some cases, the respective state governments ultimately abandoned the projects in the face of stiff resistance. In other cases, the governments continued the acquisition process in defiance of all opposition. Over these developments, civil society has been aroused against forcible acquisition. It demanded the abrogation of the Land Acquisition Act, 1894 (LA Act). The UPA-I government in the centre proposed the amendment of the LA Act 1894 redefining public purpose.

The UPA-II government brought a new bill, the "Land Acquisition, Rehabilitation and Resettlement Bill 2011" (LARR), which did not get through thanks mainly to opposition from



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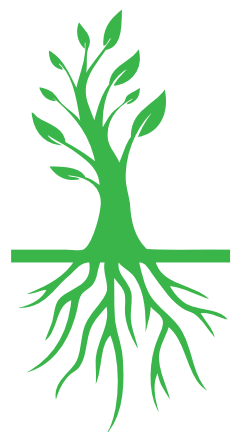
There is a simple but fundamental issue around which the conflict lies: the cost that the public will bear for private profit. The issue is about the poor losing land and livelihood for a cause in which they have no interest

within. The Parliamentary Standing Committee (headed by Sumitra Mahajan) said, inter alia, that "... 'public purpose' in the draft Bill should be limited to linear infrastructure and irrigation, including multipurpose dams, and social sector infrastructure, such as schools, hospitals and drinking water/sanitation projects constructed at state expense" but not "left open-ended" for private companies as well as for public-private-partnership projects. The UPA-II government did not accept the PSC's recommendations and is contemplating another bill. The dispute is far from over.

The preamble to the LA Act 1894 states that

it is "an act to amend the law for the acquisition of land for public purposes and for companies". Provisions for acquisition of lands for the two said purposes were distinctly different. Part II of the Act was earmarked for 'public purpose' acquisition and Part VII was assigned for company purpose. The problem was that 'public purpose' was defined very weakly in the Act. The decision for tagging public purpose status to any project, even for a company project, depends on the satisfaction of the government concerned.

In the original Act, public purpose was defined thus: "the expression public purpose includes the





“The fact that the product of the company would be useful to the public is not sufficient to bring the acquisition for a company within the meaning of the relevant words in ss. 40 and 41”.

- the provision of land for residential purposes to the poor or landless or to persons residing in areas affected by natural calamities or to persons displaced or affected by reason of the implementation of any scheme undertaken by government, any local authority or a corporation owned or controlled by the state;
- the provision of land for carrying out any educational, housing, health or slum clearance scheme sponsored by government, or any authority established by government for carrying out any such scheme or with the prior approval of the appropriate government, by a local authority or a society registered under the Societies Registration Act, 1860 (21 of 1860) or under any corresponding law for the time being in force in a state or a co-operative society for the time being in force in a state;
- the provision of land for any other scheme of development sponsored by government or with the prior approval of the appropriate government, by a local authority;
- the provision of any premises or buildings for locating a public office but does not include acquisition of land for companies”.

provision of village-sites in the districts in which the appropriate government shall have declared by notification in the Official Gazette that it is customary for the government to make such provision;”

In 1984, the LA Act was extensively amended and the definition of public purpose was changed as follows: “the expression public purpose includes:

- the provision of village-sites, or the extension, planned development or improvement of existing village-sites;
- the provision of land for town or rural planning;
- the provision of land for planned development of land from public funds in pursuance of any scheme or policy of government and subsequent disposal thereof in whole or in part by lease, assignment or outright sale with the object of securing further development as planned;
- the provision of land for a corporation owned or controlled by the state;

The amended version of public purpose categorically included state-controlled corporations or companies into its ambit but excluded all other companies.

Part VII of LA Act, 1894 – vide Section 40 (1) – allowed acquisition for companies for:

- (i) erection of dwelling-houses or for provision of amenities for its workmen
- (ii) public purpose industry
- (iii) public utility work

However, in such cases cost of acquisition including award payment is to be borne by the concerned company. Following mandatory observance of the procedure laid down in “Land Acquisition (Companies) Rules, 1963”, the company is required to “enter an agreement” with the appropriate government, which is to be published in the official gazette, vide Sections 41 and 42, respectively. The government normally interprets public purpose in the eye of eminent



domain rule. Judicial interpretations, rendered by Supreme Court of India, were not always uniform.

In *R. L. Arora vs State of Uttar Pradesh* (01/12/1961), the majority of the judges opined: "... We find it impossible to accept the argument that the intention of the legislature could have been that individuals should be compelled to part with their lands for private profit of others who might be owners of companies through the government, simply because the company might produce goods which would be useful to the public... if we look to the history behind the legislation, which culminated into the Act, we shall find that acquisition for a company was always for construction of some work, which the public could use. Reference in this connection was made to Act XXII of 1863, which provided for acquisition for private individuals and companies. That Act applied to works of public utility, which were defined under s. II to mean any bridge, road, railroad, tram road, canal for irrigation or navigation, work for the improvement of a river or harbour, dock, quay, jetty, drainage work or electric telegraph and also all works subsidiary to any such work...

"Coming now to the facts of the present case, we have to see whether the acquisition is for a work, which is useful to the public under s. 40 (1) (b) and which the public is entitled to use in accordance with the fifth term to be entered in the agreement

In the ultimate analysis, what is considered to be an acquisition for facilitating the setting up of an industry in the private sector could get imbued with the character of public purpose acquisition if only the government comes forward to sanction the payment of a nominal sum towards compensation. In the present state of law, that seems to be the real position.

under s. 41. ...What these provisions require is that the work should be directly useful to public and the agreement shall contain a term how the public shall have the right to use the work directly themselves. It seems to us that under the relevant words in ss. 40(1)(b) and 41 it is works like a hospital, a public reading room or a library or an educational institution open to the public or such other work as the public may directly use that are contemplated and it is only for such works which are useful to the public in this way and can be directly used by it that land can be acquired for a company under the Act...

"The fact that the product of the company would be useful to the public is not sufficient to bring the acquisition for a company within the meaning of the relevant words in ss. 40 and 41".

Public purpose, in the opinion of the apex court, thus, should not indulge in making "private profit"

and is required to bear the characteristics of public welfare, to which people can have direct access. In the matter of Devinder Singh and others vs State of Punjab and others (October 12, 2007), the same court held a more or less similar view: “A public purpose or public business has for its objective the promotion of the public health, safety, morals, general welfare, security, prosperity, and contentment of all the inhabitants or residents within a given political division, as, for example, a state, the sovereign powers of which are exercised to promote such public purpose or public business”.

In other cases, the Supreme Court held a different view. In one case (Somavanti and others vs State of Punjab and others, (May 2, 1962) the Punjab government sanctioned only Rs 100 from the state exchequer towards cost of acquisition of land in favour of a private limited company and the Supreme Court upheld the acquisition. The Apex Court stated in its judgment: “We, therefore, hold that since the Act provides that the declaration made by the state that a particular land is needed

the compensation would be paid wholly by the company. Though, therefore, this distinction is there where the acquisition is either for a public purpose or for a company, there is not a complete dichotomy between acquisitions for the two purposes and it cannot be maintained that where the acquisition is primarily for a company it must always be preceded by action under Part VII and compensation must always be paid wholly by the company. A third class of cases is possible where the acquisition may be primarily for a company but it may also be at the same time for a public purpose and the whole or part of compensation may be paid out of public revenues or some fund controlled or managed by a local authority... Thus the distinction between public purpose acquisition and Part VII acquisition has got blurred under the impact of judicial interpretation of relevant provisions. The main and perhaps the decisive distinction lies in the fact whether cost of acquisition comes out of public funds wholly or partly. Here again, even a token or nominal

The neo-liberals argue that land in our country is so fragmented that without state intervention, it is impossible to acquire large tracts of land for so-called ‘development’

for a public purpose shall be conclusive evidence of the fact that it is so needed, the Constitution is not thereby infringed ...In our opinion, part does not necessarily mean a substantial part and that it will be open to the court in every case which comes up before it to examine whether the contribution made by the state satisfies the requirement of the law. In this case we are satisfied that it satisfies the requirement of law.” In other words, if the state contributes even a meagre amount, the acquisition in favour of a company may be deemed to be for a public purpose and declaration by the state is final.

Curiously, the same court again expressed serious doubt over bona fide of such acquisition in favour of a company at the cost of the state exchequer. In Pratibha Nema and others vs State of Madhya Pradesh and others (July 30, 2003), the apex court observed: “The proviso to Section 6(1) shows that where the acquisition is for a public purpose, the compensation has to be paid wholly or partly out of public revenues or some fund controlled or managed by a local authority. Where however the acquisition is for a company,

contribution by the government was held to be sufficient compliance with the second proviso to Section 6 as held in a catena of decisions. The net result is that by contributing even a trifling sum, the character and pattern of acquisition could be changed by the government. In ultimate analysis, what is considered to be an acquisition for facilitating the setting up of an industry in the private sector could get imbued with the character of public purpose acquisition if only the government comes forward to sanction the payment of a nominal sum towards compensation. In the present state of law, that seems to be the real position.”

Ultimately then, the definition and object of public purpose remained unresolved and the government acts on its discretion. After the 1984 amendment, the government is taking a different path. It acquires land in the name of government corporations/companies (usually state industrial corporations), as the definition of public purpose includes “the provision of land for a corporation owned or controlled by





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not wish to take a different path under its neo-liberal economic mindset. There are also corporates and realtors who have become more land-hungry with the creation of special economic zones, megacities and large commercial hubs, thereby increasing the demand for land manifold. Even agriculture is being corporatized. The government has taken a two-pronged approach to subserve these interests. On the one hand, it legitimizes all sorts of acquisitions purported for private companies and, on the other hand, it dilutes the provisions of land reforms as well as to lift all restrictive measures on land transfer for the creation of a viable land market.

The neo-liberal advocates argue that land in our country is so fragmented that without state intervention, it is impossible to acquire large tracts of land for 'so called' development. This is the public argument. There is a hidden argument too. Corporate houses simply do not want to miss the opportunity to grab large tracts of land at public

Land grabbing is part of the worldwide globalization programme. Big companies, including those controlled by Indians, have acquired thousands of acres of farmland

the state" and thereafter hands over the land to the specific company. Here the acquisition is primarily for a company but coloured as a public purpose. Needless to say, the cost of acquisition is paid out of public revenues, as pointed by the highest court vide *Pratibha Nema and others vs State of Madhya Pradesh and others* judgment, cited earlier. Part VII of the Act has been made virtually redundant.

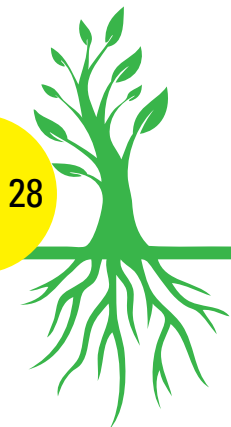
The new bill (LARR) eliminates the distinction between public purpose and company purpose and dissolves the separate provision for 'acquisition for company'. The Bill defines all sorts of acquisition, including acquisition for public private partnerships (PPP) and private company projects, as public purpose. The only rider is that "consent of at least 80 per cent of the project affected people" will have to be obtained in cases of PPP and private company acquisition. Earlier, the Group of Ministers (GoM) of the Union cabinet resolved that consent of 67 per cent of the land owners would suffice for acquisition in favour of the private companies.

What is the objective of the government? The country has a long history of catering to private interests through the LA Act. The government does

expense. This is more evident in the "consent" clause proposed by union government. The real question is: if the government can obtain consent from the landowners why are the companies averse to purchasing the land from the same persons at their own cost?

The corporate sector intends to put the entire burden on the government not only for monetary gain but also to shake off the trouble of displacing thousands of persons from their livelihood. The poor and powerless persons often succumb to money-power and muscle-power, coupled with political power. This is a simple but fundamental issue around which the conflict lies: the cost that the public will bear for private profit. The issue is about the poor losing land and livelihood for a cause in which they have no interest.

Landgrabbing is part of the worldwide globalization programme. Corporate giants, including some from India, have acquired thousands of acres of farmland in Africa. Diversion of agricultural lands is a major reason for the food crisis in that region. Should India head the African way or should there be a fair and acceptable definition of 'public purpose' as one being determined by the interest of public? Indeed, this is what the Indian public is demanding. ●



The author, a retired officer of the Land & Land Reforms Department, government of West Bengal, is currently associated with Nagarik Mancha, a social action group and Aneek, a journal on socio-political affairs.

