# FINANCING AGRICULTURE

Vol. 43 Issue 3 March 2011 Rs. 50/-

ISSN 0015-2110

## Scope of Fish-culture in Assam: An Economic Analysis

## The Seed Bill: A CRITICAL ANALYSIS

**AFC Institute of Management & Technology (AIMTEC)**
**A unit of Agricultural Finance Corporation Ltd.**
(wholly owned by Commercial Banks, NABARD & EXIM Bank)

## AIMTEC's Distance Learning Diploma Programmes in 6 months

- **Diploma in Banking and Finance: Syllabus**

1. Banking, Finance – Concepts theories, principles and practices.
2. Accounting, Mathematics & laws relevant to banking.
3. Banking and finance – Instruments, Products, Process-methods.
4. Principles of Management as applied to Banking and Finance.
5. Banking technology.

- **Diploma in Microfinance: Syllabus**

1. History and Introduction of Micro Finance
2. Group Formation and credit Linkage of SHG's
3. Different models in Microfinance and Rural appraisal
4. Establishment of MFIs and innovations

- **Diploma in Clean Development Mechanism: Syllabus**

1. Principles of Clean Development Mechanism
2. Clean Development Mechanism process
3. Major projects and sustainable development in CDM
4. Preparing CDM project Design Document (PDD)
5. Potential of CDM projects in India

- **Diploma in Foreign Trade Management: Syllabus**

1. International Marketing & Research
2. Export Finance, Banking & Exchange regulation.
3. Export Procedure & Documentation
4. Import Management
5. Foreign trade policy

**"Fee for all courses is Rs. 7500/= by Distance Learning Mode"**
**Minimum Qualification: Graduation in any discipline**
**Mode of Examination: Objective Type Online Examination**

For more details, please contact us at aimtec.afcf@gmail.com;
Phone: 022-22028924 and visit our website www.afcindia.org.in

**Articles to be published in this journal may be mailed to fa.afcl@gmail.com only. Authors may indicate their postal address and contact number. Articles may be between 4,000 to 6,000 words. Relevant photographs may also be sent.**



# EDITORIAL

There is a draft seed bill awaiting enactment in the Parliament. Though the Government is greatly supportive of farmers and their interests, the legislation that it is bringing curiously seems to have some anti-farmer aspects. Read more about the issue, the controversies and the impact of this bill in this March edition.

Fish culture is an age-old culture with social-cultural and economic aspects of the people of Assam since time immemorial. Through our cover story we provide an economic analysis of the scope of fish culture in this state. The objective of the article is to find out the excess demand and to find out its scope.

We also get our readers introduced to the hydroponics method of cultivation in our special story section. Hydroponics production is defined as growing plants without the soil. Read on...

India is the second most populous country having more than one billion population. Over 22 percent of its rural population and 15 percent of its urban population is living below the poverty line. The Government of India has made sincere effort to provide the institutional credit to fight against poverty but the institutional structure was neither profitable in rural lending nor serving the needs of the poorest. The spotlight section of this edition talks about the SHG-Bank linkage, a helping hand to the needy poor of India.

Also featured is an article on strengthening institutional agricultural credit system through collective action. The author tells you how linkages between many banking institutions is both possible and advisable.

In the Books Review section, we review an interesting read titled 'the Why of Work' and the first section of 'the Alchemists Of Loss: How Modern Finance and Government Intervention Crashed The Financial System'.

**A.K. Garg**
Editor-in-Chief

# I N S


The Seed Bill: A Critical Analysis ..... 6
By Dr. Suman Sahai

Controversies and Challenges of the Seed Bill ..... 10
By Dr S Bala Raju

Seed Bill: Brace Up To Make Seed Bill Accountable ..... 17
By Devinder Sharma

Scope of Fish-Culture in Assam: An Economic Analysis ..... 20
By Dr. Manjit Das and Bhabananda Bayan

Hydroponics: The Effective Cultivation Technique ..... 24
By D. Muthamizh Vendan Murugavel



**Annual Subscription**

India, Nepal and Bangladesh Rs. 600/-

Other Countries (By Air Mail) US$70

Single Copy Rs. 50/-

Agricultural Finance Corporation Limited

Dhanraj Mahal, Chhatrapati Shivaji Maharaj Marg, Mumbai 400 001

Tel: 91-022-22028924
Fax: 91-022-22028966
Email: afcl@vsnl.com
URL: www.afcindia.org.in

# I D E


Self Help Groups (SHG)–Bank Linkage: A Helping Hand to the Poor ..... 26
By Dr. A.S. Shiralashetti and Prof. D.D. Kulkarni

Strengthening Institutional Agricultural Credit System through Collective Action: The Links among Banks, NGOs and SHGs ... 32
By K.Mani, S.Padma Rani and A.Vidhyavathi

The Why of Work..... 38
By Giraj M. Sharma

How To Avoid A Con Bite ..... 39
By Raghu Mohan

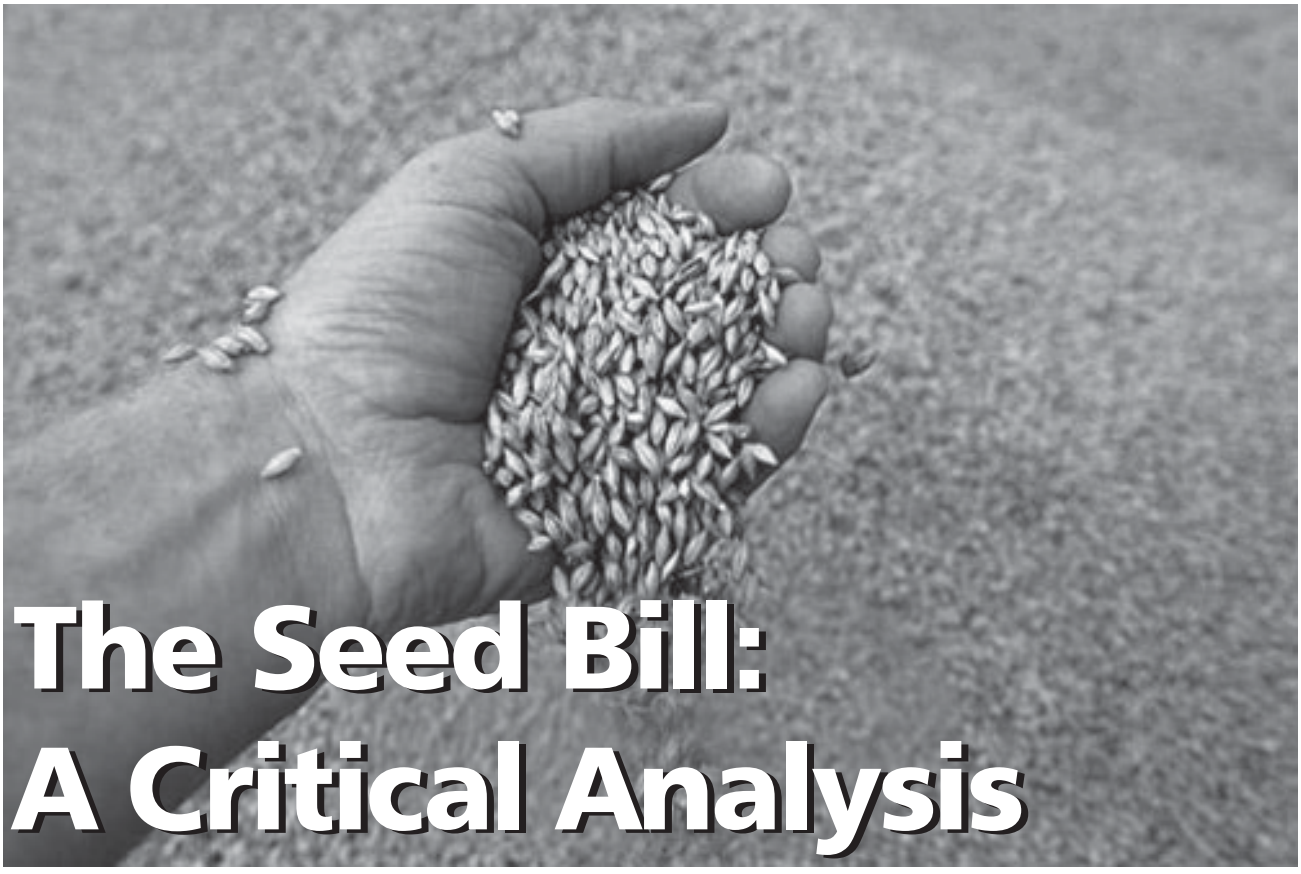
Agri News..... 40





Published by
**Agricultural Finance Corporation Ltd.**
Dhanraj Mahal, Chhatrapati Shivaji Maharaj Marg,
Mumbai 400 001

Produced by
**L.B. Associates Pvt Ltd.**
H-108, Sector 63, Noida - 201301
Tel: 91-120-2427280/82,
Fax: 91-120-2427108
Email: binoy@lbassociates.com
Website: www.lbassociates.com



# The Seed Bill: A Critical Analysis

By **Dr. Suman Sahai***

For a government that professes to be greatly supportive of farmers and their interests, the legislation that it is bringing is curiously anti-farmer. There is a draft Seed Bill awaiting enactment in Parliament. The provisions of the Bill are so clearly favouring the seed industry that it would not be incorrect to say this was in fact an anti –farmer Bill. The new seed bill will replace the old Seed Act of 1966 which was meant to govern trading in seed. A law regulating the seed trade is necessary to ensure that farmers are protected against spurious seeds and that seed producers are obliged to put into the market only seeds of good and reliable quality. Such a seed law must encourage competitiveness to ensure good quality and low prices and not encourage monopolies.

The Seed law must ensure that the seeds produced by farming communities (Farmer Varieties) are treated on par if not preferentially The law must provide for a transparent system of seed testing and evaluation of performance so that the farmers get good inputs and the nation's goals of agricultural and food production are met in the most effective manner. The Seed Bill facing Parliament fails on almost all of these counts. Seeing the Bill, one gets a sense that the seed industry, which has not hidden its great unhappiness over the distinctly pro-farmer provisions of the Protection of Plant Variety and Farmers Rights Act (PPVFR), has now succeeded in reclaiming ground by getting the PPVFR effectively scuppered. The draft Seed Bill undoes most of the pro-farmer provisions of the PPVFR. Worse, the government has elected to sideline the Farmers Rights Act and make the Seed Bill the dominant legislation, sending the signal that in the seed sector, it is the industry that will hold sway, not farmers.

The Seed Bill requires mandatory registration of the varieties/seeds which the PPVFR does not. In the PPVFR, the breeder applies for registration for a Plant Breeders Right. This right is valid for a period of 15 years for crop varieties and 18 years for trees. The Seed Bill allows the period of protection to be doubled so that the seed variety can be protected by the seed producer for 30 years and 36 years respectively. This extension of the seed owner's right will allow monopolies to be established.

Key differences between the Seed Bill and the PPVFR relate to declaring the origins (parentage) of the variety, the conditions for multi location testing and who will conduct these tests, level of transparency maintained on grant of registration, price control and the treatment of farmer varieties. While the PPVFR requires the declaration of the origin of the variety with pedigree details, the seed bill does not.

With respect to testing the new variety, the PPVFR lays down that the national authority will conduct the tests for distinctiveness, novelty and utility of the

variety. The seed bill does not specify who will conduct the tests for establishing the usefulness of the new variety. This lacuna can be misused unless it is clarified. The PPVFR allows legitimate opposition to the grant of a registration for a new variety before registration is granted. People have an opportunity to raise objections if they have reason to think that the variety is not what is claimed. In the case of the seed bill, the registered varieties will be made known only through periodic publications. The public has no opportunity to object to a new variety for any reason. This lack of transparency could mean that varieties of dubious performance could get registered without giving people a chance to oppose such grants.

The PPVFR accords recognition to the contributions of the farming community in many ways which is not the case in the seed bill. The PPVFR recognizes the farmer as conserver, cultivator and breeder of new varieties. The law therefore protects the farmer in all these roles. The farmer varieties are hence eligible for protection under the Act and such varieties can be registered without paying a fee. According to the seed bill, although farmer varieties are eligible for registration, this can only be done after the payment of the necessary fees. This will place a financial burden on small farmers who have good material to register but may not be able to afford the cost of registering their varieties.

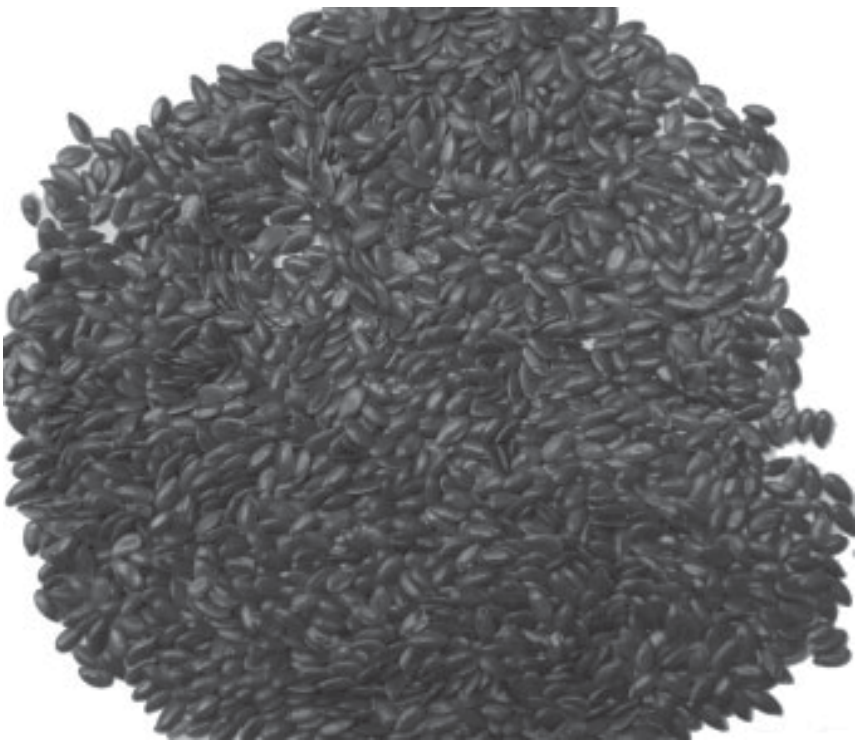
Further causes for alarm are the provisions of the Seed Bill that deal with price control. In the PPVFR, regulation of seed supply and seed price is to be managed through a process of compulsory licensing. These safeguards the interests of the farming community since it places the responsibility of ensuring an adequate seed supply at reasonable price, on the government. The Seed Bill fails to provide any such protection to the farmer. There is no mechanism to regulate seed supply or seed price. This could result in a high cost of seeds fixed arbitrarily by the seed companies, leaving the government with no means to control the price. It could also mean that seed providers are under no obligation to ensure a reasonable seed supply to farmers. This will defeat the very rationale that had kept seed production in the public sector so far.