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INSIGHT



FOOD **A Matter of Strategic Security**

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As we proceed through the 21st century, food and agricultural issues will be prominent on the global agenda and will increasingly come to be seen as security issues. This will be driven by a number of forces. With the world's population projected to grow by 2.6 billion people between now and 2050, the world's farmers will be asked to grow enough to feed the equivalent of two more Chinas.

In addition, broad-based economic growth in low-income countries is empowering millions more of low-income people every year to consume

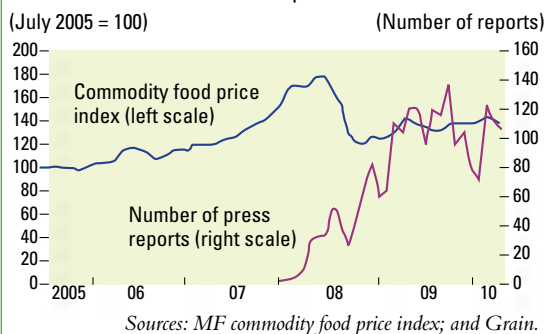
more meat and dairy and poultry products. When one adds the growing use of agricultural products as raw materials from which to produce biofuels, world demand for agricultural products could easily double between now and the middle of this century while there will, at most, be 10 per cent more land and less fresh water available than today.

While famine in Africa has been widely reported, almost one billion people, one out of every seven people in the world today, go hungry. They have too little purchasing power to access even enough calories to put in a medium level of physical



Rush to buy

The run-up in food prices in 2008 triggered an increase in news reports of large transnational land acquisitions that did not abate when food prices receded.



The chart shows that demand for large transnational land acquisitions grew dramatically after the 2007–08 food price surge and continued thereafter.

Source: *Global Land Rush –Finance & Development*, March 2012; International Monetary Fund

<http://www.imf.org/external/pubs/ft/fandd/2012/03/arezki.htm>

The “land grab” has created political stresses in many countries. Beyond competition for arable land, we should not be surprised to see cross-border conflicts arise over water

activity. Another billion people suffer nutritional deficiencies, in particular vitamin A, iron, iodine and zinc. More people die from starvation and under-nutrition than from HIV/AIDS, malaria and tuberculosis combined.

The food price spike in 2008 caused the number of hungry to rise and precipitated food riots in several dozen countries. One government was overthrown. The high prices of food in 2011 caused political unrest once again in many low-income countries and were a contributing factor leading to the overthrow of several governments in North Africa and increasing unrest in the Middle East.

As the global demand for agricultural commodities has grown, land and water resource constraints have worsened. Asian countries, which have twice as much of the world’s population as of the arable land, have been buying huge tracts of farm land in Sub-Saharan Africa to help ensure their future national food security. This “land grab” has created political stresses in a number of countries. Beyond competition for arable land, we should not be surprised to see cross-border conflicts arise over water in the 21st century.

In many emerging economies, the incomes of urban residents have increased rapidly while rural residents’ incomes have lagged, if not stagnated.

This widening income gap has led to political stresses and has accelerated rural to urban migration (as well as illegal international migration) as the rural population hope for better lives than they foresee in the rural areas they leave. The magnitude of rural-urban migration often exceeds cities’ absorption capacity, resulting in strains on delivery of public services and greater unemployment, pollution and crime.

In the year 2000, the heads of state of more than 200 countries meeting at the United Nations adopted several Millennium Development Goals, the first of which was to reduce the incidence of hunger and poverty in the world by half by 2015. Millennium Development Goal number one cannot be achieved unless poverty and hunger are reduced in rural areas where the majority of people reside. To accomplish this will require a greatly enhanced commitment to agricultural and rural development in those countries. With a possible doubling of global demand for agricultural products in the first half of the 21st century, the world needs low income countries with a history of underperformance in their agricultural sectors to contribute more to their national and the global food supply. Failure to do so could result in adverse geopolitical consequences. ●





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VERGHESE KURIEN...

Of “Integrity, Integrity and Integrity”

R. S. Sodhi

“We have traversed a path that we have dared to. We are continuing on a path that still fewer have the courage to follow. We must pursue a path that even fewer can dream to pursue. Yet, we must, we hold in trust the aims and aspirations of our countrymen.”

– DR VERGHESE KURIEN

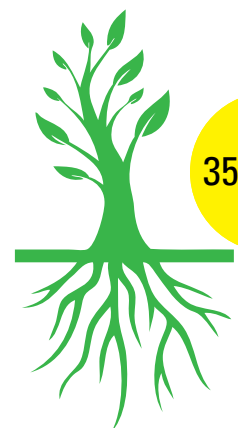
While he had officially passed on the mantle of the Amul cooperative movement to the next generation of professionals some years ago, Verghese Kurien's benign presence in Anand continued to be a great source of comfort, guidance, courage and inspiration to all of us. On September 9, 2012, as the Milkman of India took the milky way to heaven, his ideals and values continue to guide us to serve Indian farmers and the most vulnerable sections of Indian society. Theirs were causes that he devoted his life to and which we shall pursue with the same passion and commitment, with same values of integrity, efficiency and honesty that Verghese Kurien had championed in his life.

The sheer enormity of his achievements is amazing. A nation-builder who contributed immensely towards shaping the future of post-Independence India, his remarkable life and achievements are an embodiment of his faith in the ability of the common man to exercise control over his destiny. This faith helped him to create world-class institutions that became shining examples of excellence. He often confided in me that to him, ‘commitment towards farmer's co-operatives’ was like a religion and he remained true to this faith, till his last day. Father of the ‘White Revolution’ in India; doyen of dairy cooperative movement; institution-builder

Verghese Kurien was firmly against policy measures such as permitting FDI in retail sector, since he felt that such a move would be detrimental to the interest of Indian farmers

par excellence, who ushered in a socio-economic revolution in rural India, Verghese Kurien has been instrumental in transforming the lives of 15 million farmer families across the country. As the chief architect of ‘Operation Flood’, he was able to leverage an initial investment of Rs 1,000 crore into regular annual income of Rs 2,00,000 crore for farmers of India.

On June 13, Verghese Kurien completed 63 years in Anand, a town that he transformed into the milk capital of India. His courage and conviction engulfed the nation, galvanizing its farmers into breaking the shackles of oppression and making India, the largest milk-producer in the world. Thanks to him, the nutritional intake of Indians has improved by increasing per capita milk availability from 132g per day in the 1950s to 276g per day currently. This has partly contributed towards increasing life-expectancy of Indians from 32 years in the 1940s to 67 years in 2011.



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Vergheese Kurien believed in placing the tools of development in the hands of farmers themselves, enabling them to decide what they want and to create what they need

Vergheese Kurien believed in placing the tools of development in the hands of farmers themselves, enabling them to decide what they want and to create what they need. Through the dairy cooperative movement that he championed, he helped the farmer obtain a steady source of income, enabling him to improve his standard of living. His relentless hard work has helped generate gainful employment for the most vulnerable sections of India's population: small and marginal farmers, landless labourers and rural women. It is largely thanks to his efforts that women of rural India have some measure of economic independence, through dairying.

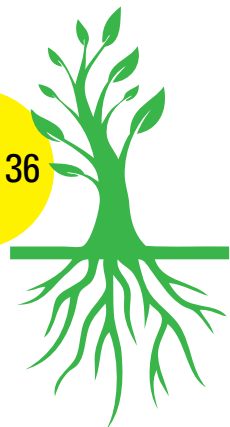
His vision and his zeal have been forever embodied in the numerous institutions that he created; Amul; Gujarat Cooperative Milk Marketing Federation Ltd; Institute of Rural Management Anand, National Dairy Development Board, National Cooperative Dairy Federation of India, Anandalaya, various state dairy cooperative federations and district-level milk producers' co-operative unions.

I was fortunate to be closely associated with Vergheese Kurien for almost 32 years, since I joined

the first batch of the Institute of Rural Management Anand in 1980. I was overwhelmed by his passion to work for the underprivileged. His absolute commitment towards integrity and excellence and his outlook shaped my entire professional life. After graduating from IRMA in 1982, as I started to work for the farmers, as an employee of GCMME, I had the opportunity to work directly under the visionary leadership of my hero. He would encourage talented and committed youngsters to assume the mantle of leadership at an early age.

In fact, he once told us that he had established IRMA to create hundreds of Kuriens, who could carry his legacy forward to not only serve the nation, but also serve entire humanity as a whole. He always strove for excellence and expected nothing less from his team members. A true marketing genius, he created brand 'Amul' and shaped it into one of India's strongest brands through innovative branding, advertising and marketing initiatives.

Vergheese Kurien had utmost respect for the wisdom of Indian farmers and the expertise of competent professionals. It was his firm belief that farmers



would receive the maximum share of the consumer's rupee only when they had complete control over the entire value-chain of the dairy business, including milk production, processing and manufacturing of milk products as well as marketing. The three-tier Anand pattern cooperative structure that he created is a testimony to this belief. He was firmly against policy measures such as permitting FDI in retail sector, since he felt that such a move would be detrimental to the interest of Indian farmers. He often cited examples of how dairy farmers in the USA and Europe suffered due to the monopolistic tendencies of powerful retail chains and that dairy farmers in western countries received less than 40 per cent of the consumer's dollar, while Indian farmers, who formed a part of dairy cooperative network got as much as 80 per cent of the consumer's rupee.

He would give a high degree of freedom to his team to take initiatives, respecting their professional judgment. He personally enjoyed interacting with youngsters and seeking their opinion. In recent years, he felt happiest while sharing his life's journey, particularly with youngsters and students and trying to ignite in them the same passion that had motivated him throughout his life. While his sense of humour was legendary, he was extremely particular about

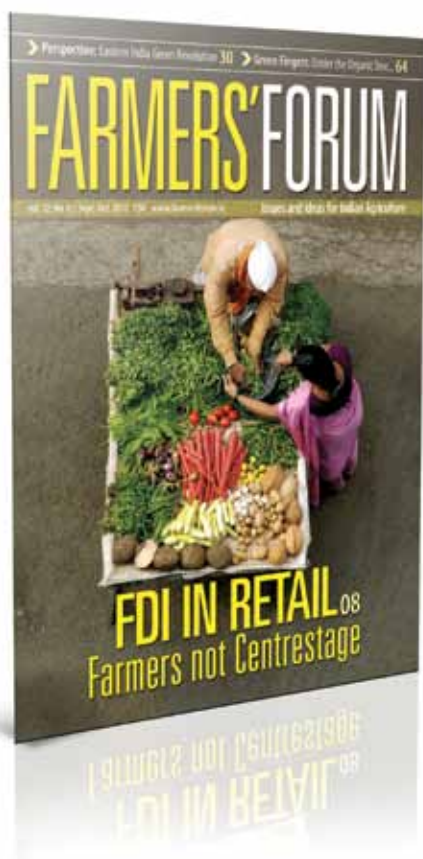
professional discipline and expected the highest level of commitment from everyone around him. He ensured excellence in every institution that he built and every activity that he undertook.

I once asked him what were the most important qualities that he looked for in someone, while recruiting a person into any organization that he had created. His simple answer was: "integrity, integrity and integrity". He would tell me that integrity and character, once lost, could never, ever be regained.

Another of his admirable qualities was courage in face of sheer adversity. He understood that in order to create positive transformational change, he would have to overcome resistance from vested interests throughout his life. His fearless struggle against powerful vested interests at the international and national level is a great source of inspiration to us and gives us tremendous courage in times of adversity. He overcame challenges in all forms: technological, infrastructural, financial and political.

He was charismatic and had an amazing ability to attract talented professionals to join his cause. He was happy that he had lived his life to the fullest because he was brave enough to love, strong enough to rejoice in another's happiness and wise enough to know that there is enough to go around for all. ●

The author is managing director, Gujarat Co-operative Milk Marketing Federation Ltd.



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The Toast of India!

**Amul man, Verghese Kurien;
November 26, 1921 –
September 9, 2012**

Ashim Choudhury

When Kurien died, one of the immediate thoughts that struck me was: 'What would the next Amul ad say?' One did not have to wait for long. The very next day the Amul ad ran: 'Thank you for giving us Hausla, Pragati and Anand' (confidence, progress and happiness). The image showed two village women of Gujarat and the Amul girl dressed as a man, weeping. Yet another Amul ad replaced 'Taste of India' with 'Tears of India'. Not the trademark funny ad that Sylvester da Cunha produced week after week, year after year.

It summed up Kurien's biggest contribution to the village household in Gujarat – and in millions of poor homes across the country where the Amul experiment is being replicated. He empowered poor villagers by giving them an opportunity to sell their milk directly, eliminating middlemen who would eat into their earnings. To those millions his death has brought tears in their eyes, a testimony to the love and respect he enjoyed in their hearts.