There are other issues of concern. The Seed Bill is silent on the origin and ownership aspect of a registered variety for trade. This will facilitate unrestricted commercialization of varieties in the public domain, including farmer varieties, by private parties. On top of this, there are no opportunities for benefit sharing post commercialization, as is the case in the PPVFR. The Seed Bill attempts to bypass the PPVFR in other ways. It seeks to nullify the need for seeking a Plant Breeders Right (PBR) in order to obtain rights to market the new variety. This allows evasion of the public interest liabilities that are linked to the PBR.

The ambiguity of the Bill on multi location evaluation of varieties which is a standard practice followed by ICAR (Indian Council of Agricultural Research), can open the door to exaggerated performance claims which because they will not deliver, will hurt the farmers. Further, the grant of registration to a seed variety without concurrent registration for PBR, allows the seed owner to evade the onus of compulsory license provisions which protect the cultivators from high seed price and inadequate seed supply.

Because the Seed Bill does not require the parentage of a variety to be declared, it allows misappropriation of materials belonging to others. These could be farmers or public sector institutions. The seed owners could in principle have free access to all available agrobiodiversity, without having to go through prior informed consent or engaging in benefit sharing. All this amounts to legalizing the piracy of valuable genetic materials like elite breeding lines.

The Liability and Compensation provisions of the PPVFR that allowed farmers to be compensated for spurious or poor quality seeds, has been dispensed with in the Seed Bill. Instead the farmer must try as best as he can, to claim compensation through District Consumer Courts. This will be a daunting if not an impossible task for small farmers. Apart from that, the district Forum or the State Council under the Consumer Protection Act has no expert knowledge in agriculture, to be able to award a fair decision. A straightforward insurance package linked to the seed would be a system that would work far better for farmers. If the seeds did not perform, the insurance claim would become automatic. The stringent punishment and large penalties for violating the law that was put in as a deterrent against bad



seeds in the PPVFR, has been reduced to a token which no one needs to be afraid of. The loophole that has been created to allow provisional registration of transgenic varieties is preposterous. It not only violates biosafety norms, but also clearly provides a particularly favored condition for the multi national companies who are the greatest producers of transgenic seeds.

Finally, the bill is so highly bureaucratic as to almost make it impossible to consider this a balanced document where multistakeholder participation is possible. The system of seed inspectors and central and state seed testing institutions with unbridled (often misused) powers, that have proved to be thoroughly incompetent in enabling an effective seed trade, have been retained in the Seed Bill when there was an opportunity to come up with a better alternative. Everywhere in the Bill there are opportunities for bureaucratic interventions which provide an opportunity to maneuver and manipulate many critical aspects of the Bill. Not only does this indicate a complete lack of transparency in the implementation of the provisions, it allows opportunities for backdoor actions. The high level of bureaucratic intervention is likely to lead to biased actions and genuine wrong or misinformed decisions.

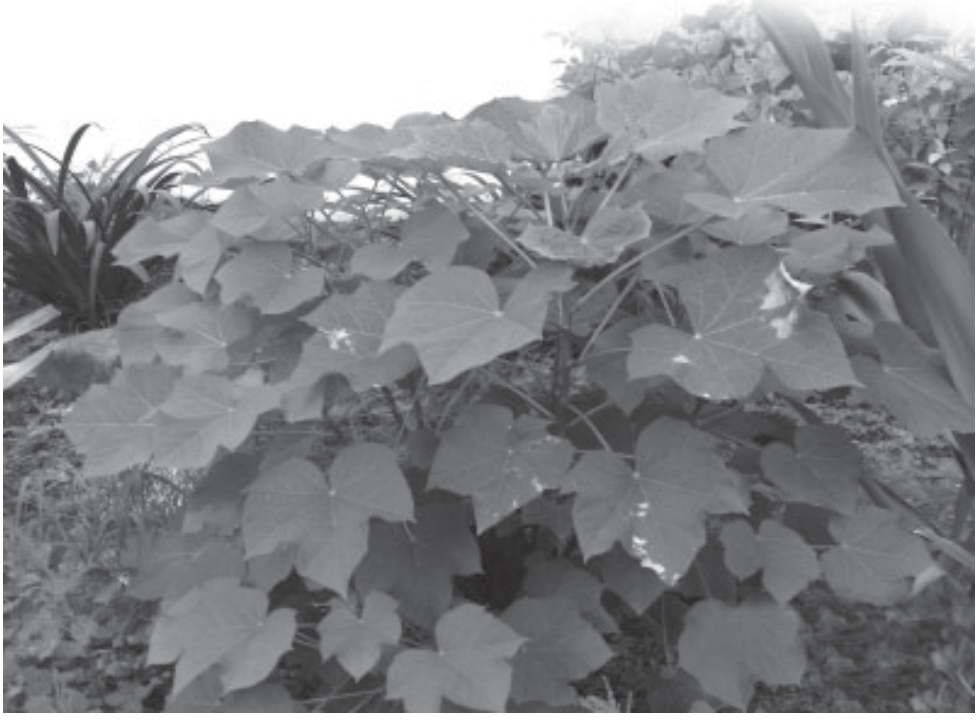
The draft Seed Bill must be discussed by a variety of stakeholders for a critical and careful reexamination of its provisions so that the farmer's interests are not jeopardized as they are in the current draft. To this end, Gene Campaign is organizing the first stakeholder discussion together with the National Commission on Farmers. Our purpose is to provide concrete recommendations to the government for overhauling and revising the provisions of the Seed Bill so that they are made protective of farmers as well as supportive of community and national food security.

A stakeholder consultation on the draft Seeds Bill, 2004 was organized by Gene Campaign and the National Commission on Farmers on 15 March, 2004. The discussions concluded with a set of recommendations for substantially overhauling the draft Bill. Stakeholders were of the view that the country needs a strong, transparent and unambiguous Seed Act to regulate the seed trade and make the providers of seed accountable. The Seed Act should not favor one party but should balance the interests of all sections and be sensitive to the needs and vulnerabilities of farmers, especially small farmers.

There was resentment that the draft Seed Bill which is a clearly anti-farmer Bill is being pushed through without any stakeholder discussions. It dilutes many of the pro-farmer provisions provided in the Protection of Plant Variety and Farmers Rights Act (PPVFR) of 2001. Although the Farmers' Rights Act was passed by Parliament in 2001, it has still not been brought into force whereas the controversial Seed Bill which makes almost reckless concessions to the seed industry is being pushed on priority in Parliament. There is a fundamental flaw in the process and philosophy of the Bill. As a policy is the primary statement of the governments' approach and intention in an area, no law can or should be enacted that violates the letter or spirit of a policy. Unfortunately, the Seeds Bill, 2004, clearly violates the National seed Policy of 2002 and the policy statements implicit in the earlier PPVFR. Therefore the Bill must be amended and be made consonant with these policies and laws.

There was a unanimous view that any legislation related to agriculture in this country must first and foremost ensure an enabling environment for farmers and their access to seeds at reasonable cost. Their rights must be ensured over their own varieties and they must be compensated every time their varieties are used by the seed industry. Above all, the rights of farmers can not be made subservient to the rights of breeders and the industry. Instead of taking a balanced

**The system of seed inspectors and central and state seed testing institutions with unbridled (often misused) powers, that have proved to be thoroughly incompetent in enabling an effective seed trade, have been retained in the Seed Bill when there was an opportunity to come up with a better alternative**



approach, the Bill deprives the traditional rights holders and transfers these rights to the seed industry. At this rate it was felt, it is likely that in 10 years, the seed trade will be in the hands of the MNCs , with grave implications for the nation's political sovereignty.

### Recommendations For Changes In The Seed Bill

1. The Seed Bill should be harmonized with the Protection of Plant Variety and Farmers Rights Act (PPVFR), 2001 and the Biodiversity Act, 2002.
2. Nothing in the Seed Bill shall dilute the rights and protections granted to farmers under the PPVFR.
3. Registration of varieties under the Seed Bill shall require a sworn declaration of the parentage of the variety and make provisions for benefit sharing in harmony with the PPVFR and the Biodiversity Act, when farmer varieties and public sector varieties are used.
4. Registration for sale should be required only for new varieties as in the Seed Act 1966 which limits the requirement to notified varieties. No registration should be required for extant varieties and landraces.
5. Wherever registration provides for marketing rights, there should be explicit provisions for ensuring adequate seed supply at a reasonable price.
6. The compensation for non-performance of seed supplied by agencies must be regulated through the National Plant Variety Authority, not the District Consumer Courts as in the present draft Bill.
7. The duration of protection granted to registered varieties in the Seed Bill should be commensurate with what is granted under the PPVFR. An extension of five years may be considered for those varieties that are very popular with farmers, provided the decision is taken transparently
8. The provisional permission granted to transgenic varieties is dangerous and violates principles of biosafety, it must be rescinded.
9. Multi location testing of varieties bred by the private sector must be done by the ICAR. It is proposed that industry contributes to a fund to pay for multi location testing but the testing itself should be done by the ICAR.
10. The small token penalties for violations contained in the Seed Bill must be revised. When the declared source of registered material has been accessed illegally, registration would be cancelled and criminal and civil liability will be determined.
11. To ensure transparency, a process for pre-grant opposition to registration of a seed variety must be included in the Seed Bill, like it is in the PPVFR.
12. An autonomous institution should be established to do seed testing by DNA finger printing.
13. A consultative process of governance should be established where the communities that will be affected are part of the decision making process.
14. The Seed Bill contains several provisions biased in favor of a specific stakeholder; it is against the interest of farmers and in that sense, against the larger national interest. Parliament may therefore kindly refer the Bill to a Joint Parliamentary Committee with the mandate to prepare an amended draft, rectifying the existing drawbacks of the Bill in consultation with stakeholders.

**Dr Suman Sahai is convener of the Gene Campaign, a leading research and advocacy group working on issues of bioresources, food and livelihood security, farmer's rights, indigenous knowledge and GM technology. Dr. Sahai can be contacted at genecamp@vsnl.com*

# Controversies and Challenges of the **SEED BILL**

By **Dr S Bala Raju***

Most of the national policies, regulations and laws governing seed and planting material, their movement across national borders, internal and external trade and associated intellectual property rights (IPRs) are bound to international conventions and agreements on phytosanitary aspects and IPRs related to seed. Some of such international conventions and agreements include the International Plant Protection Convention (IPPC) administered by the Food and Agriculture Organization of the United Nations (FAO), and the Agreement on Sanitary and Phytosanitary (SPS) Measures and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), administered by the World Trade Organization (WTO). As a party to these, India has promulgated several orders, regulations and laws—the Plants, Fruits, Seeds (Regulation of Import into India) Order 1989; the Plant Quarantine (Regulation of Import into India) Order 2003 of India; and the Protection of Plant Varieties and Farmers' Rights (PPVFR) Act 2001. The Indian seed law, on the other hand, stands independent of any legally or morally binding international undertaking. The Indian seed policy and related laws and regulations are essentially standalone domestic devices for setting and enforcing national seed standards to ensure the supply of quality seeds to farmers, promote investment in seed research, and regulate the import and export of seed—all converging to enhance farm income and national agricultural production. In this context, this policy brief is an analysis of the complementarities and contradictions between the legislation governing seed trade and seed-related IPRs in India

## Quality seed: The genesis

Quality seed is the most basic and important input for gainful agricultural production. The most vital attribute of seed quality is viability: the innate ability of a seed to germinate under favourable conditions. Seed vigour is another attribute closely associated with seed viability and important for ensuring the establishment of a vigorous and uniform field crop. These two seed traits significantly influence crop performance. A seed normally developed on healthy plants, and harvested, processed and stored well shall have good viability and vigour. The performance of a seed in terms of economic yield also depends on its genetic architecture. The main difference between traditional and new seeds lies in this aspect. Other additional

factors affecting seed quality are genetic impurity and seed health. Genetic impurity is assessed from a benchmark chosen for defining a variety or cultivar (cultivated variety), which is perceived by farmers and scientists differently. According to the taxonomic definition, a variety/cultivar is a plant grouping within a species that is produced by selective breeding with little or no role of natural selection and persists only under cultivation and selection. Every variety/cultivar has an identity on the basis of a given unique name and certain characteristics that are usually distinct from other similar plant grouping, and these characteristics remain stable during repeated propagation.

The seed of a variety becomes genetically impure when the distinctive characteristics defining the variety are either diluted or lost due to genetic contamination. Such contamination may be the result of either out-pollination of the seed with other cultivars or very rare spontaneous mutations or physical mixing of the seed with those of other cultivars of the same crop. While genetic contamination cannot be totally excluded under the normal process of seed production, its regulation is essential for preserving variety identity and seed quality. Seed standards followed in different countries specify a different but narrow range of genetic and physical impurity to crop varieties depending on their reproductive behaviour, such as self- or cross-pollination or vegetative propagation. The traditional standards on seed mixture followed by farmers are more lax and vary with farmers, regions and farming systems. Seed health refers to freedom from infection by pests or diseases, which may seriously compromise seed viability and vigour. Unhealthy seeds give poor yields and spread the disease to other varieties during their movement. This is more serious in vegetative propagated crops. Moreover, some vegetative planting material is often used with planting medium like soil in which the potential threat of spreading soil-borne pathogens such as nematodes, fungi or bacteria is very high. Therefore, seed health is even more important than genetic purity.

### Why the Seed Law?

In order to safeguard the interests of farmers and protect overall national agriculture, it is essential for a country to put in place laws and regulations which define, monitor and control the minimal standards and other quality measures on seeds (or other planting materials). A seed law is necessary to ensure that spurious and poor quality seeds are not sold in the market and that true-to-type seeds are made available for plantation. Such a law may, in addition, provide legal protection and space to seed developers to create an exclusive market through the registration of their seeds and ensure the right to export and import registered seeds. It can also establish a link between seed registration right and IPRs such as plant breeders' right, trademark or trade secret with a view to promoting the seed industry that would better serve farmers.

Taking the farmer seed system on board

In India, about 70 percent of the country's seed system is managed by farmers' traditional practices which involve saving seed from own harvest, and using seed for re-sowing, sharing, exchanging, bartering and selling. Such practices are the mainstay of the conservation and enrichment of plant genetic resources (PGRs). Therefore, the protection of traditional rights of farmers is an issue that should be given primacy while drafting seed laws. Lately, new seeds offering higher yields and better profits to farmers have become an important technology component of modern agriculture. India, the second largest agricultural country in the world with relatively low crop yields and high yield gaps, offers a huge market for new seeds of many crops. Since the start of the Green Revolution, the new seed system has been growing rapidly with an increasing role of the private sector.

With the public research institutions' share of 26 percent and the private sector's share of 4 percent, the Indian seed industry is the eighth largest in the world. The estimated value of seed turnover in India is US$1.06 billion per year, and is growing at the rate of 12–13 percent per annum1. The hybrid seed market of India, accounting for about 3.7 percent of the global market, has an annual turnover of US$106 million and is growing at the rate of 10 percent against the global growth rate of 5 percent. Currently, there are more than 400 seed companies in India. The private seed industry thus has a huge interest in the Indian seed legislation and its implementation. Farmers are unorganized and have the least clout to influence any legislative process. Therefore, any responsible legislative and enforcement process should not ignore the interests of farmers. On the other side, the rapid expansion of new seeds is replacing the traditional seeds of targeted and nontargeted crops. Hence, seed laws should provide for the creation of a "conservation cess" on every commercialized new seed to generate resources for the conservation of traditional seeds.

### Seed Act 1966

During the 1960s, India witnessed the arrival of high-yielding varieties in food grain crops. The first impetus to commercial seed trade was the release of the first hybrid varieties of sorghum (CSH 1), pearl millet (HB 1) and maize (Ganga 1), and the varieties of high yielding rice (TN 1, ADT 27, IR 8, etc.) as well as vegetables (notably Pusa Sawani of bhindi). This led to the realization, for the first time in the country, of the need for a seed law, which culminated in the legislation of the Seed Act 1966. The Act became operational along with the enactment of the Seed Rules in 1968. The Seed Act and Rules were amended in 1972, 1973, 1974 and 1981. The Seeds (Control) Order 1983, issued under the Essential Commodities Act 1955, established a regulatory framework for controlling the distribution and supply of seeds in the market. In 1988, a New Policy on Seed Development was developed with the objective of making available to Indian farmers the best planting material from anywhere in the world and to encourage the export of seeds. Another National Seed Policy was announced in 2001.

### Salient features

The Seed Act 1966 established the Central Seed Committee (CSC) as the national apex body to oversee the setting of seed standards, release, and certification and implementation of other provisions of the Act. It is assisted by two subordinate bodies—the Central Seed Certification Board and the Central Variety Release Committee at the central level, and the State Seed Certification Agency and the State Variety Release Committee at the state level. The Act allows the commercialization of two classes of seeds. Class 1 (called notified variety or NV) constitutes seeds that are notified on approval from either the Central or State Variety Release Committee on the basis of the recommendations made based on agronomic data from multilocation trials conducted by public research organizations. Class 2 (called "truthfully labeled" variety or TLV) constitutes seeds that are neither evaluated under the said multilocation trials nor notified but which truthfully conform to the standards labeled on the seed. Thus, the farmers' traditional seed system is left outside the Act. The multilocation trials on NVs are conducted for at least three years by the Indian Council of Agricultural Research and State Agricultural Universities. The validity period for the commercialization of NVs is 15 years with the option of revalidation, while no such period is specified for TLVs. The prescribed label includes the information on net weight of seeds in the container; the date of testing (percent germination, percent physical impurity, and genetic purity); chemicals used for seed treatment (if treated); caution on toxicity of chemicals; the name and address of the person accountable for quality; and the name of the kind/variety. Similarly, the Seed Rules prescribes the minimum standards of seed quality for breeder seeds, foundation seeds and certified seeds of each crop species. The certification of notified and other commercialized seeds is carried out either by the state or the central seedtesting laboratories.Seed marketing is linked neither to plant breeders' rights nor to any established ownership on variety. As the Act does not prescribe the declaration of pedigree, particularly in the case of TLVs, secrecy on pedigree is used to create a commercial monopoly on seeds. In the seed chain involving producers, processors and stockists/traders, a licence for the transaction is required only for the stockist/trader. A stockist/ trader is always required to display the stock position and price of each seed in stock. The law is monitored and enforced by Seed Inspectors, who are controlled by the state. However, the enforcement of the law is weak and the prescribed penalty is soft. Although the Act covers horticultural crops, it excludes horticultural nurseries, vegetative propagating materials except potato, tissue-cultured banana and sugarcane.

**The certification of notified and other commercialised seeds is carried out either by the state or the central seed testing laboratories. Seed marketing is linked neither to plant breeders' rights nor to any established ownership on variety**

### Seed Bill 2004

With a view to repealing and replacing the Seed Act 1966, the Seed Bill 2004 was introduced. Among others, one of the notable exemptions provided in the Bill with regard to farmers' seed was: "Nothing in this Act shall restrict the right of the farmer to save, use, exchange, share or sell his farm seeds and planting material, except that he shall not sell such seed or planting material under a brand name or which does not conform to the minimum prescribed limit of germination, physical purity, genetic purity" (Italics added). However, the provisions of the Bill were so anti-farmer that farmers and civil society actors in India dubbed the Bill a legislative piece drafted at the behest of the seed industry to serve its end and snatch away the traditional rights of farmers. Consequently, the Government of India referred the Bill to the Parliamentary Standing Committee on Agriculture (PSCA), which prepared its report in 2006. An amended Seed Bill introduced in 2008 has not been enacted thus far. Therefore, the Seed Act 1966 and its amendments are still in force.

### Salient features

Seed Bill 2004 seeks to retain the CSC as the national apex body, but with an enlarged and more centralized authority. Members to be nominated to the CSC are to include, specifically, representatives of farmers and the seed industry, and seed experts. The CSC would be assisted by two subordinate bodies— the Seed Registration Committee and the Seed Certification Committee at the central level, and the State Seed Committee (SSC) at the state level. As provisioned in the Bill, the SSC should advise the CSC on matters related to the registration of varieties, seed producers, processors and traders from that region. Some of the

important additions in the Seed Bill 2004 are:

- Compulsory registration of every variety for conducting trade of its seed.
- Registration of seeds to encompass horticultural nurseries with traceability of planting material and data on mother trees, details of grafting material under use, and transparency on production, stocks and sale prices.
- Duration of registration of a variety is 15 years for annuals and 18 years for perennials with the option of an extension for an equal term.
- Separate compulsory registration for seed producers, seed processing units and those holding seed stocks or dealing in seed trade.
- Transgenic variety allowed provisional registration for two years based on information furnished on multilocation trials.
- Seeds with genetic use restriction technology or other like technologies prohibited for registration.
- Additional mandatory labelling requirements include expected agronomic performance of seeds, which is determined on the basis of multilocation trials conducted by accredited public and private institutions.
- Seed certification by the State Seed Certification Agency made voluntary, while accredited individuals or seedproducing organizations allowed selfcertification in accordance with prescribed conditions.
- Seed certification regulated and governed by the Central and State Seed Testing Laboratories.
- In the case any registered seed with mandatory disclosure of the expected performance fails to provide the expected performance under specified conditions, the farmer entitled to claim compensation from the producer, distributor or vendor under the Consumer Protection Act 1986.
- Monitoring of the Act at the state level carried out by Seed Inspectors as provisioned in the Seed Act 1966, but with enlarged powers for search, confiscation and prosecution.
- Offences attracting penalty include misbranding, commercial activity without registration, marketing substandard seeds, misleading with false information, and obstructing the officials from discharging their duty.
- Penalty, depending on the offence, varies from a fine of INR 5,0002 to INR 50,000 to imprisonment for up to six months.
- An Appellate Authority to be constituted for expeditious decision on disputes.
- The export of seeds required in adequate quantity to achieve food security, and the import of unregistered varieties, to be regulated accordingly and on satisfaction of specified conditions, including quarantine regulations in force. Significant omissions in the Seed Bill are:
- A variety not registered under the PPVFR Act can be registered under the Seed Bill.
- The Bill does not require either a disclosure of the pedigree of a registered variety or any evidence to establish the ownership of the applicant over it.

- The Bill does not have provisions to regulate seed prices.
- The Bill does not provide for pregrant opposition to the registration of a new kind or variety to ensure transparency.

### Major criticisms

- The Bill undermines the farmer- or primary conserver-friendly provisions of the PPVFR Act 2001 and the Biological Diversity Act 2002.
- The application of the minimum limit of germination, physical purity and genetic purity, prescribed for commercial seeds, on the farmer seed system cripples farmers' seed rights provided in the PPVFR Act.
- The Bill also implicates farmers as producers of seeds and thus makes them subject to the regulations provided for commercial producers.
- The absence of a provision to regulate seed prices leaves the door wide open for the seed industry to levy arbitrary and opportunistic prices on seeds.
- Farmers' varieties are not explicitly excluded from the clause on compulsory registration of varieties to be put on sale, and therefore, snatches away farmers' traditional right to sell their seeds.
- The clause for provisional registration

of transgenic varieties opens a back door for the field release and market entry of genetically engineered food crops without biosafety clearance from the national biosafety regulatory system. Such a provision would sabotage the national biosafety system and invite irreversible biohazards to human health, plant and animal life, as well as the environment.

- Allowing multilocation testing of varieties for agronomic performance by private and transnational seed companies runs the risks of prejudicial test results.
- The accreditation of private seed companies, which are the principal seed traders, for either selfcertification or accreditation of private individuals for such services is bound to compromise seed quality standards and bring in a serious conflict of interest, to the detriment of farmers and their livelihoods.
- The provision to certify the agronomic performance data of imported seeds, the evaluation of which is conducted outside India under different weather, soil, crop management, and other conditions, will be unrealistic. Hence, it will be inappropriate to grant registration without conducting agronomic trials in India.
- The provision to extend the registration period for an equal term helps to consolidate the monopolistic control of seeds by the seed industry. This will also reduce the urgency to come up with novel and better varieties. Extended duration is also in conflict with the period of registration provided by the PPVFR Act.
- Compensation to farmers would be provided in the case of the failure of a seed to perform according to its "expected performance under given conditions" as mentioned by the seed producer on the label of the seed package. Such a vague term can lead to wasteful litigation in compensation claim and thus make this important clause infructuous. Settlement of such claims through the Consumer Protection Act 1986 is also cumbersome and time consuming.

**The Act does not allow for the extension of the duration of protection. Rather, the granted period may get prematurely lapsed if the breeder fails to make the annually payable registration maintenance fee to the PPVFR Authority**

Moreover, Consumer Courts are not designed to settle seed-related disputes.

- While it is important that Seed Inspectors have adequate authority for effectively discharging their role, the Bill seeks to invest sweeping powers in these junior-level officers without a proper procedure or authorization from higher authorities. Such dispensation of authority, including to break-open any container or the door of any premise, enter and search any place in which they have reason to believe that an offence under this Act has been or is being committed, opens every possibility of the officers taking prejudiced decision or that they might even misuse their power under pressure, or harass farmers.
- The penalty prescribed for offences continues to be soft. There is a need to make the penalty punitive and deterrent and at least on a par with those provided in the PPVFR Act.
- On penal action, certain provisions of the Bill offer a kind of an escape route to the higher-ups of a seed company, if such persons could anyhow prove that the offence in question was committed without their knowledge. Therefore, for the offences committed, the law has to bring into account, both individually and collectively, all active members who manage a seed company and know the details of its working.

### PPVFR Act 2001

India instituted the PPVFR Act with the primary goals of fulfilling India's commitment to provide IPRs on plant varieties to comply with TRIPS and protecting farmers' rights to seeds; and promoting accelerated agricultural development by stimulating investment in research and development (R&D) by the private seed industry to ensure the availability of high quality seed and planting materials to farmers. The Act provides for the establishment of a Plant Varieties Protection Appellate Tribunal to deal with matters of jurisprudence related to this Act, and a National Gene Fund to support conservation and sustainable use of agricultural biodiversity with a focus on hot spots (for example, primary centres of origin) involving a grass-roots democratic institution—the Panchayat. The PPVFR Act and the Seed Bill are closely linked. For example, although an entity registering a seed under the PPVFR Act enjoys the right to exclude others from producing, processing, marketing and exporting or importing that seed, the exercise of this exclusive marketing right is subject to registration of the seed under the Seed Bill, which independently assesses agronomic performance of the seed and oversees its quality from production to marketing. The contradictions between the Act and the Bill have serious implications in view of the fact that the Bill enjoys temporal precedence over the Act.

### Eligibility criteria for registration

The PPVFR Act has clearly set out the morphological and legal criteria, which qualify an extant or new variety for registration. Extant variety includes farmers' variety. Such clarity on eligibility criteria, except prescribed standards on genetic and physical purity, seed health and a priori determined agronomic performance, is not provided in the Seed Bill. The legal eligibility criteria on ownership, and practices followed for accessing parental material used for breeding the variety, are left totally outside the scope of the Seed Bill.

### Truthful disclosure

One of the essential requirements for the registration of varieties under the PPVFR Act is the truthful disclosure of the pedigree of the variety, the geographical origin of parental material used, as well as an affidavit on the lawful acquisition of the parental material. This information is linked to the benefit sharing provision of the Act. In the case of the Seed Bill, there is no obligation whatsoever for disclosing either the pedigree of the variety under registration or the geographic origin of its parental material or the process of accessing these materials.

### Benefit sharing

The PPVFR Act provides for the sharing of the economic gains accrued to the user who registers the variety with the conservers or providers of the PGR.While the primary objective of the Seed Bill is to facilitate the commercialization of varieties, it has no provision for benefit sharing and identifying persons or institutions eligible for the same. Thus, the Bill short circuits the benefit sharing provision of the PPVFR Act.