Amul, a Rs 13,000-crore corporate entity, is a synchronized symphony of over 16,000 villages producing over 13 million litres of milk a day

Amul, inspired by the word amulya meaning priceless, is Kurien's greatest contribution to India. Not many consumers of Amul's various milk products know that the brand name Amul stands for Anand Milk Union Limited, a cooperative comprising millions of small milk producers each owning as few as two-three cattle. Today Amul, a Rs 13,000-crore corporate entity, is a synchronized symphony of over 16,000 villages producing over 13 million litres of milk a day. In 2011-12, Amul collected 3.88 billion litres of milk. Kurien, more than any other person, harnessed the Gujarati spirit of hard work and entrepreneurship. The Amul experiment, expanded through the National Dairy Development Board of which Kurien himself was a founder, today connects over 10 million farmers at 200 dairies producing over 20 million litres of milk a day making India the world's biggest producer of milk.

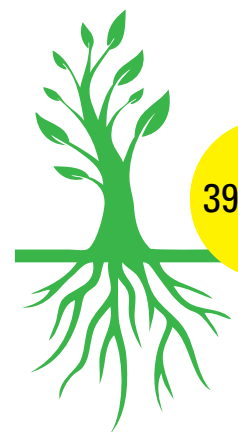
Kurien's journey into milk cooperatives began in 1949 when, after obtaining an MSc degree from Michigan State University where he went on a government scholarship, he came to Anand, a small town in Gujarat. It was here that he joined a modest dairy cooperative run by Tribhuvandasbhai Patel – the

Kaira District Cooperative Milk Producers' Union. Egged on by Patel and his own entrepreneurial instincts, Kurien got sucked into the milk cooperative movement that took the nascent dairy industry from strength to strength. Success has many followers. Soon, at the behest of Sardar Vallabhbhai Patel, he started Amul the cooperative model that was replicated throughout Gujarat and morphed into the Gujarat Cooperative Milk Marketing Federation. In 1965, the then Prime Minister Lal Bahadur Shastri asked him to set up the NDDB. Kurien became its founder-chairman on condition that NDDB's headquarters would be in Anand and not among the babus in Delhi. The prime minister had to agree; such was the man's aura.

In 1970, Kurien spearheaded the first burst of Operation Flood (1970-1980) and by 1980 India's milk production rose to 35 million tonnes a year. After two more Operation Floods – 1981-85 and 1985-96 – by 2010 India's milk production had more than trebled crossing 113 million tonnes. Synonymous with the milk cooperative movement, Operation

Flood also became one of the largest employers of rural people, especially women. The success of the NDDB in expanding milk cooperatives and bringing greater income to rural households with one or two cows came to be celebrated globally as India's "White Revolution", says the UN's Food and Agriculture Organization, which collaborated with NDDB in bringing new technology for milk production and processing.

Kurien heralded the growth in India's formal dairy industry that was first spurred by high demand from metro cities in the early seventies, when automatic bulk milk vending machines gave birth to Mother Dairy. Operation Flood, based on the 'Anand model' not only laid the foundation for self-sufficiency in milk, it also played a key role in giving supplementary incomes to the rural poor. Delicensed in 1991, by 1999-2000 India's dairy industry, under Kurien's stewardship, was employing some 5.5 per cent of the country's entire workforce. More importantly, it became a key driver of the rural economy through the backyards of rural homesteads. Thanks to Kurien, the dairy sector today accounts for about a third of





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Millions of India's villagers are waiting for the spirit of Amul to supplement their meagre earnings and change their lives

Indian rural incomes and drives rural employment and women's empowerment. No wonder Kurien held such sway over the rural milkmen of Gujarat that he even made them fund a film on them – *Manthan*, directed by Shyam Benegal with the lead role essayed by the fiery Smita Patil.

"The film will cost Rs 10 lakh", the noted filmmaker told Kurien. The latter, who had five lakh milkmen with him asked them if they were willing to forgo Rs 2 each from their income. They agreed and *Manthan* was a resounding success, just like the people it portrayed. Benegal recalls Kurien as not an easy man to please and someone who could not suffer fools. "He was a difficult, irascible – and wonderful – man!" Knowing exactly what he wanted also meant that Kurien tended to become a demigod, a man who was obeyed but feared in equal measure. Towards the end, people around him began to protest his 'despotic' ways.

Among his fiercest critics was a one-time protégé Amrita Patel, who saw to his unceremonious ouster

from NDDB and GCMMF before she took over the reins from him. In death, she acknowledges the man: "He taught us, that in order to succeed, our integrity should be beyond reproach, for those who oppose, cannot successfully defeat an honest man".

Kurien was indeed a man of highest integrity. On his way to becoming the father of India's White Revolution, Kurien was decorated with several awards including the Padma Shri, Padma Bhushan and Padma Vibhushan. The highest civilian award Bharat Ratna eluded him in his lifetime. Should he get it posthumously the award will become more worthy than the man himself, many feel. Even without the Bharat Ratna he will remain embedded in the hearts of millions whose life he changed for the better. Our biggest tribute to the man perhaps will be replicating the success of Amul in the small villages and towns of India. Millions of India's villagers are waiting for the spirit of Amul – or should we say Kurien – to supplement their meagre earnings and change their lives. ●

The writer is a journalist and author of the forthcoming novel 'The Sergeant's Son'.



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PERSPECTIVE

Food Loss, Storage and FDI in Multi-Brand Retail

D. S. Bhupal

Those who followed the recent proceedings in both houses of parliament on FDI in retail may recall that, but for a few occasions when there was excessive rhetoric, the debate was well argued. One is reminded of another such debate, particularly the intervention by Prof. Nurul Hasan, when parliament became a class of history. This time too, speakers from both sides tried to bring out available facts from within the country as well as from the experiences of other countries quoting well-researched studies. The question is how convincing are the arguments that India suffers humungous losses of foodgrain and horticulture products and that the advent of FDI will help address this problem given the fact that the USA is amongst the world's worst wasters of food.

In the United States, the loss of fresh fruits and vegetables is estimated to range from two per cent to 23 per cent, depending on the commodity (Harvey, 1978).¹ Kantor et al (1997)² estimated the USA's total retail, food service and consumer food losses in 1995 to be 23 per cent of fruits and 25 per cent of vegetables. Fresh fruits and vegetables accounted for nearly 20 per cent of consumer and food service losses, which are due to product deterioration, excess perishable products that are discarded and plate waste (food not consumed by the purchaser). The latter is often due to consumer dissatisfaction with product quality, especially flavour. Worse, corporate strategy often promotes such waste of food.

India has been a land of the thrifty; every bit of food grown has been put to good use down the ages and even leftovers have been fed to animals and birds. Indeed, Indian religious practice of feeding all living beings – from ants to dogs, cows to crows – completes the entire circle of finer environmental balance. One has been reading about food losses since 1968 (Rs 3,000 crore at that time), when the government published the book, *Regulated Markets in India*. The figures have been increasing in rupee terms (now between Rs 50,000 crore and Rs 60,000 crore) and in terms of production percentages from between five per cent and 10 per cent to between 40 per cent and 50 per cent. However, those quoting these numbers have never cited any

scientific study in their support. Indeed, there is very little convincing data on actual losses.

The traditional Girdawari system that led to a physical verification of produce has been done away with in many states and this is often left in the hands of private bodies that have divergent interests. This makes the reliability of loss numbers more doubtful, which is also why there is such discrepancy in estimation of production, storage, availability and crop losses.

Consider some reports:

More than 30 per cent of produce from fields is lost to poor post-harvesting facilities and lack of cold chain infrastructure. Also 20 per cent of foodgrains that India produces annually is eaten by rodents. India, the world's second largest fruit and vegetable producer, encounters a waste of close to 50 per cent of produce.³

Private consulting firm Rabo India Finance has prepared a food wastage report for the government, which has estimated annual losses at Rs 58,000 crore. "The total losses incurred due to wastage of agricultural food items at various stages was worth Rs 58,000 crore in 2004 and it has come down to the current level of Rs 30,000 crore (in 2010). Development of food processing industries, strengthening of post-harvest infrastructure and filling the gaps in the supply chain were some of the major steps taken by the government to stem

An important study, conducted by the government-run Central Institute of Post-Harvest Engineering and Technology (CIPHET) estimated that food wastage could be of the order of Rs 44,000 crore at 2009 prices. With food prices rising at double-digit rates for the past two years, the estimate could have been close to Rs 50,000 crore annually, if not less. So, losses from the farm sector would amount to just around 3.72 per cent of the total value of agricultural produce, which was about Rs 13.41 lakh crore in the GDP estimates for 2010-11 and should be much lower than the often stated figure of 40 per cent production.



¹ Harvey, J.M. 1978. Reduction of losses in fresh market fruits and vegetables. *Annu. Rev. Phytopathol.* 16:321-341

² Kantor, L.S., Lipton, K., Manchester, A., and Oliveira, V. 1997. Estimating and addressing America's food losses. *Food Review* 20:3-11

³ http://www.harva.co.in/Waste_Management.html

the wastage. A total number of 2,221 cold storages with capacity of 92.23 lakh tonnes have been approved so far with eligible subsidy of Rs 614.86 crore for cold storages”.⁴

These figures have been cited by the Minister of Food Processing Industries, Subodh Kant Sahai, (September 2012) and it should be assumed that he has correctly quoted the figures that have been worked out. Between 2004-05 and 2009-10 (at 2004-05 prices) the total GDP from agriculture and fishing was worth Rs 5,03,786 crore and Rs 5,88,225 crore respectively. Therefore, the total losses work out only 9.92 per cent and 5.10 per cent respectively of the total amounts. Also, as per a study conducted by the Central Institute for Post-Harvest Engineering and Technology, the post-harvest losses in 2009 were around Rs 44,000 crore, which works out to 7.49 per cent of the total produce in that year from agriculture and fishing.⁵

However, in July, 2010, the same minister reported losses from the agricultural sector to be worth \$12 billion⁶ taking Rs 50 as conversion ratio, which worked out to about Rs 60,000 crore

Table 1: Estimated losses from Bihar

Fruits and vegetables	Production (tonnes)	Wastage in %	Wastage (Rs Lakh)
Mango	508740	39	8639
Banana	273250	18	2125
Litchi	53679	22	2309
Papaya	23901	10	136
Guava	67689	15	322
Cauliflower	119645	18	592
Brinjal	112931	14	247
Chilli	78781	5	676
Onion	116665	25	908
Tomato	82457	39	140
Post harvest total losses	1437738	26@	18191

@ weighted average

storage business, considering it loses a quarter of its agricultural produce between the farmer's cart and the diner's plate. Nearly seven per cent of grain and over 30 per cent of fruit and vegetables is estimated to go waste each year without post-harvest facilities”⁸.

- “Every day, close to 35 per cent of the total vegetable produce harvested at farms goes waste because of improper handling by farmers and

The reliability of loss numbers is doubtful, which is why there is such discrepancy in estimation of production, storage, availability and crop losses

or 9.13 per cent of the total agricultural GDP, including forestry and logging. So far nobody has gone beyond these absolute figures of losses. In percentage terms, however, the figures have been reported as 30 per cent, 40 per cent and even 50 per cent. Some studies by The Confederation of Indian Industry and private consulting firms do refer to such high loss percentages. Some of the comments are telling:

- “Important is the crucial contribution that an efficient food processing industry could make in the nation's food security; for instance the post-harvest losses of selected fruits and vegetables are about 25 per cent to 30 per cent in our country”⁷.
- “India can do with whatever help it can get in the

labourers. The normal supply of vegetables to the agricultural produce market committee (APMC) Pune is close to 30 tonnes a day”⁹.

“India wastes more fruit and vegetables than are consumed in the whole of the United Kingdom. Cumulative waste on the farm, in procurement, and at the retailer is worth an estimated \$6.7 billion, the equivalent of 40 per cent of the total production of fruit and vegetables. Wastage of wheat, at eight per cent, is less severe but still high given that this is a relatively non-perishable item”.

“A road trip from Uttar Pradesh, a key vegetable growing area, to New Delhi reveals one reason for the waste: the poor road surface which means that fragile produce is easily damaged. Other

⁴ Minister of Food Processing Industries, Subodh Kant Sahai, September 13, 2010

http://www.meatradenewsdaily.co.uk/news/130910/india___food_wastage.aspx

⁵ Secretary of the Ministry of Food Processing Industries, GOI, www.process-worldwide.com/engineering.