### Validity period

The duration of plant breeders' rights (PBRs) under the PPVFR Act is 15 years for annuals and 18 years for trees and vines, while the initial grant is for six and nine years, respectively. The Act does not allow for the extension of the duration of protection. Rather, the granted period may get prematurely lapsed if the breeder fails to make the annually payable registration maintenance fee to the PPVFR Authority.

In the case of the Seed Bill, although the duration of protection is identical to the PPVFR Act, the Bill has provisions for the extension of this period for another equal term. Such long periods of marketing right along with the secrecy of pedigree, and the absence of deposition of voucher seed samples and regulation on seed pricing and compulsory licensing, offer a monopoly, which, in practice, is much stronger than a plant patent. The negative impact of such a provision on farmers and on investment in R&D for developing new seeds would mock at the lofty goals of this Bill.

### Farmers' right to seed

Recognizing farmers as cultivators, conservers and breeders, the PPVFR Act provides a number of farmers' rights: the right to seed; the right to fair and equitable benefit sharing when PGR conserved by farmers is used to breed new commercial variety; the right to register farmers' varieties; the right to recognition and reward from the National Gene Fund for their contribution in the conservation and improvement of and making available PGRs; unrestricted access to registered seed at reasonable prices; the right to claim compensation for underperformance of a registered seed; judicial protection against an innocent infringement of the Act; and exemption from all fees related to the administration of the Act and judicial proceedings. Farmers' right to seed, according to the Act, is the right to save, use, sow, resow, exchange, share or sell farmproduced seed. It is also the right to sell seeds even of registered varieties, but only in non-branded form. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) recognizes the right to save, exchange, reuse and sell farm-saved seed and the right to fair and equitable benefit sharing as fundamental to the realization of farmers' rights. While the rights of farmers to exchange, barter, share or sell seeds under the PPVFR Act are unhindered (except in making sale under a brand), the Seed Bill renders these seed transactions conditional. It introduces a rider that seeds or planting materials sold by farmers have to conform to the minimum prescribed limits of germination, physical purity and genetic purity. As the traditional seed system of farmers is practised outside the formal commercial seed system and without any legal encumbrances, the introduction of the above rider may lead to the choking of the traditional seed system or rendering the transactions therein a punishable offence. The creation of such an obstacle in the traditional seed system may divert the demand for seeds from the traditional to the formal system and thus benefit seed trade.

### Compensation to farmers

The PPVFR Act stipulates that a registered seed has to be sold with a disclosure about 'its expected performance under specified conditions'. If a farmer fails to realize the assured performance under such given conditions, s/he is entitled to receive compensation from the breeder of the said registered variety, as determined by the PPVFR Authority. A

## Lessons for other South Asian countries

While seed laws or seed regulations exist in the South Asian countries to ensure the production and marketing of quality seeds, the plant variety protection law has not come into implementation in the majority of the countries of the region. For example, Pakistan has promulgated the Plant Breeder's Rights Ordinance 2000 and Sri Lanka the Protection of New Plant Varieties (Breeder's Rights) Act 2001. Similarly, as part of the obligations of the least-developed members of the WTO, Bangladesh and Nepal have drafted the Plant Varieties Act 1998, and the Plant Variety Protection and Farmers' Rights Act 2005, respectively. Given the nature and significance of agriculture in the majority of South Asian countries, it is important for them to protect farmers' rights and devise mechanisms that enable farmers, among others, to save, exchange, reuse and sell seeds, and to obtain ownership over their varieties. The position that most South Asian countries have taken at the WTO, as well as the interaction with some civil society organizations and concerned government agencies in Bangladesh, Nepal, Pakistan and Sri Lanka suggest that they are committed to protect farmers' rights. In this regard, India's case of the conflict between the Seed Bill 2004 and the PPVFR Act 2001 offers important lessons for these countries. In particular, it is important for the other countries of the region to consider the following issues so that they not only implement effective and farmer-friendly plant variety protection laws, but also avoid the (possible) conflict between the seed and plant variety protection laws. The countries should expand their investment in R&D and institutionalize the consultation process with relevant stakeholders, including farmers and their organizations, for the real assessment and understanding of the nature and dynamics of local agriculture systems and patterns, including the formal and informal seed market situation. This will enable them to identify their national interests in agriculture as well as the management of agricultural biodiversity. And the identification of national interests, in turn, will enable them to review, develop and implement legal measures and institutional strategies needed to balance the rights of breeders and farmers. For example, in the case of India, the realization that despite the growing presence of the private sector in seed business, the informal seed system continues to hold significance in agriculture led the stakeholders and the government to devise such a plant variety protection law that balances the interests of breeders and farmers. In this connection, the countries in the region should take note of the fact that the contradicting provisions in the PPVFR Act and Seed Bill of India arose because the PPVFR Act has extensive provisions on farmers' rights due to the internalization of the ethics and relevant principles of the CBD and the ITPGRFA, apart from the sui generis requirement of the TRIPS Agreement. In addition, the PPVFR Act was finalized after seven years of prolonged and intensive discussions among all stakeholders at the national level, and whetting of the inputs by a Joint Parliamentary Committee. It is also commendable that many provisions of the Act attracting public interest were repeatedly brought under the stakeholder lens and revised. On the other hand, the Seed Bill is essentially an official draft brought to the Parliament without exposing it to a wider stakeholder debate. Consequently, there was a strong and wide public opposition, which forced the government to refer the Seed Bill to the PSCA. The Committee, through a consultative process, offered valuable recommendations in 2006 for undoing most of the deficiencies of the Bill. If such recommendations of the Committee are addressed, there is a strong possibility that stakeholders, including farmers and their organizations, would accept the new seed bill. Hence, the other countries in the region should ensure that they institutionalize the policy- and law-making process by adequate consultation with and participation of stakeholders. Most importantly, they should also recognize and respect the right of farmers to participate in decision-making processes that could have implications for their livelihood.

similar compensation provision in the Seed Bill is, however, complex—both in the process and determination of claim and payment. The Bill states that the farmer may claim compensation from the producer, distributor or vendor, which may confuse the farmer regarding with whom to make the claim. The determination of compensation under the Consumer Protection Act 1986 may also make the process prolonged, tedious and expensive for the farmer because of the inherent limitations of the Consumer Courts in India. Such courts are located in urban areas and have no expertise in seed- and agriculture- related matters. Therefore, the compensation provision of the Bill is virtually inapplicable to most of the farmers living in far-flung rural areas.

**Notes:**

*1 http://www.contracted work.com/rt.cfm?projectid=33305*

*2 US$1=INR 48.655, as of 8 September 2009*

*3 http:// www.financialexpress.com/news/*

*monsanto-forced-to-cut-bt-cotton-seedprices/95038/*

**The Author Is Dr. S. Bala Ravi is associated with MS Swaminathan Research Foundation, India. Views expressed are of the author and do not necessarily reflect the position of SAWTEE or its member institutions. This is a publication under SAWTEE's Regional Programme "Research, Capacity Building and Advocacy on Trade (ReCAT)". One of the focus areas of the programme is farmers' rights, including access and benefit sharing issues. ReCAT is supported by Oxfam (Novib), the Netherlands).*

# Seed Bill: **Brace Up To Make Seed Bill Accountable**

By **Devinder Sharma***


A National Consultation on Seed Bill was organised in New Delhi on June 11. We had invited some 50 key actors from the civil society, academia, farmer organisations, legal fraternity, NGOs etc from across the country to deliberate on the proposed bill, and to make specific clause by clause changes, if needed. Based on its conclusions, the following recommendations are being made to make the proposed law more effective in providing good quality seeds to farmers at an affordable price.

The amendments that are being proposed (as you will see below) have to be read in consonance with the amendments being sought by Agriculture Minister Sharad Pawar. This is a long post. But I thought it would be helpful to share the exact changes the National Consultation has come up with, so that it can help us to understand and mobilise public opinion to bring in the necessary changes. As you are aware, the amendments proposed by Sharad Pawar are already before Rajya Sabha. It is expected that the Bill will come up for discussion in the forthcoming monsoon session of parliament. Therefore the urgency.

The present draft of the Seed Bill 2004 which is pending before Rajya Sabha, read together with the amendments proposed by Agriculture Minister Sharad Pawar, will become the new Seed Bill 2010. Most of the amendments proposed by Sharad Pawar are based on the recommendations of Parliamentary Standing Committee on Agriculture.

The Seed Bill 2010 has kept farmers out of its purview. Accepting the recommendation of the Standing Committee, the Seed Bill 2010 clearly states that it will not restrict the right of the farmer to grow, sow, re-sow, save, exchange, share or sell his farm seeds and planting material except when they are into the business of selling branded seeds. At the same time it has also expanded the definition of a 'farmer' to include all those who conserve or preserve, severally or jointly with any person, any traditional varieties or adds value to such traditional varieties through selection and identification of their useful properties.

Since the Seed Bill 2010 focuses exclusively on the commercial production, sale and distribution of good quality seeds by seed companies and the public sector agencies, and the farmers as well as the informal seed saving and cultivation system is outside its ambit, following suggestions are being made to provide more teeth to the legal process so as to curb the malpractices in the seed business.

1. The Seed Bill 2010 has very rightly excluded farmers, who constitute the major proportion of seed handlers and users, from its purview. Therefore to dispel any confusion and ambiguity about its objective and role, the proposed Seed Bill 2010 should be called: "**The Commercial Seeds (Regulation) Bill, 2010**".

2. The Seed Bill 2010 in its present form appears to be merely an extension of the previous efforts to control and regulate the seed trade. The proposed amendments once again favour private seed companies and corporations at the expense of farmers. Over the years, sale of spurious and sub-standard seeds has grown, and in the absence of any price controls, farmers are not only being fleeced but are increasingly being burdened with rising cost of cultivation thereby rendering farming unremunerative.

The proposed Seed Bill 2010 in its present form will fail to ensure availability of good quality seeds at an affordable price for reasons explained below:

a) The Seed Bill 2010 does not propose any price controls. Farmers must be able to purchase seed at an affordable price. This is very important since the output price (or the procurement price) is fixed by the government, and often do not take into consideration the prevailing market price for seed. The procurement price therefore does not reflect the true cost of seed. At present, companies are charging prices at will and that too without any rationale. Tomato seed price for instance varies between Rs 475 to Rs 76,000 per kg, and Capsicum seed price between Rs 3,670 to Rs 65,200 a kg. More recently, seed companies have taken the Andhra Pradesh government to the High Court challenging its decision to regulate prices and royalty. Therefore, the function of the Seed Committee under the Seed Bill must include power to decide on price and price controls (including royalties).

In the absence of such measures, the government forfeits the right to claim that it is making quality seed available to farmers at an affordable price. Standing Committee had also raised this. Therefore clause 5 must include a sub-section (g) : "Seed price control and supply, including procedure for fixing seed prices and royalties."

b) Provision for re-registration would increase the monopoly of the seed company for at least 20 years. This is unacceptable for the simple reason that it brings in monopoly control (which exists under TRIPs provisions) over seed through the back door. Standing Committee had also voted against this. Section 13 (5) therefore must be deleted.

c) Penalties proposed are trivial. Since the penalties/punishments have been mild, the government has failed to check the menace of fake, spurious and sub-standard seeds. Providing a maximum fine of Rs 30,000 for selling seeds not conforming to the laid-out standards is simply not enough. This is almost equal to the return airfare between New Delhi and Thiruvanthapuram. The Seed Bill 2010 therefore must provide for deterring punishment.

d) While seeds may be registered with the National Register of Seeds, it is imperative that State Governments must be given the authority to decide on which of these registered seeds can be licensed to be used in their State, Clause 12 should be amended accordingly.

In any case, it is incumbent on the Seed Registration Committee to ensure that the application for registration contains complete passport data of the parental lines from which the kind or variety of seed has been derived in as complete a form as possible so that the Seed Committees do not register misappropriated seed or common varieties.

3. The Seed (Control) Order, 1983 had allowed the unbridled import under open-general license of planting material and seeds of flowers, vegetables and horticultural crops. This Order was exploited by unscrupulous seed trade and business to import plant materials without undergoing any rigorous phytosanitary and quality checks. Most of the importing agencies did not even deposit a sample of the imported seed with the National Bureau of Plant Genetic Resources. It is believed that the imports have come with a heavy load of pests and diseases posing serious damages to crop cultivation and to the country's food security. Many hitherto unknown pests have also entered the country.

a) All imports of seeds therefore must undergo mandatory seed testing procedures, including multi-location trials, to ensure its adaptability to the Indian conditions. No self-testing or certificates from foreign seed certification agencies should hold true for Indian conditions.

b) Seed imports should only be allowed after pest risk analysis, local adaptability have been assessed. There is a need for a liability clause to be introduced that makes seed exporter responsible for any pest outbreak and also for the clean-up operations. This assumes importance in the wake of the Bhopal gas tragedy where the chemical companies have simply evaded any liability for the toxic clean-up. Such a clause will be in conformity with the sanitary and phytosanitary obligations under the World Trade Organisation (WTO).

Therefore the civil society seeks following specific amendments in the proposed Seed Bill.

## Amendments Proposed for the Seeds Bill 2010

(Please remember, these are in addition to the amendments already moved by Agriculture Minister Sharad Pawar)

**Title of the bill**

1. Title of the Bill: The title of the bill may be replaced with 'Commercial Seeds (Regulation) Bill, 2010'

**Objective of the bill**

2. Amendment in the objective of the Bill:

A bill to provide for regulating the quality of seeds and their price for sale, import and export and to facilitate timely availability of appropriate and adequate quantities of diverse varieties of seed to farmers in a transparent and accountable regime, and for matters connected therewith or incidental thereto.

**About Registering and State Powers to License to use**

3. Section 14 on Procedure for Registration: Change 14 (2) to include pre-registration testing. Substitute 14(2) by this: "On receipt of any application for the registration of a kind or variety of seed, the Registration Sub-Committee, shall, after such mandatory testing as required, and other such inquiry that it deems fit and after satisfying itself that the kind or variety of seed to which the application relates conforms to the claims made by the importer or the producer/ seller, as the case may be, as regards the efficacy of the kind or variety of seed and its safety to human beings and animals, register the kind of variety, as the case may be, of the seed on such conditions as may be specified by it and allot a registration number thereto and issue a certification of registration."

4. Introduce Section 14(3): "No producer/dealer sell the registered seeds in a State unless the said seed is licensed as such under this Act by the State government. The State government may maintain such list of licensed seeds that can be sold in the state."

5. DELETE Section 13, clause (5) on re-registration.

**About Imported Seeds and Foreign Certification Agencies**

6. DELETE Section 30 completely on recognition for foreign certification agencies.

7. Section 36, Clause 1 on Import & Export of Seed: Change 36 (1) (C) to: "All import of seed meant for commercial purposes shall be subject to registration as may be granted on the basis of information furnished by the importer on the results of multi-locational trials conducted in such manner and for such period as may be prescribed to establish performance in India and specifically in the agro-ecological areas where the seed is sought to be sold."

**All imports of seeds therefore must undergo mandatory seed testing procedures, including multi-location trials, to ensure its adaptability to the Indian conditions**

8. Insert 36 (1) (C) " In case of any problem arising from such imported seeds, like pest, disease and weed invasion, genetic contamination etc both the importer and exporter be held responsible. Import of seed should be based on pest risk analysis, and any exporter whose claims turn out to be incorrect should be held liable. Exporter of seed should compensate the loss and cleanup of any such contamination"

**About Price Control and Fixing of Prices and Royalities**

9. Section 5 on Powers & Functions of the Committee: Insert 5 (c) to the current Section 5 by inserting clause 5 (c) as: "Seed Price control and Supply, including procedure for fixing seed prices and royalties".

10. Section 11 on State Seed Committee: Insert in the existing (a) to (e) list – "to register and license seeds suitable for the state, based on agronomic trials' data and fix prices of seeds registered; to collect data and review performance of seeds after the authorization through licensing".

**Compensation Mechanism to Farmers**

11. Section 20 on Compensation to Farmer: The following to be substituted as Section 20 (1): "where the seed of a registered kind or variety is sold to the farmer, the producer, distributor or vendor, as the case may be, shall disclose the expected performance of such kind or variety to the farmer under given conditions and if such registered seed fails to provide the promised performance under such given conditions, the farmer may claim such compensation from such producer, dealer, distributor or vendor as may be determined by a Compensation Committee provided that such compensation is equal at least to the monetary value of the promised performance and covers the costs incurred by the farmer".

12. Section 20 on Compensation to Farmer: Substitute Section 20, clause (2) (b) as moved by the Agriculture Minister: "The procedure to be followed by such a Compensation Committee should be completed within thirty days of the filing of a claim by an aggrieved farmer".

Substitute Section 20, clause (2) (d) as moved by the Agriculture Minister: "Such compensation is payable to the farmer within three months after the compensation so determined".

**Bringing NBA and PVPFR Into Decision Making**

13. Section 4 on Central Seed Committee: 4 (3) (viii) – a member of the Plant Varieties Protection Authority, Government of India and 4 (3) (ix) – a representative of the National Biodiversity Authority, Government of India.

**Improving Accountability**

14. Section 7 on Registration Committee: Section 7 (2) (a): Change to "To register seeds of varieties after scrutinizing their claims as made in the application in such manner as may be prescribed including random pre-registration testing".

**More Effective Penalties on Offences**

15. Section 38 (1) page 14 line 7 on Offences and Punishment: Substitute the following after 'be punishable with' – "a fine in proportion to the damage caused, quantity of seed supplied or stocked and therefore, to cover the real and potential loss to farmers, in addition to a fine not less than Rs. 200000/- (two lac rupees), which may extend to Rs. 10,00,000 (ten lac rupees) and imprisonment for six months to one year. Further, any individual or company convicted under this Act may be banned from any seed-related activity by the state government upon subsequent convictions".

That at page 14, lines 12 and 13, for the words: "thirty thousand", the word "two lakh" be substituted.

That at page 14, line 17, for the words "one lakh", the word "ten lakhs" be substituted.

# Scope of Fish-Culture in Assam: **An Economic Analysis**

By **Dr. Manjit Das* and Bhabananda Bayan****

**Fish culture is an age old culture associated with socio-cultural and economic aspects of the people of Assam since time immemorial. More than 90 percent people of Assam are fond of fish. Demand for fish has been increasing overtime with the rise in population and income of the people. But, production of fish has not increased to meet the demand. As a result, Assam has to import fish every year from the neighbouring states. But Assam is endowed with abundant water reservoir where fish can be cultured and production can be enhanced, and apart from meeting domestic demand it has the ability to export fish to neighbouring states and also abroad. The objective of the article is to find out the excess demand and to find out its scope.**

The farming of fish in ponds is an ancient practice. Assam is endowed with vast and varied resources for aquaculture. There are 430 registered beels, 208121 ponds and tanks, 766 unregistered beels and 9852 swamps and waste land (low-lying area) covering an area of 162171 hectares of land in 2005-06. Assam is rich in aquatic bio diversity with 217 identified fish species, genetic river dolphin, turtles, aquatic lizards, frogs, crabs, insects etc. along with much aquatic vegetation and in numerous zoo-planktons and phyto planktons in the vast flood plain wet lands, rivers and streams of Assam. The state held the 6th position in inland fish production among all the states and union territories in India and first among all the North-Eastern States in 2004-05 (Government of India, 2005-06). Production of fish in Assam was 2.18 lakh tonnes in 2009-10 which is more than 70 percent of total N.E. states production of fish.

Rice and fish is the staple food of the people of Assam. For about 90 percent of the population of the state, fish is an important source of dietary protein offering the crucial nutritional security. The total number of family members engaged in the fishing occupation including male, female and children both

**For about 90 percent of the population of the state, fish is an important source of dietary protein offering the crucial nutritional security. The total number of family members engaged in the fishing occupation including male, female and children both in rural and urban areas in Assam was 390400 in 2003-04 which was 1.41 percent of total population of the state**

in rural and urban areas in Assam was 390400 in 2003-04 which was 1.41 percent of total population of the state. It indicates the enormous potential that the inland fishery sector offers. However, this potentiality is not fully utilised to the best advantage of farming communities in Assam.

As very limited studies have been done on the economic aspects of aquaculture, available literatures on the topic are very few. Most of the available studies are found mainly on zoological aspects of aquaculture.

For the purpose of analysis, data on domestic state production of fish, population of the state overtime etc are collected from secondary sources like Directorate of Fishery, Government of Assam, Guwahati, Directorate of Economics and Statistics, Government of Assam and *Census of India*, 2001. First of all, production of fish in the state of Assam and growth of population in the state are determined. In Assam, 90 percent of people are considered as fish eaters. Moreover, 11 kilograms of fish is the per capita consumption of fish per annum in Assam determined by Indian Council of Agriculture Research (ICAR). Thus, demand for fish per annum in Assam is calculated for the period 1996 to 2009. The growth rate of demand for fish and production of domestic supply of fish during 1996 to 2009 has been estimated by running semi-logarithmic regression of the form $LnY_t = a + b.t + U_t$, where $Y_t$ represents either production of fish or demand for fish at time t; t is the time in year; a and b are the two parameters. Here, U is the random disturbance term and b represents the annual exponential rate of growth of the concerned variable.

### Results and Discussion

Fish is an integral part of food and culture of the people of Assam. Around 90 percent people of the state are non-vegetarian. Therefore, demand for fish is very high.

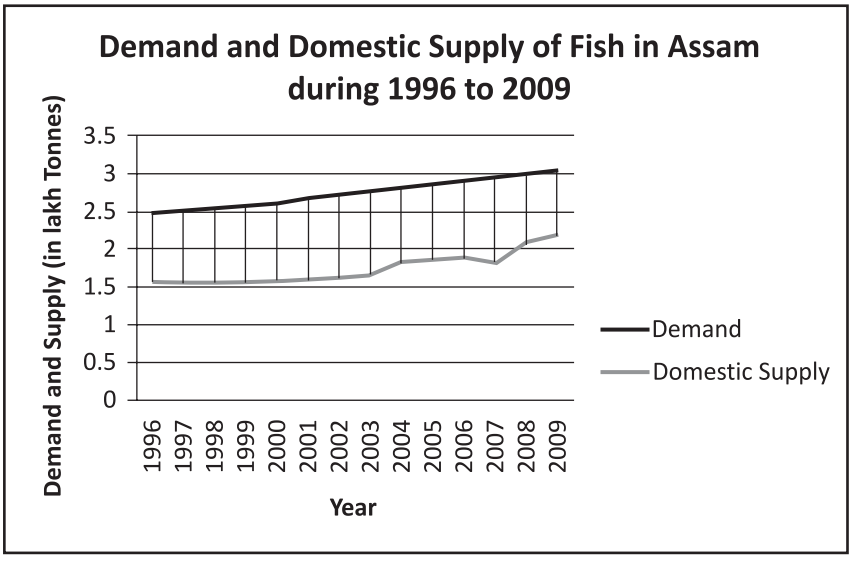
From Table-1, given below, it is observed that the population of Assam has increased from 2.47 crs in 1996 to 3.06 crs in 2009. High growth rate of population may be attributed to several factors like heavy dependence on agriculture, joint family system, child marriage in rural areas, religious beliefs and superstitions, and immigration especially from Bangladesh, Nepal, etc. As a result, demand for fish has also increased during that period of time. The demand for fish has mounted up from 2.45 lakh tonnes in 1996 to 3.03 lakh tonnes in 2009. Domestic state production of fish in Assam has increased marginally from 1.55 lakh tonnes in 1996 to 2.18 lakh tonnes in 2009. The increase in production is due to the impact of the 'Blue Revolution' launched in Assam, rise in price of fish, scientific rearing of fish, subsidies and other benefits given by government of Assam to the fish rearers, etc. However, the gap between demand and domestic state supply has widened during the last 14 years. The gap has enlarged from 0.90 lakh tonnes in 1996 to 1.17 lakh tonnes in 2008 and then reduced to 0.85 lakh tonnes in 2009 (also shown in Diagram-1). Thus, the gap has been filled up by importing fish from states like West Bengal, Andhra Pradesh, Uttar Pradesh, etc. As a result, there is an outflow of domestic state income to other states in the name of import of fish of about Rs 200 crs annually (Barua, 2010).

**Table-1: Demand for and Supply of Fish in Assam during 1996-2009**

| Year | Population (in Number) | Fish eating Population (Considering 90% of total Population) | Requirement of Fish in lakh tonnes (considering 11Kg per capita per year) | Production of Fish (in Lakh Tonnes) | Excess Demand (in Lakh Tonnes) |
|---|---|---|---|---|---|
| 1996 | 24726000 | 22253400 | 2.45 | 1.55 | 0.90 |
| 1997 | 25149000 | 22634100 | 2.49 | 1.54 | 0.94 |
| 1998 | 25531000 | 22977900 | 2.53 | 1.55 | 0.99 |
| 1999 | 25877000 | 23289300 | 2.56 | 1.56 | 1.01 |
| 2000 | 26196000 | 23576400 | 2.59 | 1.59 | 1.03 |
| 2001 | 26854000 | 24168600 | 2.66 | 1.58 | 1.07 |
| 2002 | 27366000 | 24629400 | 2.71 | 1.62 | 1.13 |
| 2003 | 27846000 | 25061400 | 2.76 | 1.66 | 1.14 |
| 2004 | 28332000 | 25498800 | 2.80 | 1.81 | 1.14 |
| 2005 | 28811000 | 25929900 | 2.85 | 1.86 | 1.04 |
| 2006 | 29277000 | 26349300 | 2.90 | 1.87 | 1.04 |
| 2007 | 29738000 | 26764200 | 2.94 | 1.82 | 1.07 |
| 2008 | 30193000 | 27173700 | 2.99 | 2.06 | 1.17 |
| 2009 | 30639000 | 27575100 | 3.03 | 2.18 | 0.85 |

***Sources:*** *(1) Directorate of Fisheries, Government of Assam, Guwahati, Assam. (2) Directorate of Economics and Statistics, Government of Assam (1997),* Statistical Handbook, *various issues.*

**Domestic state production of fish in Assam has increased marginally from 1.55 lakh tonnes in 1996 to 2.18 lakh tonnes in 2009. The increase in production is due to the impact of the 'Blue Revolution' launched in Assam, rise in price of fish, scientific rearing of fish, subsidies and other benefits given by government of Assam to the fish rearers, etc**




The regression result represented by equation-1 shows that the annual average exponential rate of growth of demand for fish in Assam during 1996 to 2009 was 1.7 percent, while it was 2.5 percent in case of domestic state production (supply) of fish (equation-2). It indicates that the domestic producers

of fish are able to grow production of fish at a higher growth rate than that of population. It is because of both intensive and extensive pisciculture activities. However, there is excess demand for fish in Assam. It is because of the gap between demand and supply existed at the beginning, i.e.1996.

### Conclusions and Policy Implications

Demand for fish is very high in Assam and has been increasing overtime. But, domestic production of fish is not sufficient to meet the increasing demand for fish in Assam. As a result, Assam has to import a lot of fish from neighbouring states. But, Assam is endowed with abundant water resources. If these resources are properly utilised and of course supported by the required infrastructure and technology and also law pertaining to catching of fish can be enforced properly, undoubtedly Assam not only can be self sufficient in fish production but also can export to at least its neighbouring states like Nagaland, Meghalaya, Arunachal Pradesh, Manipur and Mizoram, and earn a lot of money.

$$\text{Ln } Y_t^{\text{Fish Demand}} = 0.877 + 0.017\ t^* \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots R^2 = 0.998 \ldots\ldots\ldots\ldots\ldots (1)$$

$$(0.002)$$

$$\text{Ln } Y_t^{\text{Domestic Fish Production}} = 0.353 + 0.025t^* \ldots\ldots\ldots\ldots\ldots\ldots R^2 = 0.868 \ldots\ldots\ldots\ldots\ldots (2)$$

$$(0.024)$$

**Notes:** $Y_t^{\text{Fish Demand}}$ and $Y_t^{\text{Domestic Fish Production}}$ represent demand for fish and domestic supply of fish at time t respectively.
Here, * indicates that the coefficient is significant at both 5 and 1 per cent level of significance by two-tailed test.
The terms in the brackets represent standard error of the corresponding coefficient.

Here, Government of Assam as well as Government of India has also an important role to play to utilise our water resources properly. Government of Assam should be careful in the proper implementation of prohibiting catching of fish during lying egg season. Last, but not the least, fish rearers should be trained and technical assistance as well as financial aid must be given.