⁶ Asia times, July 21, 2010

⁷ <http://www.cii.in/Sectors.aspx?enc=prvePUj2bdMtgTmvPwwisYH+5EnGjyGXO9hLECvTuNtT92p2Ug7+YgFQguBcviW1>

⁸ Asia Times, ibid

⁹ timesofindia.indiatimes.com, December 6, 2012

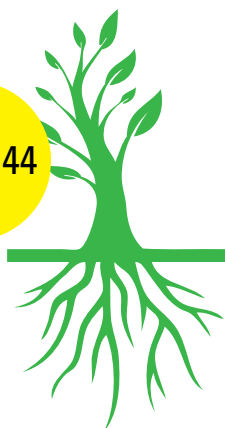


Table 2: Estimates from Uttar Pradesh

Fruits and vegetables	Production (tonnes)	Wastage in %	Wastage (Rs Lakh)
Mango	187070	22	1556
Banana	25765	14	141
Litchi	3621	15	69
Papaya	9146	11	61
Guava	28512	14	94
Cauliflower	128542	18	264
Brinjal	52531	12	126
Chilli	97538	5	723
Onion	88443	17	406
Tomato	50703	35	259
Potato	1109753	21	29868
Post harvest total losses	1781624	19.7@	33576

@ weighted average

problems exist that could be resolved more readily. At the farm, produce is handled roughly. It is piled into large cane baskets or on to truck beds without cushioning or packaging and transported in open trucks that leave it exposed to the sun in temperatures often exceeding 400° Celsius. Twenty-four hours or more after harvest, it arrives at the retailer, typically a pushcart or open-market vendor. The produce is then kept out in the sun in baskets or in open piles where it deteriorates rapidly. Much of it becomes inedible within a day or two of harvesting¹⁰, says a CII-McKinsey study.

An important study conducted by the Association for Social and Economic Transformation chose six sample districts from Uttar Pradesh and Bihar, where infrastructure was particularly poor. In Bihar (Table 1), no regulation was officially implemented and repeated surveys of Pahadia Mandi, Sunderpur, Chanua Shetti and other markets of Varanasi (Uttar Pradesh), during 1999-2004, too established that there was very little regulation. Chanua Shetti, though a regulated yard of the APMC, was a totally privately-owned market. In Pahadia, the office of the APMC was under water. There were more potholes than road patches in the market yard itself. the Meerut, Agra and Ghaziabad markets were surveyed during 2003-04, particularly for horticultural crops, with not very encouraging results. Bihar even repealed the APMC Act obviating the question of regulation.

Therefore, first, Bihar and Uttar Pradesh do not fairly represent other parts of the country in terms of regulation of markets, transport, infrastructure and so on. Second, infrastructural conditions after 2003



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India's Girdawari system had a revenue patwari at local (village) level, who was entrusted with the physical verification of crops on field and with making a record of each plot of land, irrigation applied, variety of seeds sown and such other details that could be of help for projecting total crop-wise and region-wise production. With the establishment of regulated markets, proper records of arrivals were available in many states. Both (production and arrivals) could have been reasonably helpful in estimating crop losses. There were other schemes, like the cost of cultivation scheme, in which large samples were taken, to work out area, production, costs, losses and other such numbers. Some surveys were conducted by the National Council of Applied Economic Research and Agro-Economic Research Centres and state universities as well. No systemic all-India study of major crops, specifically horticultural crops (area, production, yield, losses), is available.

¹⁰ CII McKinsey study; McKinsey Quarterly: India 's sleeping giant; http://mkqpreview1.qdweb.net/Indias_sleeping_giant_Food_870



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have improved rapidly due to the strong emphasis given by the central government to the programmes under Bharat Nirman in the entire country, including these two states. Third, the area and production of fruits and vegetables in other states have increased faster after 2003, leaving these two states far behind others in terms of growth rates¹¹. Infrastructural conditions in those states are much better. Fourth, population pressure on the size of holdings, investment in agriculture and farming practices is much lower in many other states in comparison to these two. In other words, from the point of view of marketing of agricultural produce and losses of horticulture crops, these two states present the worst case scenarios, barring, of course, the north eastern states.

Consider the estimated losses (*Tables 1 and 2*) worked out by the report commissioned by the Planning Commission of India. In Bihar, the highest (39 per cent) losses were estimated in the case of mangoes and tomatoes and the lowest (five per cent) in the case of chillies (*Table 1*). However, on working out the weighted average, the losses were 26 per cent and that too in a state like Bihar in 2003, far less than between 40 per cent and 50 per cent quoted by supporters of FDI in retail trade. The case of post-harvest losses of fruits and vegetables in Uttar Pradesh is much better than the case of Bihar (*Table 2*). In U.P., a maximum of 35 per cent loss was estimated in the case of tomatoes and the lowest, five per cent, in the case of chillies. The weighted average of post-harvest losses of all fruits and vegetables was only 19.7 per cent.

Although cereals, such as wheat and rice, pulses

An important study conducted by the Association for Social and Economic Transformation on behalf of the Planning Commission of India on estimation of post-harvest losses of horticultural produce used a very large sample of respondents between March and June 2003. Its results seem interesting, particularly keeping in mind the six sample districts chosen from Uttar Pradesh and six districts from Bihar, the two states ill-famed for their bad transport, road conditions and overall infrastructure and almost no implementation of regulation of markets. This was bound to skew the findings.

and oil seeds account for around two-thirds of the wastage, the loss in case of fruits and vegetables was the highest at up to 18 per cent of the total produce. As per the report of the Central Institute of Post-Harvest Engineering and Technology, of the Rs 50,000 crore lost, around Rs 33,000 crore were accounted for by cereals, pulses and oil seeds. In case of cereals and pulses, losses were estimated at between four per cent and six per cent, while wastage in case of oilseeds went as high as 10 per cent. In case of milk, the losses were estimated at 0.8 per cent, while for meat and poultry it was 2.3 per cent and 3.7 per cent, respectively. The losses take place in almost all stages of farming but the study looked at harvesting, collection, grading, cleaning, packaging, transportation and storage.

During 2004-06, the Agricultural Economics Research Centre, carried out an all-India study

¹¹ Location advantage in development of agriculture in Uttar Pradesh, LMA Conventional Journal Vol.8, No.1, 2012, pp 51-57

to determine the quantity of grains used for seed, feed and estimated wastages on behalf of the Union Ministry of Agriculture. For Haryana, it was estimated that about five per cent of gram and 0.22 per cent of paddy was retained for the purpose of seed; for home consumption, between two per cent and three per cent gram and between three per cent and four per cent of paddy was used and losses during harvesting of gram worked out to about 4.5 per cent and, for paddy to about one per cent. Transportation losses were negligible in the case of gram and about one per cent in the case of paddy. Similarly, storage losses in both the cases were negligible. Paddy was not used as feed but 0.25 per cent to 0.3 per cent gram was used.¹²

An estimated impact of the distance between the production centres and Azadpur fruit and vegetable market, Delhi on the quality, cost, profitability and wastage in the case of fresh and leafy vegetables like amaranth (chaulae), beta vulgaris (palak), fenugreek (methi), chenopodium (bathua) and such others is informative. The results show that a 1.07 per cent increase in production is needed to increase saleable

major factor. Moreover, other social costs in the use of fossil fuels in transportation, use of electricity in cold storage and its generation costs (economic and social) and consequent environmental loss have to be taken into account, whatever the improved technology being brought in through FDI, and deducted from the benefits if production takes place far away from the consumption centres. The solution in such a case would lie in reconsidering the present pattern of urban land use, may be including urban agriculture, forestry and provisions of wastewater uses in the new townships¹⁴ and probably, not in allowing FDI in retail trade.

Sila, sitta, patha are terms used for agricultural operations in north India. Sila means weeding; sitta means gathering grains from the fields after harvesting or gleaning; and patha is green fodder. Labour is hired for weeding, harvesting and other operations. No cash payment is made for such work but the labourer is allowed to take green weeds, if usable, for fodder. If not, fodder is given in lieu of sila or weeding. Sitta was allowing labourers to collect/pick up grains lost during harvesting, which again

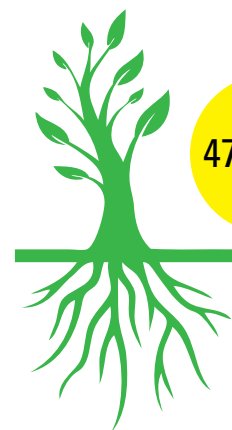
Losses occur not only due to lack of FDI but for other reasons as well, distance between production and consumption centres due to changing urban land use, among others

quantity by one per cent. The increase in distance by one per cent leads to 0.01 per cent increase in arrivals and that happens because supply of vegetables from nearby areas is diminishing day by day. Otherwise, there should be a negative relationship between supply of fresh leafy vegetables and distance. A one per cent increase in distance causes 0.06 per cent loss in profitability. Similarly, a 1.27 per cent increase in distance leads to a one per cent increase in total cost. It is also important to note that one per cent increase in distance leads to 0.74 per cent increase in wastage or one unit increase in distance (km) will result in 60.5 grams increase in wastage of fresh leafy vegetables.¹³

In other words, losses occur not only due to lack of FDI but for other reasons as well—distance between production and consumption centres due to changing urban land use, for example, is one such

was either for free or at some concessional rates in lieu of sitta. In Punjab, Haryana and north Rajasthan such transactions were very common; poor wage labourers collected foodgrains and/or fodder for their animals and minimized grain losses to the land owners who, in turn, benefitted from cheap labour.

In fact, for quite some time in the initial stages, farmers were reluctant to use mechanical harvesting (combines) as they caused loss of dry fodder and grains. With increase in agricultural wages, use of herbicides and machines for harvesting has, however, become common in these states, particularly in large land holdings. In most part of the country, in Uttar Pradesh, Bihar, Gujarat, Andhra Pradesh, Maharashtra or West Bengal the size of holdings is too small for mechanical operations. Therefore, operations are mainly manual and losses are minimum or negligible.



¹² Bhupal, D. S: Estimation of seed, feed and wastages ratio of major foodgrain crops in Haryana, AERC, Delhi, 2007

¹³ Bhupal, D.S: Changing Land Use Pattern in India and Its Impact on Supply of Fresh Vegetables, Journal of Agricultural Science and Technology A 2 (2012) 952-961

¹⁴ Bhupal, D.S. *ibid*

Table 3: Rural/ Urban Population (million) and Land (hectares)

Country/ region	Urban	Rural	Total	% Urban	% Rural	%Agri.pop@	Land pp	Avg.size
World	3,632.5	3,34.2	6,974.0	52.1	47.9	32.3	0.2	5.5
Developed Nations	964.2	276.1	1,240.3	77.7	22.3	4.3	0.4	Na
Less developed nations	2,668.5	3,065.4	5,733.7	46.5	53.5	40.5	0.2	Na
China	681.5	666.1	1,347.5	50.6	49.4	na	na	Na
Japan	1.9	0.9	2.8	68.5	31.5	2.1	00	1.2
India	388.3	853.2	1,241.5	31.3	68.7	48.4	0.1	1.2
France	54.2	8.9	63.1	85.8	14.2	#	##	28.9*
Germany	60.7	21.4	82.2	73.9	26.1	#	##	24.9*
United Kingdom	49.7	12.7	62.4	79.6	20.4	#	##	30.4*
America	257.9	55.1	313.1	82.4	17.6	1.7	0.6	177.2
Canada	27.7	6.6	34.3	80.7	19.3	1.9	1.3	233
Australia	20.165	2.4	22.6	89.2	10.8	3.9	2.2	3243.2
New Zealand	3.8	0.6	4.4	86.2	13.8	7.7	1.0	250.7

@2010; # European Union 1.6 %; ## 2009 EU 0.2; pp= per person

Source: Last two columns FAO Year Book 2012, rest World Urbanization, UN Population Division, *calculated from Eurostat Pocket Books, Agricultural Statistics, 2007

To consider the status of losses and wastage where modern technology (expected to come to India with FDI in multi-brand retail trade) is allowed to operate, it would be useful to check out some production practices and conditions of agriculture in the developed countries, vis-à-vis the Indian situation, as shown in *Table 3* that is self explanatory. Agriculture, in India, for a huge majority of Indian masses, is nothing more than a source of subsistence unlike in the USA, Canada or other developed countries, where it is a corporate business activity. In fact, in these countries one can have any amount of land at throwaway prices and

Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus, collectively known as ABCD of grain trade. Consider their scale and breadth of operations:

“The ABCD’s share a very significant presence in a range of basic commodities, including corn, maize, wheat, oilseeds (such as soy and cottonseed) and palm oil. In 2003, for example, the ABCD firms controlled 73 per cent of the global grain trade. More than that, they are highly diversified and integrated both vertically and horizontally; for example, Cargill, ADM and Bunge not only account for more than 60 per cent of total financing of soy production

Globally, corporate farms depend on futures trading for their prices. Wheat prices, for example, are determined at the Chicago futures market

grow any amount of any crop. However, the crop is tied in advance at the time of sowing, unlike in India where there is no guarantee that it will be bought for some price in any market, leave alone the economic price.