**References:**

*Alikunhi, K.H. (1957),* Fish Culture in India*, Indian Council of Agriculture Research (ICAR), New Delhi*

*Barua, P.G. (2010) "Blue Revolution", article published in English daily news paper* The Assam Tribune *on 11-10-2010.*

*Goswami, B. (2009), "Involvement of Rural Women in Coastal Fishery Sector of West Bengal, India"*, Journal of Inland Fisheries Society of India, *Vol.41, No.2, Pp-44-47.*

*Goyal, M and Saran, S.K. (2009), "Economics of Fish farming-A Zone wise Study of Punjab"*, Journal of Inland Fisheries Society of India, *Vol.41, No.2, Pp-38-43.*

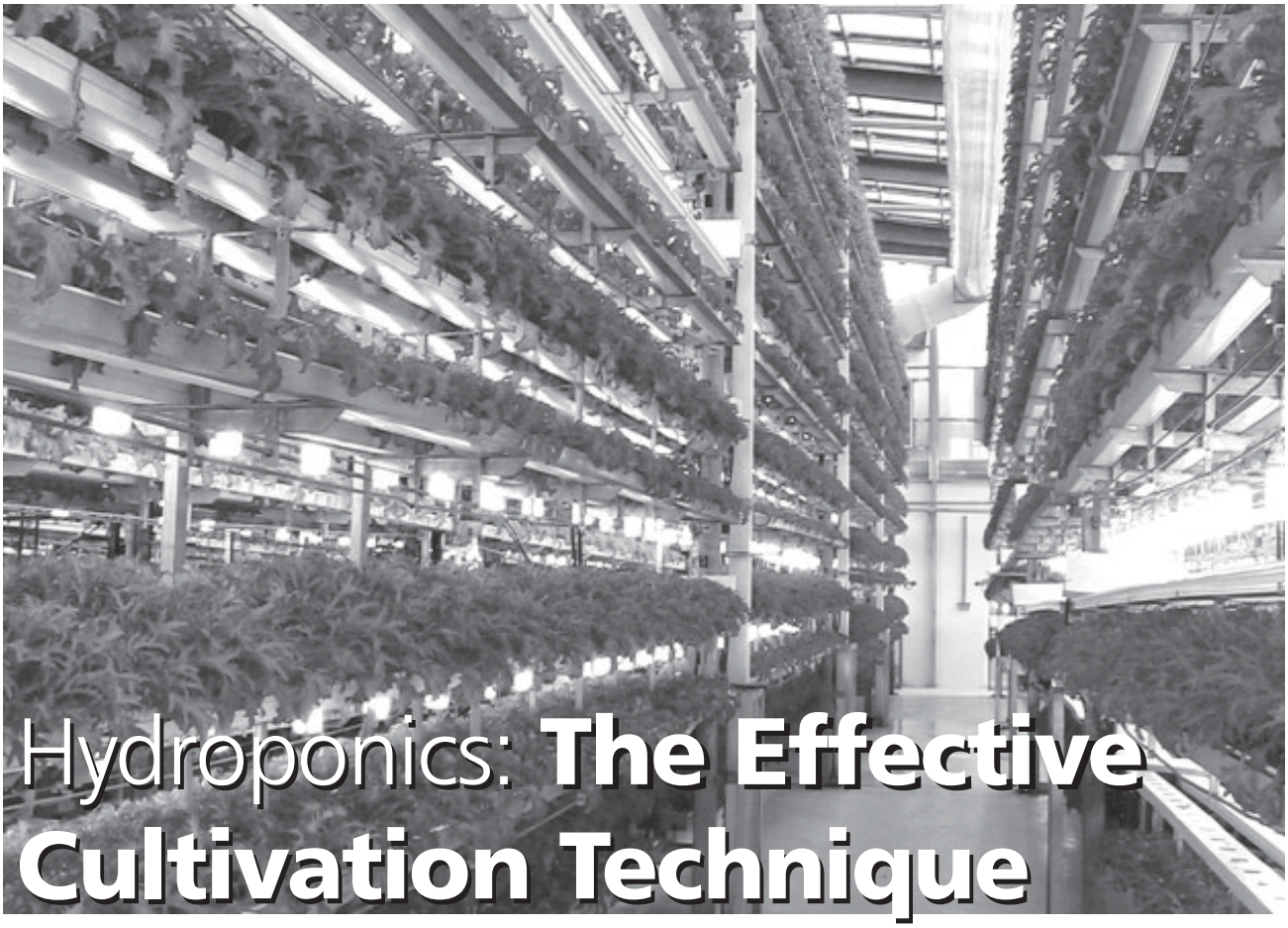
*Hapke, H.M. (2001) "Petty Traders, Gender, and Development in a South Indian Fishery"* Economic Geography, *Vol. 77, No. 3, Pp. 225-249.*

*Government of Assam, Directorate of Economics and Statistics,* Statistical Handbook, *various issues.*

*Government of Assam, Directorate of Fishery, Official Statistical Report.*

*Government of India, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, New Delhi.*

*The writers are *Assistant Professor Department of Economics, M.C. College, Barpeta (Assam), E-mail:das_manjit@yahoo.co.in*
***Associate Professor, Department of Economics, R.G. Baruah College, Guwahati*



# Hydroponics: **The Effective Cultivation Technique**

By **D. Muthamizh Vendan Murugavel***

Hydroponics production is defined as growing plants without soil. It is a cultivation technique for growing plants in highly oxygenated, nutrient enriched water, rather than soil. This production system may use a wide variety of organic and inorganic materials. The nutrient solution, rather than the media in which the plants are growing, always supplies most of the plant nutrient requirements. This method of growing has also been referred to as nutrient-solution culture, soil-less culture, water culture, gravel culture and nutriculture.

Food for the plants, called hydroponic nutrient, fertilizer for soil less gardening, or plant food, etc. (may be organic), are dissolved in water and fed directly to the roots automatically.

Hydroponics culture is not new. One of the first experiments in water culture was made by Woodward in England in 1699. By the mid-19th century, Sachs and Knop, the real pioneers in the field, had developed a method of growing plants without soil. The term 'hydroponics' was first used by Dr. W.F. Gericks in the late 1930s to describe a method of growing plants with roots immersed in an aerated, dilute solution of nutrients.

Today, hydroponics is regarded as an established science. Experiments in many countries have revealed the ease of the method and its advantages. Hydroponically grown crop plants have consistently given more yields as compared to the non-hydroponic average. Hydroponics can be practiced in places where natural agriculture is not possible, like in deserts or in space stations. People living in highly populated cities can now grow fresh vegetables in window-boxes or rooftops using hydroponics. Primary crops that can be grown in hydroponics are peppers, herbs, tomatoes, cucumbers, strawberries, baby squash, eggplants, edible flowers and cut flowers.

## Advantages

- Hydroponics is not a recent development in scientific technology but a technique adopted and adapted by humans from Nature. The earliest plants on this planet grew hydroponically and more than half of all plant life grows hydroponically i.e. in seas and oceans. The two chief merits of the soil-less cultivation of plants are, first, much higher crop yields, and second, hydroponics can be used in places where in-ground agriculture or gardening is not possible.
- No soil is needed.
- The water stays in the system and can be reused- thus, lower water costs.
- It is possible to control the nutrition levels in their entirety- thus, lower nutrition costs.
- Stable and high yields.

- Hydroponics is used in large-scale cultivation of flowers and vegetables.
- Pests and diseases are easier to get rid of than in soil because of the container's mobility.
- With hydroponic gardening there is no need to fertilize as the needed elements are fed to the plants by means of the hydroponics system.
- No nutrition pollution is released into the environment because of the controlled system.
- Hydroponic culture requires only basic agriculture skills.
- It is also highly productive, conservative of water and land, and protective of the environment.
- With hydroponic gardening there is no need to practice crop rotation. The reason for crop rotation is because certain plants 'leach' certain element out of the soil, rendering the soil useless for extended use by the same crop. With a hydroponic system, the same type of plant can be grown year after year.
- Since the hydroponics system uses a sterile environment, weeds are generally unheard of. This in turn translates into a more efficient use of time and labour.
- Eliminating the need for massive pesticide use (considering most pests live in the soil), effectively making our air, water, soil, and food cleaner.
- Hydroponic vegetables are healthy, vigorous and consistently reliable as they typically contain more vitamins and minerals than field grown produce.
- Gardening is clean and extremely easy, requiring very little effort.
- In soil, vegetables grow a large root system to search for food and water. In hydroponics, food and water are fed directly to the roots. This enables the plants to spend more energy growing the part above the surface, thus growing two times faster.
- With small roots the plants may be grown very close together conserving space. In general, hydroponic gardens require only about 20 percent of the overall space required of soil gardens for the same vegetable production.
- Hydroponically grown plants grow faster and are relatively free of soil-borne diseases.
- They require less growing area, less cost and negligible manual work.
- Hydroponics has the **capability to solve the world's food problems**.
- Is a simple and cost effective method to grow plants and must be exploited heavily to solve the food shortages of the world. Can be used for commercial crop production. In places where soil is not available, such as on ships at sea, deserts and in covered Arctic areas, hydroponics is an effective alternative.

## Disadvantages

- They usually have a high setup cost as the necessary equipment is expensive. Hydroponic gardens cost much more to setup initially than soil-based gardens. In addition to their higher cost, they also require more time.
- Unlike soil-based gardens, hydronic variety needs maintenance on a frequent basis.
- Hydroponic gardens share solution between plants. Because of this, water-borne diseases can quickly spread throughout hydroponic gardens. Disease is capable of spreading much more quickly than with soil-based gardens.
- These gardens are also susceptible to power outage. The machines that give the plants the nutrient solution have to be powered.
- Hydroponic gardens require a lot more knowledge and support. This also needs technical knowledge to provide the proper amounts of nutrients and lighting.\
- Not all plants can be grown hydroponically.

## Hydroponics and India

India is yet to catch up with the rest of the world (like US, Australia, Israel etc.) when it comes to hydroponics. The main reason for this is lack of awareness. More popularity about hydroponics is needed in India.

## Conclusion

Although it is still an evolving science, hydroponic agriculture is spreading fast the world over. Hydroponics is suitable for city dwellers or hobbyists, as well as farmers. It is a simple, low-cost technology, and is suitable for growing vegetables in areas where land is limited.

***Reference:***

*www.associatedcontent.com;*
*www.hydroponicvegetablegardening.com;*
*www.suite101.com;*
*www.en.wikipedia.org;*
*www.google.co.in*

** The writer is Assistant Professor, PG & Research Department of Commerce, Gobi Arts & Science College, Gobi, Tamilnadu, India,*
*Email: mvm_gasc@rediffmail.com*

# Self Help Groups (SHG)–Bank Linkage: **A Helping Hand to the Poor**

By **Dr. A.S. Shiralashetti * Prof. D.D. Kulkarni ****

Poverty is an acute problem of today's global economy especially in the developing countries. Almost all the countries in the world including India have committed to attaining the Millennium Development Goals by the year 2015. India is the second most populous country having more than one billion population. Over 22 percent of its rural population and 15 percent of its urban population is living below the poverty line. The Government of India has made sincere effort to provide the institutional credit to fight against poverty but the institutional structure was neither profitable in rural lending nor serving the needs of the poorest. Due to the failure of financial institutions to provide credit to the poorest, microfinance becomes the new mantra in rural finance.

Micro-finance is the term most often used to describe financial services for poor people in developing countries. Micro finance includes micro credit or micro loans (Small amounts of money lent to poor people to finance self-employment activities or for other purposes); savings; payment transfers (services which enable breadwinners living elsewhere to send small amounts of money regularly to family members back home, a major revenue stream in many developing countries); micro insurance and other financial services. The modern micro finance movement was born to ease the human suffering caused by poverty, and to waken the global economy's sleeping gains; the almost completely uncapitalised productivity of the world's overwhelming majority of economically active people. It has scored impressive gains, developed consensus about best practices, and improved the lives of tens of millions of people. India being a developing country has achieved tremendous growth in the last decade due to the various agencies including Government, NGOs and the Banks. There are two models of micro finance in India:

- The self help Group Model under the SHG-Bank Linkage; and,
- Micro Finance Institutions (MFIs)

## Objectives

This article attempts to throw light on the following:

- To understand the concept of SHG and its working;
- To study the growth SHG bank linkage region wise;

- To study the growth of SHG-bank linkage in India particularly in Karnataka;
- To study the agency wise SHG-bank linkage in Karnataka; and,
- To offer useful suggestions.

**Methodology:** The present study is purely based on the secondary data such as NABARD Annual Reports and the internet. The collected data were analyzed with the help of statistical tools such as percentage.

### What are SHGs?

The country has witnessed a rapid growth of self-help groups (SHGs) in the last one decade or so. The SHG growth, which has almost assumed the form of a movement, represents a massive grassroots level mobilization of poor rural especially women into small informal associations capable of forgoing links with formal systems to help access financial and other services needed for their socio-economic advancement. Basically, SHGs are being promoted as a part of the microfinance interventions aimed at helping the poor to easily obtain financial services like savings, credit and insurance. The promotion of SHGs in India began more formally in 1992 with the launch of the SHG Bank Linkage by National Agricultural and Rural Development (NABARD). The purpose of this programme is to improve rural poor access to formal credit system in a cost effective and sustainable manner by making use of SHGs.

A self help group (SHG) is a registered or unregistered group of micro entrepreneurs having homogenous social and economic backgrounds voluntarily coming together to save small amounts regularly. They mutually agree to contribute to a common fund and to meet their emergency needs on a mutual help basis. The group members use collective wisdom and peer pressure to ensure proper end-use of credit and timely repayment there of. In fact, peer pressure has been recognized as an effective substitute for collaterals.

An economically poor individual gains strength as part of group. Besides, financing through SHGs reduces transaction costs for both lenders and borrowers. While lenders have to handle only a single SHG account instead of a large number of small-sized individual accounts, borrowers as part of a SHG cut down expenses on travel (to and from the branch and other places) for completing paperwork and on the loss of work days in canvassing for loans.

### Features of SHGs

- 10-20 persons having similar socio-economic background form SHGs.
- Each SHG has its own written by-laws regarding savings, rate of interest, repayment period, meeting etc.
- Each member contributes a small amount of savings regularly into group fund.
- Group leaders are elected by the members and rotated periodically.
- Inter-lending begins immediately for a variety of small needs.
- Once the group shows its performance maturity, it is linked to local rural bank branch.
- The group can apply to the bank for loans within six months of opening the bank account.
- The group takes loans from banks at fixed interest without collateral.
- In turn, the group lends to its members with flexible repayment schedules and the rate of interest, which is decided by the group.
- The group takes the responsibility of timely repayment to the bank, even if the members are in default because of an emergency.
- Participatory decision making.