Globally, corporate farms depend on futures trading for their prices. Wheat prices for example are determined at Chicago, where (in the Chicago futures market alone) the equivalent of 46 times the world’s wheat production is traded every year.¹⁵ Foodgrain production, marketing, processing and such others facets are, by and large, globally controlled by a few firms. There are four such firms,

in Brazil but they also provide the seed, fertilizer and agrochemicals to the growers and, subsequently, buy the soy and store it in their own facilities”.¹⁶

In other words, farmers who are not part of such firms have to sign contracts in advance and go for production of the contracted commodity and hand over the produce at the pre-contracted price to the corporation, which processes, packs in saleable pouches, brands and then sells through its agents to the big retailers or through its own retail marts. It is a perfect example of contract farming to contract selling, which is being envisaged and enforced in India through mandates. More than that, a huge

¹⁵ Chicago Mercantile Exchange, Momagri. UK.Org: 30.04.12

¹⁶ Sophia Murphy, David Burch and Jennifer Clapp: Cereal Secrets: The world’s largest grain traders and global agriculture, Oxfam Research Reports, 2012,





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As far as horticultural produce is concerned, my personal experience from school days is that many small farmers in my village grew seasonal vegetables. All the fruits were collected, cleaned and sold in the nearby market. No crop was returned unsold, never wasted nor thrown on the streets. If the quantity was too small, it was consumed at home or sold in the village or bartered. Whatever was unusable at the end of the season, was retained for seed or fed to the domestic animals. It is only after the advent of cold storages and contract farming that reports of farmers not withdrawing their potato from cold stores due to fall in prices or rents of the cold storage being less than the returns from their produce, or potato being thrown on Jalandhar municipal roads as prices were lower than cost of taking the produce back home, appeared in press reports.

amount of annual cash transfers is made by the government to such agri-business corporations [Annexure 1(a)]. Can India with such a huge number of poor farmers, tiny size of holdings (Table 3) and almost nil support to agriculture from the public exchequer afford this type of agriculture and thereby endanger its food security or the livelihood of its farmers?

Coming back to the point of losses in those countries, post-harvest losses vary greatly among commodities and production areas and seasons and are huge in the USA as one has seen before. It is not that farm produce is not lost with total mechanization. The AERC, Delhi, conducted a study on behalf of the Planning Commission of India, to determine the impact of harvest combines on losses of grain, dry fodder and labour displacement during harvesting of wheat by using harvest combine vis-à-vis manual harvesting and through use of intermediate technology. The foodgrain loss was between two per cent and three per cent lower when the traditional method was used and the crop harvested on time. However, a total loss of straw, 94.62 per cent labour displacement in wheat and 95.38 per cent displacement in paddy in the use of harvest combine vis-à-vis traditional methods of harvesting was observed.¹⁷

Thus, first, corporate agriculture in the developed countries is totally mechanized, from soil testing (many farms have their own soil testing farm laboratories in the USA and Canada) to ploughing, sowing, harvesting, threshing, cleaning, sifting, grading, loading, shipping, processing, packing and selling in retail and, in many cases, even home delivery of ready-to-eat food.

Second, at the selling point, food companies play their tricks with a whole lot of advertising so as to maximize sales. In India, one can buy everything from pulses, sugar, jaggery, tea leaves to peanuts in countable grams or eggs in numbers, in other words any amount of any commodity. With corporate agriculture and mall culture, one cannot do that. One has to buy a pack of food, say six or 12 eggs, pack of uncooked vegetables, pizza or pack of edibles, irrespective that the pack may be far in excess of one's need. What does one do with the excess food, except to throw it away as has been reported by a number of studies.

Third, food in developing countries is lost between farm and market in the absence of processing, proper transportation, storage and distribution. In other words, there is no extra use of energy on processing, costs of packing and such others on such food in raw form but, in the case

¹⁷ Impact of harvest combines on labour use, crop pattern and productivity, AERC, Delhi University, 1979

Table 4: Storage Capacity@ of the FCI (million tonnes)

Capacity Covered	2003	2004	2005	2006	2007	2008	2009	2010	2011
Owned	12.82	12.82	12.91	12.93	12.94	12.95	12.97	12.97	12.99
Hired	13.77	10.85	10.46	9.90	9.34	8.71	10.12	12.89	15.46
Cover and Plinth									
Owned	2.26	2.21	2.25	2.21	2.29	2.20	2.17	2.51	2.62
Hired	2.88	1.36	0.41	0.51	0.63	0.03	0.02	0.47	0.54
Total All	31.73	27.24	26.03	25.55	25.20	23.89	25.28	28.84	31.61

@ As on 1st of April of each year

of developed nations, ready-to-eat food is wasted because of a number of factors, in addition to loss in harvesting, transportation or marketing as is the case in developing countries.

A film “Dive! Living off America’s waste”¹⁸ is an eye opener and says that 96 billion pounds of food is wasted annually in the US alone, 18 billion pounds in the UK and 200 billion pounds in the European Union. The waste from the US alone is sufficient to feed the entire sub-Saharan population for a year. There are many reasons for wasting food. Some factors can be described as follows: larger packages and relatively lower price, so that people buy more than is required mainly due to the economy factor; unwarranted expiry dates in many cases, so that people unwittingly throw food, which otherwise could have been used; unavailability of smaller packs such as buying one egg or half a bread or two pieces of ‘vada pao’ and so on. This happens mainly due to the marketing tactics of the seller.

As far as food waste in developed nations is concerned, there are well-researched studies. For example, Natural Resources Defense Council of the US has worked out “food losses from farm to fork to landfill to the extent of 40 per cent. On ‘Thanksgiving day’, about \$282 million worth of uneaten turkey will be tossed into the trash, which is 35 per cent of total likely purchases of turkey the US wastes. The 35 per cent waste is the calculation of the United States Department of Agriculture (USDA). Annual wastage by the Americans works out to nearly 165 billion US dollars. For the preparation of turkey to make edible about 105 billion gallons of water—enough to serve New York city for 100 days—will be wasted and energy equivalent to 8,00,000 car trips between New York and San Francisco or enough to provide food to about 17.9 million US food insecure households”.¹⁹

“Today, we waste, 50 per cent more calories than

Table 5 - Growth of Cold Storage Industry in India

Year	No. of Cold Stores	Capacity ('000 tonnes)
1955	83	43
1960	359	305
1965	600	682
1970	1218	1638
1975	1615	1994
1979	2266	3348
1986	2607	5402
2004	4748	19552
2006	5101	21694
2007	5316	23334
2008	6000	25500

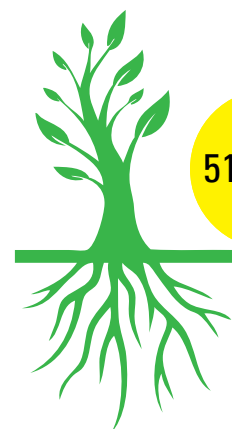
Table 6 Region wise cold stores in India (2007)

	Central	East	North	South	West
Number	352	947	2386	778	853
%	6.6	17.8	44.9	14.6	16.0
Capacity	1367	7784	10968	1566	1647
%	5.9	33.4	47.0	6.7	7.1

Capacity in '000 tonnes

we did in the 1970s. The average American today wastes 10 times as much food as their counterpart in Southeast Asia”.²⁰ There are some interesting examples of food wastage. A curved carrot will be discarded by the retail store and go to the landfill. Others will make it a baby carrot by removing the curve thus wasting more than what will be used. The following Figure 1 presents food wastage in the US.

These losses take place in hotels, restaurants and at homes. “Homes are not exempt from the large portion trend. The Cornell Food and Brand Lab reports that serving sizes in the ‘Joy of Cooking’ cookbook have increased 33.2 per cent since 1996. That is, a recipe that used to ‘serve 10’ now ‘serves 7’ (or the ingredient amounts are greater for the same number of servings). In some cases, this leads to overeating. In others, it simply leads to extra



¹⁸ The film ‘Dive: Living off America’s Waste’ by Jeremy Seifert has been shown at 20 International film festivals.

¹⁹ Natural Resources Defense Council: <http://www.nrdc.org/food/wasted-food.asp>.

²⁰ Dana Gunders, NRDC staffer.

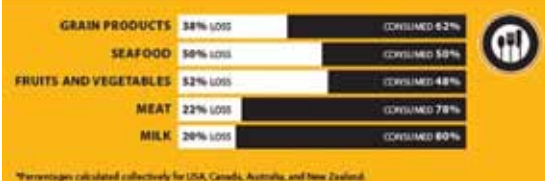
Table 7 Sector wise cold stores in India (2007)

Year	Private sector		Co-op. sector		Public sector		Total	
	No.	capacity	No.	capacity	No.	capacity	No.	capacity
2007	4820	22244	363	989	133	101	5316	23334

Table 8 Product wise cold stores in India (2007)

Year	Potato		Multi purpose		Meat & fish		Milk & products	
	No.	capacity	No.	capacity	No.	capacity	No.	Capacity
2007	2992	18255	1386	4718	513	186	191	68
%	58.9	78.6	27.3	20.3	10.1	0.8	3.8	0.3

Capacity in '000 tonnes

Figure 1:**FOOD CONSUMED VERSUS FOOD LOSS***

Source: Natural Resources Defense Council: <http://www.nrdc.org/food/wasted-food.asp>

the meaning of the date labels²², resulting in an enormous amount of prematurely discarded food. In fact, WRAP estimates that 20 per cent of food waste is linked to date labelling confusion. That also means 20 per cent more sales for manufacturers recommending those dates.

“Sell-by” dates are equally problematic. The goal of sell-by dates is to help stores stock and shelve their goods. Sell-by dates are designed to indicate that a product is still fresh enough for a consumer

In one of the twenty first century's most appalling ironies, developed nations throw away massive amounts of food while people in remote lands starve

food that ends up in the trash”.²¹

Supermarkets may not be loss-proof either. “The USDA estimates the food retail industry loses \$47 billion in the form of food losses, about nine per cent of their food supply. Seeing their losses as more than just a chunk of change, in 2007, the \$16 billion grocery chain Stop and Shop/Giant Landover took a close look at purchases, sales and shrink (the industry term for losses) in all of their perishables. They found whole stock-keeping units (SKUs) that weren't necessary. They also found that their philosophy of ‘pile ‘em high watch ‘em fly’— the belief that abundant piles of produce sells more — led to spoilage on the shelf, displeased customers who came upon spoiled product, and required more staff handling to sort out the damaged items”.

“Use by dates” may jack up sales but cause losses too. The research on date labeling in the UK conducted by WRAP shows that between 45 per cent and 49 per cent consumers misunderstood

to take it home and keep in their fridge for days or weeks. Most stores discard products as soon as they are past their sell-by dates. This is understandable as consumers would balk at buying something with an expired date, especially since they may not understand the date's meaning.²³

Jonathan Bloom²⁴ talks of the ways and amount of food wasted in the US. The book has been reviewed comprehensively. One review states “that waste is enough to fill the 90,000 seat Rose Bowl stadium each day – by a conservative estimate, half a pound of food per American per day.”

Another review states: “In one of the twenty first century's most appalling ironies, developed nations throw away massive amounts of food while people in remote lands starve. Bloom documents some specifics about the nature of wasted food in the twenty first century and calls into question both the economic efficiency and the morality of such profligacy. He finds food crops lying rotting in

²¹ Dana Gunders, October 11, 2012

²² [Http://www.wrap.org.uk](http://www.wrap.org.uk)

²³ ibid

²⁴ Jonathan Bloom, *American Wasteland: how America throws away half of its food (and what we can do about it)*: Da Capo Press, October 2010



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fields owing to intentional social policy, economic vagaries and sheer ignorance. In restaurants portion sizes have ballooned under the mantras ‘Bigger is better’ and many American allow food to decay in refrigerator shelves. Bloom has found some hopeful signs that this trend may be waning. Many grocery stores dispose surplus edibles through pantries. Some socially conscious farmers are trying to revive the ancient practice of allowing the poor to glean²⁵.”