### SHG Bank Linkage

In the post nationalization era, the banking sector in India witnessed substantial growth and expansion unparallel in the world. Institutional Credit came to be recognized as a remedy for many of the ills of poverty. Credit packages and programmes were designed based on the perceived needs of the poor. Programmes also underwent qualitative changes based on the experience gained.

### Need for Bank Linkage

NABARD, during the early eighties, conducted a series of research studies independently and in association with MYRADA (a leading NGO from South India) which showed that despite having a wide network of rural bank branches that implemented specific poverty alleviation programmes with subsidy and bank components for almost two decades. But the institutional credit involving the existing banking policies, procedures and system does not suit the most immediate needs of the poor. It also appeared that what the poor really

needed was better access to these services and products, rather than cheap subsidized credit. Against this background, a need was felt for alternate policies, systems and procedures, savings and loan products, other complementary services etc, which would fulfil the requirements of the poorest, especially the women members of such households.

The brainchild of NABARD started as an action research project in 1989. Positive field level findings led, in 1992, to the setting up of a pilot project. The project was designed as a 'Partnership Model' between three agencies viz., the SHGs, bank and Non Governmental Organizations (NGOs). SHGs were to facilitate collective decision making by the poor and provide 'doorstep banking'. Banks as wholesalers of credit were to provide the resources and NGOs were to act as agencies to organize the poor, build there capacities and facilitate process of empowering them.

### Models of Linkage

There are three broad models of SHG-Bank linkage which have emerged over the past few years are as under:

**Model 1, Bank SHG Members**: In this model, the bank itself acts as self help group promoting institution. It takes initiatives in forming the groups, nurtures them over a period of time and then provides credit to them after satisfying itself about their maturity to absorb credit.

**Karnataka, a pioneer in SHGs and also in bank linkage programme, continues to maintain its leading status in promotion of SHGs. The various agencies are doing their best in the growth and development of micro finance by linking the SHGs with banks**

**Model 2, Bank Facilitator Agency SHG Members**: Groups are formed by NGOs or Gov't agencies. The groups are trained and nurtured by these agencies. The banks provide credit directly to members after observing their operations and maturity to absorb credit. Most linkage experiences begin with this model with NGOs playing a major role.

**Model 3, Bank-NGO-MFI-SHG Members:** The wide network coverage of banks has not reached the rural areas. In such cases, the NGOs act as both facilitators and micro finance intermediatories. First, they promote the group, nurture and train them, and then approach banks for bulk loans for on lending to the SHGs.

### Analysis of SHG Bank Linkage

The SHG-Bank Linkage has passed through various phases – pilot testing (1992-95), mainstreaming (1996-98) and expansion (1998 onwards) and metamorphosed into the biggest micro finance movement in the world. The physical and financial outreach of the programme has been impressive in as much as the cumulative number of SHGs with savings bank accounts were 61.21 lakh with aggregate savings of Rs 5,455.62 crore, out of which credit linked SHGs were 44.81 lakhs covering 860 lakh poor households as on 31st March 2009, as per the reported all India data. An overview of the number of SHG accounts, bank loans disbursed to SHGs and loan amounts outstanding with SHGs together with bank loans disbursed to MFIs for on lending and the amount of loans outstanding with MFIs is presented in the following table.

**Table 1: SHG-Bank Linkage – All India**

| Particulars | 2006-07 | | 2007-08 | | % Growth (2007-08) | | 2008-09 | | % Growth (2008-09) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No of SHGs | Amt | No of SHGs | Amt | No of SHGs | Amt | No of SHGs | Amt | No of SHGs | Amt |
| Savings of SHGs with Banks as on 31st March | 4160584 | 3512.71 | 5009794 | 3785.39 | 20.4 | 7.8 | 6121147 | 5545.62 | 22.2 | 46.5 |
| Bank Loans disbursed to SHGs during the year | 1105749 | 6570.39 | 1227770 | 8849.26 | 11 | 34.7 | 1609586 | 12253.51 | 31.1 | 38.5 |
| Bank Loans outstanding with SHG as on 31st March | 2894505 | 12366.49 | 3625941 | 16999.91 | 25.3 | 37.5 | 4224338 | 22679.84 | 16.5 | 33.4 |

*Source: Reports of NABARD*

It is revealed from the table that at the end of 2008-09, 61.21 lakh SHGs saving linked with banks having saving of 5,455.62 crore as against 50.10 lakh SHGs having savings of Rs 3785.39 crore as on 31st March 2008. During 2008-09, 42.24 lakh SHGs credit linked with outstanding bank loan of Rs 22679.85 crore as against 36.26 lakh SHGs with bank loan outstanding of Rs 16999.90 crore as on 31st March 2008, thereby registered a growth 16.5 percent (No of SHGs) and 33.4 percent (Bank loan). During 2008-09, the banks financed 16.10 lakh SHGs including repeat loans, to the extent of Rs 12,253.31 crore against 12.28 lakh SHGs with bank loan of Rs 8,849.26 crore in 2007-08. The process in the SHG-Bank linkage programme since its inception is given in Table 2.

**Table 2: SHG-Bank linkage (1992-93 to 2008-09)**

| Year | No of SHGs financed * | Bank loan financed (Rs in lakh) | No. of families assisted | Average Loan per SHG (Rs) | Average Loan per family (Rs) |
|---|---|---|---|---|---|
| 1992-93 | 255 | 30 | 4335 | 11765 | 692 |
| 1993-94 | 365 (43.14) | 36 (20) | 6205 (43.14) | 9863 (-16.17) | 580 (-16.18) |
| 1994-95 | 1502 (311.51) | 179 (397.22) | 25534 (311.51) | 11917 (20.83) | 701 (20.86) |
| 1995-96 | 2635 (75.43) | 361 (101.68) | 44795 (75.43) | 13700 (14.96) | 806 (14.98) |
| 1996-97 | 3841 (45.77) | 578 (60.11) | 65297 (45.77) | 15408 (12.18) | 885 (9.80) |
| 1997-98 | 5719 (48.89) | 1192 (106.23) | 97223 (48.89) | 20843 (35.27) | 1226 (38.53) |
| 1998-99 | 18678 (226.60) | 3330 (170.36) | 317526 (226.60) | 17828 (-14.26) | 1049 (-14.44) |
| 1999-00 | 81780 (337.54) | 13590 (302.65) | 1390260 (337.84) | 16618 (-6.79) | 978 (-6.77) |
| 2000-01 | 149050 (82.26) | 28789 (111.84) | 2533850 (82.26) | 19315 (16.23) | 1136 (16.16) |
| 2001-02 | 197653 (32.61) | 54554 (89.50) | 3360101 (32.61) | 27601 (42.90) | 1624 (42.96) |
| 2002-03 | 255882 (29.46) | 102231 (87.39) | 3754874 (11.75) | 26985 (-2.23) | 1799 (10.78) |
| 2003-04 | 361731 (41.37) | 185550 (81.50) | 4586000 (22.13) | 36180 (34.07) | 2412 (34.07) |
| 2004-05 | 518173 (43.25) | 296180 (59.62) | 7774000 (69.52) | 42971 (18.77) | 2864 (18.74) |
| 2005-06 | 482598 (-6.87) | 309613 (4.53) | 7238970 (-6.88) | 64155 (49.30) | 4277 (49.34) |
| 2006-07 | 1105749 (129.12) | 657039 (112.21) | 15480486 (113.85) | 59420 (-7.38) | 3961 (-7.38) |
| 2007-08 | 1227770 (11.03) | 884926 (34.68) | 17188780 (11.03) | 72076 (21.30) | 5148 (29.97) |
| 2008-09 | 1609586 (31.10) | 1225351 (38.50) | 22534204 (31.09) | 76108 (5.60) | 5436 (5.59) |

***Source:*** *Reports of NABARD;* * Figures in bracket indicate the percentage of growth as compared to previous year.

It can be seen from the table that the percentage of growth of SHGs is highest in the year 1999-00 (ie. 337.54) and the percentage of growth when compared to the previous year is negative in the year (-6.87). With respect to bank loan financed, the percentage of growth was highest 1994 -95 ie 397.22 and was lowest in the year 1993-94 ie. 20. This indicates that there is uneven growth in number of SHGs in the country. The commercial banks and other banks should increase the tempo of financing to SHGs. It leads to reach the poorest of poor.

The progress under Microfinance-Savings of SHGs with Banks Region-wise and Agency-wise position as on 31st March 2009

**Table 3: Savings of SHGs with Banks Region wise and Agency wise**

| Sl. No. | Region wise | Commercial banks | | Regional Rural Banks | | Cooperative Banks | | Total | |
|---|---|---|---|---|---|---|---|---|---|
| | | No of SHG | Savings Amt | No of SHG | Savings Amt | No of SHG | Saving Amt | No of SHG | Savings amt |
| 1 | Northern Region | 169319 | 14688.04 | 79448 | 4520.19 | 62231 | 3495.69 | 310998 | 22703.92 |
| 2 | Northern Eastern | 93354 | 4453.75 | 125305 | 5216.75 | 21434 | 539.66 | 240093 | 10210.16 |
| 3 | Eastern | 629728 | 29231.32 | 375388 | 114606.52 | 228519 | 15850.2 | 1233635 | 159688.04 |
| 4 | Central | 319952 | 19670.46 | 333672 | 16562.6 | 59291 | 2446.14 | 712915 | 38679.2 |
| 5 | Western | 429453 | 36583.83 | 116158 | 7983.74 | 250651 | 21860.83 | 796262 | 66428.4 |
| 6 | Southern | 1907703 | 172671.54 | 598617 | 50085.28 | 320924 | 34095.28 | 2827244 | 256852.1 |

*Source: Report of NABARD*

The above table gives region wise formation of self help groups by different agencies viz commercial banks, regional rural banks and cooperative banks, and the amount of savings made by the groups.

Karnataka, a pioneer in SHGs and also in bank linkage programme, continues to maintain its leading status in promotion of SHGs. The various agencies are doing their best in the growth and development of micro finance by linking the SHGs with banks. Table 4 provides the performance of SHG-Bank linkage in Karnataka for selected years

The Table shows the number of Self help Groups' credit linked and bank loan and refinance for the respective years. It is indicated from the table that the number of SHGs credit linked is inconsistent whereas bank loan provided to such SHGs is increasing. Similarly, the refinance by NABARD to these banks is also increasing year by year.

**Table 4: SHG-Bank Linkage in Karnataka**

| Year | No of SHGs credit linked | Bank loan (Rs in lakh) | Refinance (Rs in lakh) |
|---|---|---|---|
| 1992-93 | 114 | 5.73 | 5.73 |
| 1993-94 | 51 | 5.51 | 5.51 |
| 1994-95 | 481 | 77.71 | 70.71 |
| 1995-96 | 1046 | 145.08 | 145.08 |
| 1996-97 | 760 | 159.25 | 159.25 |
| 1997-98 | 1138 | 232.19 | 228.10 |
| 1998-99 | 2002 | 429.86 | 422.28 |
| 1999-00 | 5018 | 1054.81 | 649.00 |
| 2000-01 | 8009 | 1714.00 | 1404.00 |
| 2001-02 | 18413 | 3475.39 | 2229 |
| 2002-03 | 25416 | 7249.50 | 4073.55 |
| 2003-04 | 41688 | 13960.37 | 6090.22 |
| 2004-05 | 59332 | 26653.00 | 9951.00 |
| 2005-06 | 61730 | 44260.00 | 6695.43 |
| 2006-07 | 92708 | 81368.87 | 15599.24 |
| 2007-08 | 94280 | 100446.47 | 12699.52 |
| 2008-09 | 60439 | 120702.37 | 19219 |
| Cumulative | 472235 | 402222.53 | 79646.49 |

***Source**: Reports of NABARD*

**The self help movement is deep-rooted in southern states of the country. Karnataka has been among the top three states in the country in SHG-Bank Linkage. The key stakeholders have continued innovations for sustaining the SHG movement**

The self help movement is deep-rooted in southern states of the country. Karnataka has been among the top three states in the country in SHG-Bank Linkage. The key stakeholders have continued innovations for sustaining the SHG movement. The status of Self Help movement at the end of the year 2008-09 is highlighted below.

Women & Child Development Department (WCDD) – Government of Karnataka, Non-Governmental Organizations, the District Central Co-operative Banks (DCCBs), Primary Agriculture Co-operatives (PACs) and Regional Rural Banks (RRBs) continued to play a very significant role in promotion of SHGs in the state. Agency-wise number of SHG accounts added during the year and the cumulative position as on 31st March 2009, with percentage share of SHG accounts by each agency, are tabulated below.

**Table 6: Agency-wise No. of SHG Accounts**

| Sl. No. | Agency | No. of SHGs Accounts as on 31.03.2008 | New SHG Accounts opened during 2008-09 | Total No. of SHG Accounts as on 31.03.2009 | Percentage of accounts held |
|---|---|---|---|---|---|
| 01 | Commercial Banks | 170928 | 37113 | 208041 | 40 |
| 02 | Regional rural Banks | 136155 | 16429 | 152584 | 29 |
| 03 | Cooperative Banks | 148663 | 10621 | 159284 | 31 |

***Source:*** *Reports of NABARD*

From the table, it can be seen that the role of commercial banks in financing SHG has increased. The share of cooperative banks in financing SHGs is high compared to the RRBs.

## Findings

- There is an imbalance in the growth of SHGs region wise. SHGs are more popular only in the southern region. So the central government and Non Governmental Organizations should make efforts to increase in the number of SHGs through educating the people.
- The growth of number of SHGs along with financial assistance in Karnataka is on an increasing trend.
- The role played by Commercial banks with respect of linking of SHGs with them is significant.
- There was positive growth of number of SHGs during the period 2007-08 and 2008-09 at all India level.

## Conclusion

Micro finance has gained a lot of significance and momentum in the last decade. India has obtained a prominent position through the promotion of SHG and bank linkage. Prof Muhummad Yunus, a Nobel laureate, says "social entrepreneurs" is a weapon to fight against the problems of humanity. If the dream of former Indian President A.P.J. Abdul Kalam is to be realized, Micro finance is considered as a tool for alleviating poverty. In alleviation of such poverty, people's involvement is needed. The SHG movement is considered as a ray rope for India.