“Bloom vividly illustrates how waste is built into our whole way of eating, from farm to table to trashcan. As he traces the problem of waste into grocery stores, buffet restaurants, school lunch rooms and convenience stores, Bloom argues that waste was understandable (if not forgivable) during the rampant consumption and excess that characterized the 1980s, 1990s, and 2000s. Nowadays, however, as Americans increasingly seek to reduce their carbon footprint, to eat and shop locally, to return to a simpler, less consumption centered way of life, it’s time we all stopped to consider not just the food that goes into our mouths but the millions of tonnes, that bypasses our plates entirely,” yet another review observes.

One can only hope that such comments were not responsible for corporations like Wal-Mart spending millions of dollars for lobbying in favour of FDI in multi brand retail trade in India.

The FAO and Messe Düsseldorf have collaborated

This selling culture entered India too. To cite an interesting example, during the mid-seventies three of us went to a newly opened restaurant in Jodhpur. It served tea in a pot and the minimum order had to be a pot even if one was alone. A pot of tea would be more than three cups. Unlike tea shops, it would not take orders for cups of tea. We ordered one kettle and asked the waiter to bring a spare cup. He politely declined because it was against the restaurant’s practice. As students we had to innovate to save money. So I emptied my glass of water into my friend’s glass and took tea in my glass.

with donors, bilateral and multilateral agencies and financial institutions and private sector partners (the food packaging industry and others) to develop and implement a programme on food loss and waste reduction, because the FAO estimates that 1.3 billion tonnes of food or roughly one third of the food produced in the world for human consumption every year is lost or wasted every year.²⁶

Other important findings of the study are equally interesting industrialized and developing countries dissipate roughly the same quantities of food — 670 million tonnes and 630 million

²⁵ Just like ‘sila’ in the North Indian case

²⁶ Jenny Gustavsson, Christel Cederberg, Ulf Sonesson, Robert van Otterdijk and Alexandre Meybeck: Global Food Losses and Food Waste: Extent, Causes and Prevention, Swedish Institute for Food and Biotechnology (SIK) and FAO, 2011

tonnes respectively. Every year, consumers in rich countries waste almost as much food (222 million tonnes) as the entire net food production of sub-Saharan Africa (230 million tonnes). Fruits and vegetables, plus roots and tubers have the highest wastage rates of any food. The amount of food lost or wasted every year is equivalent to more than half of the world's annual cereals crop (1.3 billion tonnes in 2009-2010).

In developing countries, 40 per cent of losses occur at post-harvest and processing levels while in industrialized countries more than 40 per cent of losses happen at retail and consumer levels. At the retail level, large quantities of food are also wasted due to quality standards that over-emphasize appearance. Surveys show that consumers are willing to buy produce not meeting appearance standards as long as it is safe and tastes good.²⁷

The report has made some interesting suggestions. For example, selling farm produce closer to consumers, without having to conform to supermarkets' quality standards is one such suggestion. This could be achieved through farmers' markets and farm shops. Good use for food that would otherwise be thrown away should be found. Commercial and charity organizations could work with retailers to collect and then sell or use products that have been disposed of but are still good in terms of safety, taste and nutritional value.

Consumers in rich countries are generally encouraged to buy more food than they need. "Buy three, pay for two" promotions are one example, while the oversized ready-to-eat meals produced by the food industry are another. Restaurants frequently offer fixed-price buffets that spur customers to heap their plates. In United Kingdom alone, every year 18 million tonnes of edible food end up in landfill, around one third from producers/supply chain, one third from retail and one third from households, which annually costs about £23 billion²⁸. The study, conducted by the waste management department at Stuttgart University, finds that every German throws away over 80 kilograms of food on average per year.²⁹

The findings suggested that another 20 per cent of food waste came from grocery markets, with 17 per cent coming from larger consumers such as restaurants and cafeterias. The study also stressed

Annexure 1(a): US subsidies 2009: the top 10 per cent of recipients were paid 61 per cent of all USDA subsidies.

% Recipients	% Payments	Recipients	Payments 2009	Per recipient
Top 1%	20%	12,744	\$1,958,727,951	\$153,698
Top 2%	29%	25,488	\$2,878,108,161	\$112,920
Top 3%	35%	38,232	\$3,533,691,690	\$92,428
Top 4%	41%	50,977	\$4,053,819,915	\$79,523
Top 5%	45%	63,721	\$4,503,476,999	\$70,675
Top 6%	49%	76,465	\$4,896,356,963	\$64,034
Top 7%	53%	89,210	\$5,244,816,500	\$58,792
Top 8%	56%	101,954	\$5,557,660,811	\$54,511
Top 9%	59%	114,698	\$5,841,163,164	\$50,926
Top 10%	61%	127,443	\$6,099,952,292	\$47,864
Top 11%	63%	140,187	\$6,337,552,255	\$45,208
Top 12%	66%	152,931	\$6,556,500,305	\$42,872
Top 13%	68%	165,676	\$6,758,835,187	\$40,796
Top 14%	70%	178,420	\$6,946,265,248	\$38,932
Top 15%	71%	191,164	\$7,120,384,620	\$37,248
Top 16%	73%	203,909	\$7,282,540,110	\$35,715
Top 17%	74%	216,653	\$7,433,814,821	\$34,312
Top 18%	76%	229,397	\$7,575,222,425	\$33,022
Top 19%	77%	242,142	\$7,707,649,151	\$31,831
Top 20%	78%	254,886	\$7,831,672,534	\$30,726
Remaining 80%		1,019,547	\$2,153,651,260	\$2,112

Source: EWG.org

the financial impact of throwing away usable products, concluding that the average German throws away food worth some 235 euros per year or 20 billion euros Germany-wide. Japan's agricultural ministry estimates that 23 million tonnes of food was discarded in 2007, about ¥11 trillion worth, which is the monetary equivalent of Japan's annual agricultural output. Moreover, it cost ¥2 trillion to process that waste. In Canada, food waste comes close to \$27 billion every year.

Investment in storage and cold store chains is another very strong argument in favour of opening up of FDI in multi-brand retail trade that is expected to improve infrastructure in the agriculture sector. In addition, improved roads and transport vehicles, improved storage, cold store chains, packing, branding etc., is expected to increase processing of agricultural produce and fetch farmers more returns and also bring down consumer prices.

As far as storage is concerned, the Food Corporation of India (FCI), the Central Warehousing Corporation (CWC) and state warehousing corporations (SWC) are the main

²⁷ Jenny Gustavsson, et al. and FAO *ibid*

²⁸ <http://www.foodawarecic.org.uk/food-waste-statistics.htm>

²⁹ <http://www.dw.de/germany-launches-initiative-to-reduce-food-waste/a-15806644>

public sector agencies for storage of food grains in the country. The CWC operates 476 warehouses across the country with a storage capacity of 10.18 million tonnes (stagnating since 2005), providing warehousing services for a wide range of products ranging from agricultural produce to sophisticated industrial products like wines and spirits.

The FCI stores foodgrain in its own godowns and hires storage capacity from other sources such as the Central Warehousing Corporation, the state warehousing corporations and in other government and private sector facilities. The state warehousing corporations do not open warehouses anywhere below the sub divisional level to avoid unfair competition with cooperative societies, which operate warehouses in rural areas for storing members' produce, inputs and fertilizers. After 1987-88, there has been negligible enhancement of total storage capacity of 10 million tonnes for a decade or so thereafter and is almost stagnant at less than 13 million tonnes today (Table 4). Inadequate warehousing capacity often means distress sales or produce going waste: about 1.5 per cent to two per cent of the country's produce is thus wasted. Similarly, the capacity of the central and state warehousing corporations and others has not seen any increase since 2005.³⁰ The public sector agencies could not expand because the government policy did not permit them and private sector expanded marginally despite a lot of facilities and concessions that were given to the private sector during this period.

The FCI, with less than 32 million tonnes capacity (hired and owned), can store only about half of the 60 million tonnes foodgrains that have to be stored. Storage of horticultural produce is a costly affair because that requires cold stores and a certain degree of stability in temperature, for which regular electricity and expensive construction would be necessary. The government has introduced many incentives to attract private investment in the sector.

Cold store chains, as per current practices, can be classified as follows:

1. Bulk cold stores for storage of a single commodity. These are mostly operational on a seasonal basis such as stores for potato, chillies, apples and such like.
2. Multipurpose cold stores, designed for storage of variety of commodities, operate round the year. All types of products: fruits, vegetables,



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dry fruits, spices, pulses, milk products and such others are stored.

3. Small cold stores with pre-cooling facilities for fresh fruits and vegetables, mainly, for export oriented items like grapes.
4. Frozen food stores with or without processing and freezing facility. Products like fish, meat, poultry, dairy products and processed fruits and vegetables are stored.
5. Controlled Atmosphere (CA) stores for certain fruits/ vegetables like apples, pears and cherries.
6. Ripening chambers, mainly for bananas and mangoes.
7. Small units used by hotels and restaurants.

The first cold store in India was reportedly established in Kolkata in 1892. One of the oldest multi-chamber cold stores was located at the fruit research station in Pune and was supposedly

³⁰ D.S.Bhupal: Creating a marketable surplus, Farmers' Forum, Vol. 10, no.12, Sep-Oct.11, pp 9-19



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MAFCO, a Maharashtra government undertaking, established in 1970, played a significant role in promoting multipurpose cold storage

operationalised in 1932. However, significant progress in the expansion of the cold storage industry in the country was made only after Independence. With a view to ensuring proper conditions in cold stores and in order to develop the industry in a scientific manner, the government of India and the ministry of agriculture promulgated an order known as “Cold Storage Order, 1964” under Section 3 of the Essential Commodities Act, 1955.

A few cold stores did exist in Mumbai in the fifties, with a number of small chambers mainly used for potato and some fruits including dry fruits. Up to the sixties the development of the cold storage industry was mainly confined to the states of Uttar Pradesh, Punjab, Delhi, Bihar, West Bengal, Madhya Pradesh and Gujarat where cold stores of medium and large sizes were set up but these were mainly bulk storage units for potatoes. Between 1965 and 1970, multipurpose cold storage facilities were extensively developed for several products in Bangalore and Pune. The MAFCO, a Maharashtra government undertaking, established in 1970, played a significant role in promoting multipurpose cold storage, food processing, freezing and storage of frozen foods. A few private promoters also invested in multipurpose units, with capacities ranging between 1000 tonnes and 20,000 tonnes. Currently, the multipurpose units store a large number of food products like fruits

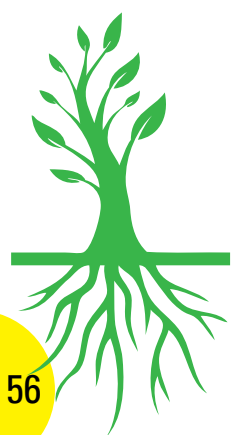
and vegetables, dry fruits, spices, milk products, confectionery and all types of frozen food.

The growth of the cold storage industry in India from 1955 to 2008 is shown in *Table 5*. Only selected years have been used but it would be clear from the table that enhancement in numbers and capacity of cold stores took place after the nineties. Between 1986 and 2004, the numbers of cold stores almost doubled and capacity increased more than three times. By 2008, the number of stores increased to 6,000 and capacity to more than 250 lakh tonnes, which was almost 35 per cent more than that in 2004. After 2008, the position is not known, because of non-clarity on the question of provisions of foreign collaboration and foreign investment.

The distribution of cold stores in different regions of India has not been uniform as will be evident from *Table 6*, which shows the break up of the numbers of cold stores in different regions, based on data available for 2007. The northern region clearly has got more cold stores and larger capacity and the central region has got the least.

Regional disparity is a major drawback for market-oriented growth. The private sector will choose only more profit rendering areas and facilities and this will not result in cold stores coming up in a plan manner across geographical

Table 7 indicates the capacities of cold stores under





IFFCO KISAN SEZ - Nellore

Creating India's First Agribusiness Based Special Economic Zone

Business opportunities that invite you to IFFCO Kisan SEZ

Processing of cereals and pulses

- Ready to eat
- Bakery
- Biscuits
- Primary processing and milling
- Snack Foods

Fruits & Vegetables

- Mango
- Citrus (Acid Lime and Sweet Lime)
- Papaya
- Tomato and varied vegetable crops
- Sapota
- IQF / Freeze dried / RTC / RTE / Pickles
- Juices, Jams, Jellies, pulp making
- Snack foods

Hi-tech Green Houses and Poly houses for fruits/vegetables/flowers

Medicinal & Aromatic plants

Feed Manufacturing

Nutraceuticals & Food additives

Aquaculture

- Fish
- Shrimp

Meat & Poultry

Dairy Processing

Tax benefits

Additional Strategic benefits

Realizing the need to bring in high value agribusiness activity into the country, IFFCO, Asia's largest fertilizer company through its SPV IFFCO Kisan SEZ Ltd., has embarked on the development of an Agri-based Special Economic Zone based on the concept of "Agroparks" (AP) in Nellore in the state of Andhra Pradesh. The developer has brought in the expertise and lessons learned by the northwestern European agro sector in innovating metropolitan agriculture by forging strategic consultants with Wageningen University and Research Center, the Netherlands and YES BANK Limited.

• IFFCO Kisan SEZ is a notified Multiproduct Special Economic Zone spread over 1000 hectares located 22 KM North of Nellore, A.P. It comes with many customs duty and sales tax concessions provided by the government of India to promote economic activity in notified Special Economic Zones. The concept of Agropark is based on the principles of sustainable development, i.e.

- Application of principles of industrial ecology, i.e. mutual use of waste and by-products.
- Advantages of scale through industrial production and processing.
- Improvement of farmers position as a preferred supplier.
- Independence from seasonality and land during the whole year of production cycle
- Significant reduction of costs

Locational Advantages: IKSEZ is at a distance of just 50 Km from Krishnapatnam Sea Port, a new mega port on the east coast, and within a reach of three hours drive from Chennai International airport.

Nellore, the catchment area which is the Heart of Indian Aquaculture, is a strong source of various agricultural produce such as paddy, sugarcane, fruits & vegetables (especially tomato) and is a prime source of supply of poultry products and milk to near by metropolis. Major fruits include mango, citrus, papaya, banana & sappota.

• **Infrastructure that is being provided:** The IFFCO Kisan SEZ comes with a bundle of world class common infrastructure conforming to international standards including internal roads, high quality rain harvest supported water supply, uninterrupted power supply, common operation, maintenance and management of security, logistics, ICT etc. Moreover, the Agropark offers a framework of industrial ecology, managing waste and byproducts thus significantly reducing costs.

• **Land at IFFCO Kisan Project site** is being offered on long term lease basis for 33 years for potential Entrepreneurs for setting up their units on attractive terms and conditions. For further details contact our website www.iffcokisansez.com or can be obtained from,

Head Office :

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Ph.: +91-11-42592626, 26510001

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Annexure 1(b) USDA subsidies (Subsidy recipients 1 to 20 of 3,650,530 totalled \$ 277,292,000,000 (1995-2011))

Rank	Recipient	Location	Subsidy \$ (95-2011)
1	Riceland Foods Inc	Stuttgart, AR 72160	\$554,343,039
2	Producers Rice Mill Inc	Stuttgart, AR 72160	\$554,343,039
3	Farmers Rice Coop	Stuttgart, AR 72160	\$314,028,012
4	Dnrc Trust Land Management -Exem	Sacramento, CA 95851	\$146,174,314
5	Harvest States Cooperatives	Helena, MT 59620	\$52,412,501
6	Ducks Unlimited	Saint Paul, MN 55164	\$49,489,434
7	Tyler Farms	Ann Arbor, MI 48103	\$44,935,815
8	Sd Building Authority	Helena, AR 72342	\$37,009,744
9	Pilgrim's Pride Corporation	Sioux Falls, SD 57117	\$31,110,468
10	Bureau Of Indian Affairs	Broadway, VA 22815	\$26,461,206
11	Missouri Delta Farms	Pendleton, OR 97801	\$26,095,948
12	Dublin Farms	Sikeston, MO 63801	\$25,280,578
13	Montana Board of Investments - Se	Corcoran, CA 93212	\$24,189,020
14	Due West	Saint Paul, MN 55170	\$23,448,121
15	Balmoral Farming Partnership	Glendora, MS 38928	\$21,668,016
16	Kelley Enterprises	Newellton, LA 71357	\$20,548,707
17	Gila River Farms	Burlison, TN 38015	\$20,199,227
18	State of Wash Dnr	Sacaton, AZ 85147	\$20,027,626
19	Colorado River Indian Tribes Farm	Ellensburg, WA 98926	\$18,780,923
20	Perthshire Farms	Parker, AZ 85344	\$18,409,481

Source: EWG.org

different sectors. Clearly due to government's deliberate policy of promoting the private sector, the cooperative sector and the public sector has not substantially increased the number or the capacity of cold stores. As mentioned earlier, the statement of the minister clearly emphasizes enhancement of capacity by providing subsidies to the private sector.

Table 8 shows product-wise distribution of cold stores. Potato with 59 per cent of cold stores and 79 per cent capacity is the main beneficiary. Otherwise also, it is potato with which the Indian cold store industry has been mainly associated. Multipurpose storage facilities have picked after liberalization and promotion of food processing, because new processed food products, from confectionary to wines and sprits, cannot be stored in normal stores in India due to changing climatic conditions. In fact, the heavy cost of cold storage, maintenance of stable temperature and uninterrupted power supply does alter the profitability norms of the cold store industry and probably that of the entire food processing industry.

What, in fact, is needed is emphasis now on milk and dairy products, which unfortunately accounts for not even half of one per cent of total storage capacity in the country and that too when the country is the largest producer of milk. Another area of concern should be meat and fish that, along with dairy products, are sine qua non for the

purpose of nutrition and food security. The public sector can focus on these two areas.

In order to improve farmers' incomes, change in the crop pattern, strengthening of agricultural marketing, reduction in the price spread and crop losses, increase in nutrition status and food security is called for. The government of India has been coming forward with a number of measures through the National Bank for Agriculture and Rural Development (NABARD), the National Horticultural Mission (NHM) and the National Horticulture Board (NHB) from time to time. Enhancement of processing of food crops and enhanced use of cold storage to increase shelf life are among the stated objectives of government policy. On the recommendations of a high-powered committee set up by the government in 1998, the finance minister, while presenting the Union Budget for 1999-2000,³¹ introduced "a new credit-linked capital subsidy scheme" for construction of cold storages and godowns. This scheme was to be implemented by the Ministry of Agriculture with the help of NABARD to create additional cold storage capacity of 12 lakh tonnes and to rehabilitate and modernize eight lakh tonnes of existing units in Uttar Pradesh, Bihar and Orissa over the following few years. Also 4.5 lakh tonnes of onion storage capacity was to be created. Back-ended capital subsidy of up to 25 per cent of the project cost, subject to a maximum of Rs

³¹ No.NB.ICD.PPS/1400/1999-2000 Circular No. 16/99-2000, 05 January 2000



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50 lakh per project, was to be made available. For the projects in the northeastern states, the maximum subsidy admissible was Rs 60 lakh at 33.33 per cent of the project cost. The NABARD was to provide refinance to commercial banks/rural regional banks /agricultural development finance corporations/ scheduled commercial banks at 90 per cent of the amount financed by the banks.

A capital investment subsidy for construction/ expansion/modernization of cold storage and storages for horticulture produce scheme was started at a cost of Rs 175 crore. The cold storage component was to be excluded from the then on-going scheme of the NHB and the Department of Food Processing Industries (DFPI). However, some DFPI cold storage schemes like facilities under the scheme “Food Park” were to continue. The rider was applicable.³² Also, the office of the Agriculture Marketing Adviser (AMA), Directorate of Marketing & Inspection would continue to pursue removal of control on rentals in those states that were still operating their own Cold Storage Control Acts.

The government announced in the Budget for 2010-11 external commercial borrowings (ECB)

In Canada, some farms are so big and self-dependent (in production and marketing) that they have their own railway lines/yards to lift the produce for any market in the country and abroad. Also, prices are not determined by the local or country market or by the government. They totally depend on futures trading. Wheat prices for example are determined at Chicago futures.

for cold storage or cold room facilities including farm level pre-cooling for preservation or storage of agricultural and allied produce, marine products and meat, as a part of the farm-to-market initiative and to promote private sector investment in cold storages. ECBs will allow users to borrow at a much cheaper interest rate and thus reduce the interest burden.

In addition, the government has also announced project import status at a concessional customs duty of five per cent with full exemption from service tax to the initial setting up and expansion of cold storage, cold room including farm pre-coolers for preservation or storage of agriculture and related sectors



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³² The subsidy will be available only in states/Union territories/areas which do not administer or control rentals for cold storages under any statutory or administrative order. In addition, the state governments would be advised to carry out market reforms to facilitate access of producers to primary markets, enhance holding and carrying capacity of producers/farmers and introduce measures to ensure transparency in transactions.

produce and full exemption from customs duty to refrigeration units required for the manufacture of refrigerated vans or trucks. Besides, the government has been innovatively making efforts to promote the cold chain industry by offering a number of quality schemes under which grants and subsidies are offered for capital expenditure.

The National Horticulture Board (NHB), as stated, provides back-ended capital investment subsidy to eligible organizations for creation/modernization/expansion of cold storage/controlled atmosphere storage at 25 per cent of the project cost.

Under the National Horticulture Mission (NHM), the Maharashtra, Tamil Nadu and Bihar governments were setting up terminal market complexes at a cost of Rs 200 crore each with a maximum subsidy of 40 per cent with financial support from the NHM. India needs at least 50 such terminal markets in the next five years since its traditional mandis are outdated and have no cold storage infrastructure.

Under the Technology Mission for North East (TMNE) scheme, back-ended capital investment subsidy is provided for creation/modernization/expansion of cold storages to the extent of 33.33 per cent of the project cost with a ceiling of Rs 2 crore for storage capacity of 5,000 tonnes.

The government has taken several initiatives to boost private participation through concessional rail freights and the setting up of Special Economic Zones (SEZs). Other initiatives include privatization of ICD (Inland Container Depot) for ocean freight, airport expansion with dedicated cargo terminals and improved road infrastructure with better connectivity. Also, foreign direct investments in the commercial vehicle segment leading to better vehicles, revision of import duties on fast moving consumer goods (FMCG) products and, bilateral agreements to promote export import trade are allowed. All these measures are targeted to give impetus to the logistics sector and promote trade, thus benefiting logistics service providers. There is a new trend of public private partnerships emerging in the cold chain logistics sector as well.

Many more incentives in the form of tax concessions on production and exports through Agricultural Export Zones (AEZ) and SEZs have been regularly announced and implemented. In October 2010, the finance minister announced a number of schemes to attract investment in the sector, stating that he wanted to reduce the “difference between the farm gate

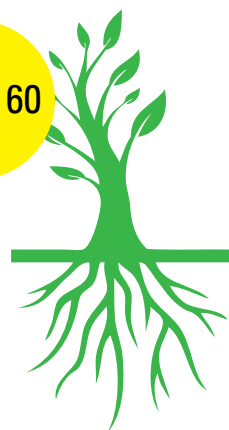


The scheme was to be implemented only in those states/union territories/areas, which did not administer or control rentals for cold storages. In addition, the state governments would be advised to carry out market reforms to facilitate access of producers to primary markets, enhance holding and carrying capacity of producers/farmers and introduce measures to ensure transparency in transactions. In other words, the rider was a move to minimize regulation of markets or a precursor for bringing changes in the Agricultural Produce Market Committee Acts.

prices, wholesale prices and retail prices”.

“External Commercial Borrowings will henceforth be available for cold storage or cold room facility, including for farm level pre-cooling, for preservation or storage of agricultural and allied produce, marine products and meat,” he announced.

The government also announced concessional import duties and exemption of service taxes for





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The size of the cold-chain market in India is estimated at more than \$3 billion and is expected to touch \$8 billion by 2015

installation and commissioning equipment to promote mechanized handling in spot markets.

This regulation will exempt from payment of customs duty on refrigeration units needed to produce refrigerated vehicles.

In the food processing sector, incentives in the form of Mega Food Park scheme (MFPS) are significant. For example, the cumulative project cost of the parks in Andhra Pradesh, Punjab, Jharkhand, Assam, West Bengal, Uttarakhand, Tamil Nadu and Karnataka was Rs 930 crore. This included grant of Rs 400 crore, which means that more than 43 per cent of the cost is met through grants. One also knows how the private sector calculates project costs to get enhanced grants.

Despite such incentives and efforts, the end results have not been very encouraging. The Punjab, Haryana and Delhi (PHD) Chamber of Commerce

and Yes Bank released the findings of a study which stated: “Cold storage facilities are available for only 10 per cent of the produce, resulting in 18-40 per cent of the produce being lost”.

The report emphasized on projections: “The size of the cold-chain market in India is estimated at more than \$3 billion and is expected to touch \$8 billion by 2015. India is the fifth largest retail market worldwide with food and grocery accounting for a share of about 62 per cent of the total market size”. With such optimistic projections, why would the Wal-Marts of the world not lobby? Even as the results so far have been far below expectations.

The reasons for the slow growth in the cold store industry, notwithstanding huge incentives and benefits, are obvious.

(1) The mandatory condition of providing benefits

India is the fifth largest retail market worldwide with food and grocery accounting for a share of about 62 per cent of the total market size



- in those areas/ states where market reforms (change in the APMC Act) was carried out. This has its own implication in the form of
- (a) ruining the assiduously built marketing system of regulated markets (APMC), which to many was one of the four important factors for the success of the Green Revolution. The other three are: high yielding variety of seeds, use of fertilizers and pesticides and improved irrigation facilities
 - (b) major role in the development of rural infrastructure in the form of providing link roads, culverts, marketing yards and associated facilities
 - (c) a handsome source of state revenue, and to

production and

- (5) More benefits for larger business houses for contract farming, processing, transportation, setting up of marketing yards so that they could operate on an international scale.

Despite 100 per cent opening up of wholesale trade of all varieties and having spent around Rs 557 crore on subsidies to increase cold storage capacity between 2008 and 2011, investments have not been on expected scales in agricultural production, food processing, storage and transportation.

More over, no one can be sure that the 51 per cent FDI limit will be enough for the expected investment to come in given the current depressed

"Since the Great Depression and the World Wars, the American attitude towards food has gone from a 'use it up, wear it out, make do, or do without' patriotic and parsimonious duty to an orgy of 'grab-and-go' where food's fetish and convenience qualities are valued above sustainability or nutrition".

– *Publisher's Weekly*

global economic scenario. In addition, the current restrictions on the size of the cities has to go eventually, because corporations like ABCDs and Wal-Mart need to run parallel supply lines as well selling outlets. The government because of its deteriorating fiscal deficit and growing external trade imbalance, has not only to follow the dictates of international capital but may also have to defend lobbyists of global corporations. Certainly the ideological firm belief of some of the key decision makers is another important factor.

It needs to be remembered that corporate farming in USA is hugely subsidized to keep agriculturists in the farming business. The subsidies provided per unit of area are larger than the entire earnings of the Indian farmers from a similar amount of land. Similarly, Indian farmers cannot earn £2 (Rs 160-Rs 170) from a cow, from their entire small and marginal land holdings every day, which is the daily subsidy for a cow owner in the United Kingdom and that is in addition to what he/she may earn from the cow. ●

- some extent vested interests.
- (2) Uncertainty of profitability due to imminent foreign competition on the part of small and medium enterprises.
 - (3) Expectation of large industrial houses of the government opening up FDI in lucrative retail trade of all varieties, which was hanging due to one or the other reasons.
 - (4) Facilities of land acquisitions for captive

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Destination MOZAMBIQUE

Where Cashew and Mango Grows Wild

Ajay Vir Jakhar

I arrive in Nampula in north Mozambique on the invitation of Arpan Mathur, who has left his banker's job at Deutsche Bank, New Delhi, to become a farmer. He has lured me with the promise of exploring the countryside, meeting farmers and, of course, a good time.

Mozambique – in south east Africa, bordering the Mozambique Channel, between South Africa and Tanzania – gained independence from the Portuguese in 1975 and has had a chequered history since. Peace returned to this sparsely populated but resource-rich developing country after a bitter civil war on October 4, 1992. Possibly the largest African natural gas reserves have been discovered offshore at Rovuma-1 and other sites and the region is attracting global attention. A few Indian companies are also investing here and will be generating employment.

Starting from a very low base, the country's gross domestic product is growing at 10 per cent and investments in minerals and gas will keep Mozambique's GDP growth in double digits for

years to come. The question is not whether the country's growth potential will be realized but if this new found prosperity can be equally distributed amongst all sections of its people. Failing this, Mozambique will become another Nigeria, rich for the few and pathetic for the poor, an unstable strife-torn nation. That could happen but hopefully will not under the leadership of President Armando Emilio Guebuza.

I happen to be in a village that the president had visited. The president asked the villagers about their problems, explained the situation and looked for suggestions. The complaints were redressed and all those who had something to say got a very patient hearing. That is much more than I can say for India when it comes to its political leadership giving a patient hearing to those at the grassroots and actually redressing grievances. These are encouraging signs.

Foreign donations help the economy substantially. Many American and European non-government organizations work here and it is easy to spot them at cafes at Nampula. I saw long queues at bank ATMs and, on inquiry, was told that as per law all salaries need to be paid into bank accounts. Normally, one

would have to wait in the line for two to three hours.

A shop is usually a large painted store house where everything is sold under a single roof – from toilet seats to fertilizers; from barbed wire to refrigerators; from generators to household goods; from kitchen utensils and toiletry to motorcycles. The local currency is meticaís; the exchange rate is Rs 2 for one meticaís. Taxi fares are steep at meticaís 2,500 per day, tractor hire charges per acre for ploughing operation is 800 meticaís. The cost of labour is 70 meticaís a day even though opportunities for work are limited.

I base myself around Namialo, which is 140° south of the equator and the sun in November is directly overhead. It is peak summer time. The bright sun is harsh on my skin but under the shade of a Cajueiros (cashew) tree, it's pleasant. The breeze is inviting, unlike in India where the loo (summer wind) is dust laden and hot. The nights are pleasant; one can sleep without a fan. The more striking news was that in this wonderland mango and cashew trees grow wild.

Farmers pluck the cashew and sell it to aggregators, who make the money. Mangos just fall off the trees for want of buyers. Even though water is accessible, farming is rain-fed because creating an irrigation infrastructure is an expensive proposition. In November, I saw farmers clearing the land of grass and bushes, even burning them to prepare the land for sowing cassava, green moong, peanuts, white maize, sesame, cotton, groundnut and such others. Yellow maize is not liked. Normally, poor farmers grow one crop a year depending on rains. Being close to the equator, rains are usually consistent unlike the Indian monsoons.

The language spoken is a mixture of local Makwa and Portuguese. I needed an interpreter to interact

with farmers and Basilo Trinta in the hamlet. Basilo is 44 and has studied till class four. He has four children studying in Namialo. Education is free in government schools till class seven after which a nominal fee is charged that may be paid in kind.

The average size of the farm appeared to be around a hectare but not because of land limitation. Surprisingly, the farmer family manages to clean only that much land. Basilo, like other farmers, has extra time on hand and also land to put under cultivation but little spare cash. Land is abundant and 60 per cent of the arable land in Africa is yet to be put under cultivation.

Small farmers keep their own seeds for use the next year, while larger farmers may go and buy their seeds from the market. Small rain-fed farmer families are at a disadvantage vis-à-vis large farmers and those with perennial source of water as everywhere else in the world. Larger farmers hire tractors to plough the land and get a better yield of around 25 per cent more than from a hand prepared field.

Basilo said hospital medication was free even though they charge a nominal registration fee. It already has one of the lowest life expectancies in the world. The electrification rate is only six per cent. Everyone, including Basilo, works from 6 am to 12 noon. All shops and offices, even in Nampula, close for lunch between 12 noon and 2 pm and stay open for another two to three hours. Afternoon siesta is possibly courtesy the south European influence. Like in many places in India, wood charcoal made from cut down trees being transported on cycles is a common sight.

Basilo lives in a capana; just the kind of house as those that I had seen in Ethiopia; thatched roof houses with walls made of wood tied as a grid interfiled with mud. There were similar capanas in such other areas as Netia, Monopo, Kuran and Nametili. As in Ethiopia, thatched roofs are being replaced by tin roofs. I saw a Chinese-owned tin roof making facility. The villagers use no cow dung because they do not keep cattle but rear only goats and some pigs.

Basilo's usual food is vegetables with lots of meat. We had a village feast given by the head man, who is like a sarpanch in India. The menu featured chicken, meat, rice and curried beans cooked with sweet potato. Cassava is a root crop yielding up to four kgs per plant over 11 months and is the staple food. There is limited cereal production. A goat research station would be beneficial and help improve the lot of the farmers more than anything else. Every market had goat meat, eggs and milk imported from South Africa.



Basilo Trinta on his farm



Normally, poor farmers grow one crop a year dependent on rains. Being close to the equator, rains are usually consistent unlike the Indian monsoons

Practices differ between large and small farms; small farmers place less than a thousand cassava plants per hectare but only for personal consumption. The multinational Corridor Agro puts 12,500 plants per acre for commercial sale to international beer companies. The good part is that they are helping small farmers change practices by supplying them cassava cuttings, technology assistance and complete buyback too.

There are Brazilian, Chinese, Vietnamese companies that are moving in to Mozambique in the provinces of Zamabesia and Niasa.

I visit multinational corporation Matanuska's 1,500 hectare banana plantation in Muzarban in Monopo district, which employs 3,000 villagers. There is no local equipment to hire or use, everything needs to be imported – tractors, tyres, plough and seed drills. If the continent could get its act together, it could become the food basket of the world.

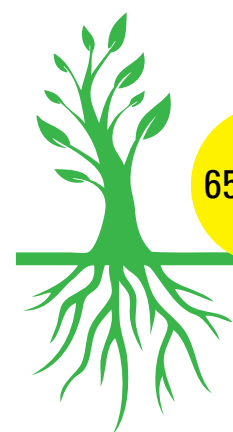
The Brazilian government along with the Japanese government started ProSavana, an agriculture research centre that will soon start extension services. The latitude parallels being the same as Brazil, it decided to do further research and

transfer knowledge to Mozambique. The soya bean yield in experiment stations here is better than in Brazil, even though GM crops are not allowed in the country. It took Brazil 40 years of research and work to make the Cerrado region a success.

Henoque Riberiro da Silva, the research co-ordinator from the Brazilian agriculture research corporation told me that they are confident of changing Mozambique's agriculture in 20 years. One hoped that such long term vision would obtain in India too.

One needs an invitation or a sponsor from Mozambique to get a visa. Arpan wrote to the CPI or Investment Promotion Centre at its Nampula office and received an invitation to visit it. After a yellow fever vaccination, Arpan arrived in Mozambique. The CPI in Nampula was exceptionally helpful. Such dedication will secure much-needed foreign investment for the country.

Agriculture land that can be leased from the government for a few dollars per acre is very cheap but it takes a lot of effort to clear the land of the trees and make the land easily cultivable. The procedure to lease land is very straight forward. The CPI put





be far simpler and faster.

The cost of leasing land (per hectare; per year) is incredibly low but the compensation that needs to be paid to the farmers will increase that value many times over. More fruit trees on the land not only mean more compensation. It is also extremely expensive to uproot them for farming. Compensation needs to be paid for the fruit trees on the land to be leased from the government.

A survey of the land is undertaken and a count of the trees is taken. Different trees are charged differently: cashew 750; banana 200; mango 350; Lichi 1,200; coconut 1,200 meticaís each, for example. If any farmer agrees to be moved from his land, he needs to be compensated separately, after which the land can be used. Two years later, if the acquirer of the land is found to be using the land,

Underutilized farmlands in Mozambique reinforces my opinion that the world will be able to meet its food requirement for decades into the future. India will continue to import produce

Arpan in touch with the SDAE (Serviços Distritais das Atividades Económicas) – Distrital Services of Economic Activities, which can help with identification of land. If one likes the land, the next step is to meet the Community Authority (Regulo) and administrative post officer.

They call a farmers' meeting to explain the investment. Those who have objections have one month to raise them and these are seriously investigated. After the administrator has signed the papers for endorsement of the governor of the province, through the Provincial Agriculture Department, one gets a provisional document for the use of land (DUAT) for two years. This is followed by a land demarcation and survey for compensation by the geography and cadastre. If the land identified is not populated, the process could

he/she gets a 50-year DUAT. Otherwise, the land reverts to the government.

My friend arrived in Nampula two months ago and is hopeful that he will be allotted land in another month. Arpan is impressed with the pace of work and the assistance provided by the CPI, Provincial Agriculture Department and the administrator of Monopo district and so am I.

Visiting underutilized farmlands in Mozambique reinforces my opinion that the world will be able to meet its food requirement for decades into the future. India will continue to import produce from countries like Mozambique, where production will increase manifold in the decades ahead. Mozambique makes me wistful: What if India had more responsive representatives? Why can India not elect the right people for the right jobs? ●

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