***Reference:***


1. *www.microfinance.com*
2. *www.nabard.org*
3. *Aloysuis Fernandez and Vidya Ramchandran, November 2007 Self Help group Approach in Karnataka* ***Southern Economist****, 46(13)*
4. *Geetamma - "Management of Micro financial Institutions and Their functioning in Empowerment of Rural poor in Kolar District, M.Sc Thesis, University of Agriculture Sciences, Dharwad*
5. *H.S. Shylendra, Jan 2008 Role of Self help group,* ***Yojana*** *52(1)*
6. *Dr. A.S. Shiralshetti and Dr. S.S. Hugar, Apr-May 2008 Micro Finance-A Study of Self Help Group and Bank Linkage,* ***Journal of Business Studies*** *5(9)*
7. *Dr. Pooja Bhalla and Gagandeep Apr-May 2008 Reaching the Unreached Through SHG-Bank Linkage,* ***Indian Journal of Finance*** *2 (1)*
8. *Geeta Manmohan and Monika and others, May 2008 Rural Banking and Micro finance",* ***Southern Economist*** *47 (2)*
9. *Dr. K. Srinivasrao, December 2008* ***Financial Inclusion, Banking Finance*** *V-XXI N-12*
10. *www.planningcommission.nic.in*
11. *http://www.economywatch.com/indianeconomy/poverty-in-india.html*



** **Dr. A. S. Shiralashetti**, Assistant Professor, P.G. Dept of Studies and Research in Commerce, Karnataka University, DHARWAD; ** **Prof. D. D. Kulkarni**, Assistant Professor, Shri. L. K. Khot College of Commerce, SANKESHWAR.*

# Strengthening Institutional Agricultural Credit System through Collective Action: **The Links among Banks, NGOs and SHGs**

By **K.Mani*, S.Padma Rani** and A.Vidhyavathi*****

Micro Credit Approach based on savings has emerged as a popular global approach to combat poverty and it is also seen as a more comprehensive, integrated and viable approach especially to rural development. The present study makes an effort to identify and assess the actual level of bank's participation in promoting Self Help Groups (SHGs) – NGO - Bank Linkages and evaluate the performance of farmers – woman members in SHGs with reference to agricultural development and empowerment of farm women due to institutional finance in Tamil Nadu. Results of the study indicated that the SHG farms realized more gross income through livestock (37 percent of the total income) than that of the Non-SHG farms (32 percent). SHG farmers realized several economic and non economic benefits, mainly diversification of loan amount for several production and consumption purposes as per the priorities and emergent needs of the respondents. The loan repayment was prompt among SHG members owing to peer group pressure whereas, 63 percent of the total number of Non-SHG farmers were not prompt in repaying their installments due. All the SHG members have expressed their confidence in meeting any financial crisis that may arise in their family because of their easy financial access they had in their SHGs.

Credit has become one of the vital tools for socio-economic upliftment, especially to rural population who depend on either formal or informal credit to cater to their varied production or consumption requirements. The incidence of indebtedness was about 27 per cent in 2002, while it was 23 percent in 1991 among the rural households indicating the persistent rise in rural indebtedness. Further, about 13 percent of the rural households were indebted to institutional agencies and 16 percent to non-institutional agen-cies during 2002 (NSSO, 2005).

Rural and weaker sections in India prefer to seek institutional finance owing to its many subsidy components and better terms of credit. The government functionaries and banks have been

working in close partnerships in directing credit flows to the deprived and less privileged. However, the institutional lending agencies had inherent weaknesses like inordinate delay in sanctioning the loan, inadequacy of loan amount, non availability of small loan amount for production and consumption purposes, etc. which prohibited the marginal farmers and weaker sections of the rural area from approaching the institutional agencies. For the banks too, managing the rural credit system had been an arduous task with mounting Non-Performing-Assets. These inadequacies of formal institutions in serving the rural poor effectively led to a review and a look at the informal financial systems and lending groups. One such informal financial system in India, namely '*Chit* funds' are old institutions in which members made periodic contributions that are pooled into a fund from which money is given to the members.

Micro finance is another effort to provide a wide range of financial services to the poor on a sustainable basis. Micro Credit approach based on savings emerged as a popular global approach to combat poverty and it is also seen as a more comprehensive, integrated and viable approach especially to rural development. It envisages delivery of small loans at full interest without any collateral and repayable in frequent installments. These organizations targeted mostly women owning very little or no land.

Micro finance Self Help Groups (SHGs) in India, which are classified under the informal organizations, intentionally or unintentionally help the formal banks by increasing the number of accounts through inculcating banking habits in the rural people, especially the women. Microfinance has been widely credited for empowering women by increasing their contribution to household income, the value of their assets, and control over decisions that affect their lives. This activity is the result of NABARD's work in the microfinance sector, which started in 1992 through a pilot project for promoting 500 Self- Help Groups (SHGs). As the idea gained acceptance from the banking system and the results were promising, the Reserve Bank of India (RBI) encouraged this positive initiative by issuing instructions to banks in 1996 to cover SHG financing as a mainstream activity under their priority sector-lending portfolio.

The Government of India made linking SHGs with banks a national priority from 1999 onwards through its periodic policy and budget announcements. NABARD continues to nurture the expansion of the outreach of the programme by providing umbrella support to the stakeholders. Now, it is easily the largest and fastest growing microfinance programme in the world in terms of its outreach and sustainability.

## Performance of SHGs in India

### i) Savings of SHGs

In India, there were 61 lakh SHGs during 2008-09 out of which SHGs formed by commercial banks were more in number (58 percent of the total) which were followed by RRBs and co-operatives. But in case of Tamil Nadu, commercial banks formed more SHGs (74 percent) followed by co-operatives and RRBs. Savings per SHG, on an average, was more in India (Rs.9,060) than that of Tamil Nadu (Rs.7,933).

### ii) Loan Disbursed to SHGs

As regards the amount of bank loan disbursed to SHGs, commercial banks were again topping the list with 66 percent of the total amount in India during 2008-09 and they were followed by RRBs (26 percent) and co-operatives (8 percent). However, in Tamil Nadu, commercial banks gave more loan amount to SHGs followed by co-operatives and RRBs. Average loan amount disbursed per SHG in Tamil Nadu was more (Rs.86,521) than that of India (Rs.76,128).

### iii) Women SHGs

Active participation of women in economic development and making them economically and socially empowered were the main objectives of strengthening SHGs. *Swarnjayanti Gram Swarozgar Yojna* (SGSY) is one of the governmental efforts to financially strengthen SHGs. More than 80 percent of the amount saved, loan amount distributed and loan amount outstanding in India during 2008-09 were through women SHGs. Commercial banks took a lead in financially supporting women SHGs and they were followed by RRBs and co-operatives.

Although the presence of SHGs could be seen all over India, 46 percent of total SHGs are in Southern India particularly in Andhra Pradesh and Tamil Nadu, where as SHG movement is very weak in North Eastern and Northern states.

SHGs are promoted through three broad models of bank-SHG linkage which

**Discussions were held with Project Coordinators of the selected NGOs and Branch Managers of commercial banks to ascertain their views regarding the functioning of SHGs and their suggestions for improving the efficiency of women SHGs with reference to agricultural development and women empowerment**

include: Model - I in which the bank itself acts as Self Help Group Promoting Institution (SHPI) and forms and nurtures the SHGs, Model - II in which the Non Government Organizations (NGOs) act as SHPIs and banks lend to the SHGs directly, and Model - III in which the NGOs act as both SHPI and micro finance intermediaries. The present study makes an effort to identify and assess the actual level of bank's participation in promoting Self Help Groups (SHGs) – NGO - Bank Linkages and evaluate the performance of SHGs in terms of income generation in Tamil Nadu State.

### Objectives

The main focus of the present study is to assess the performance of farmer – woman members in SHGs with reference to agricultural development and empowerment of farm women due to institutional finance in Tamil Nadu. However, the specific objectives are:

i) to study the conceptual logistic framework of banks, NGOs and SHGs, their functioning and their inter linkages in providing micro credit;

ii) to assess the performance of farmers' SHGs in agricultural development and empowerment of farm women due to institutional finance;

iii) to study the social and economic factors influencing the performance of SHGs; and

iv) to suggest measures for improving the Bank-NGO-SHG linkage.

Performance of SHGs with reference to agricultural development and women empowerment was the main focus of the study and hence, the Self Help Groups managed by farm women were selected. Although agricultural and banking activities and SHGs have been spread all over the state of Tamil Nadu, one progressive district (Nagapattinam) and one less progressive district (Virudhunagar district) - for comparative purpose were selected for the study. Most of the women SHG members indicated that they borrowed loan amount from their SHGs mainly for purchasing dairy animals and therefore, 120 women farmer – SHG members who borrowed dairy loan during 2007-08, at the rate of 60 in each of the selected districts, viz., Nagapattinam and Virudhunagar districts, were selected for the present study. In order to assess the differences between the borrowings through SHGs and directly through the institutional sources in terms of economic gains, terms of credit and other operational benefits, a sample of 60 Non-SHG farmers at the rate of 30 farmers who borrowed dairy loan from institutional credit agencies were also selected from each of the selected districts. Apart from this, data on benefits and operational issues in running the SHGs and the suggestions for improving the efficiency of the same were collected from eight SHG leaders in Virudhunagar district and 10 SHG leaders in Nagapattinam district. Also, data on the physical and financial supports extended by the Non-Governmental Organizations to strengthen the SHGs were collected from two NGOs from each of the selected districts. Discussions were held with Project Coordinators of the selected NGOs and Branch Managers of commercial banks to ascertain their views regarding the functioning of SHGs and their suggestions for improving the efficiency of women SHGs with reference to agricultural development and women empowerment.

### Results and Discussion

The data collected from the sample respondents were analyzed and the results are discussed below:

Educational status of the sample respondents revealed that one-third of the respondents in both SHG and Non-SHG categories were found to be illiterates. In most of the SHG groups, women with very low level of education become the members, and in the study area also one third of the SHG members were illiterate and another one-third of them were educated only upto primary level.

### Land Holding Size

As regards the size of the land holdings

**Table 1: Land Holding Pattern of the Sample Farm Households**

(Average area per farm in Ha)

| Particulars | Nagapattinam District | | | | Virudhunagar District | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SHG-HH | | NSHG-HH | | SHG-HH | | NSHG-HH | | SHG-HH | | NSHG-HH | |
| | No. | Size | No. | Size | No. | Size | No. | Size | No. | Size | No. | Size |
| Marginal (< 1Ha) | 56 | 0.55 | 29 | 0.43 | 47 | 0.40 | 13 | 0.65 | 103 | 0.48 | 42 | 0.50 |
| Small (1.0-2.0Ha) | 4 | 1.39 | 1 | 1.21 | 11 | 1.69 | 16 | 1.50 | 15 | 1.61 | 17 | 1.49 |
| Large (> 2.0Ha) | 0 | 0.00 | 0 | 0.00 | 2 | 3.44 | 1 | 2.43 | 2 | 3.44 | 1 | 2.43 |
| **Total** | **60** | **0.61** | **30** | **0.46** | **60** | **0.74** | **30** | **1.16** | **120** | **0.67** | **60** | **0.81** |

Note: SHG –HH: Self –Help Group Households; and NSHG – HH Non-Self Help Group Households.

which would indicate the socio-economic status of the respondents, the marginal farmers were more among both SHG and NSHG households, and they were followed by small and large farmers (Table 1).

In SHG households, the average area operated by marginal farmers was slightly lesser (0.48 ha) when compared to that of NSHG households. However, small and large NSHG – farmers operated larger area when compared to that of SHG farm households. The average total net operated area in SHG farm households was lesser (0.67 ha) when compared to that of NSHGs. SHGs were formed by poor resource endowed rural people and this has been reflected in the present study also, that is, 86 per cent of the SHG households were operating less than 1 ha of land, while only 70 per cent of NSHGs households fell under this group. In Nagappattinam district where land is highly fertile and irrigated by Cauvery canal irrigation system, the large farms were less in number when compared to that of Virudhunagar district.

## Livestock Position

The SHG members were selected such that they purchased dairy animals from their respective SHGs and their farm income was compared with that of NSHG farmers who were also purposively selected such that they were also maintaining dairy animals. The average number of dairy and other animals per farm maintained by SHG was 4.57, while it was only 4.10 in NSHG farm households (Table 2). Cows and calves population was slightly more in SHG farms than that of NSHG farms. In SHG farms, large farms were having more dairy animals per farm and they were followed by small and marginal farms. In

**Table 2: Livestock Position in Sample Farm Households**

(Number per farm household)

| Type of Animal | SHG Farm Households | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Marginal | % to Total | Small | % to Total | Large | % to Total | Total | % to Total |
| Work Bullock | 0.02 | 0.5 | 0.00 | 0.0 | 0.00 | 0.0 | 0.02 | 0.4 |
| Cows | 1.41 | 33.8 | 2.20 | 32.7 | 3.00 | 33.3 | 1.53 | 33.6 |
| Calves | 1.69 | 40.6 | 2.40 | 35.6 | 3.00 | 33.3 | 1.80 | 39.4 |
| Sheep / Goat | 0.72 | 17.2 | 1.00 | 14.9 | 1.00 | 11.1 | 0.76 | 16.6 |
| Poultry | 0.33 | 7.9 | 1.13 | 16.8 | 2.00 | 22.3 | 0.46 | 10.0 |
| Total | 4.17 | 100.0 | 6.73 | 100.0 | 9.00 | 100.0 | 4.57 | 100.0 |
| **Type of Animal** | **NSHG Farm Households** | | | | | | | |
| | **Marginal** | **% to Total** | **Small** | **% to Total** | **Large** | **% to Total** | **Total** | **% to Total** |
| Work Bullock | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 |
| Cows | 1.31 | 34.4 | 1.88 | 39.0 | 2.00 | 50.0 | 1.48 | 36.2 |
| Calves | 1.45 | 38.1 | 2.29 | 47.6 | 2.00 | 50.0 | 1.70 | 41.5 |
| Sheep / Goat | 0.38 | 10.0 | 0.41 | 8.5 | 0.00 | 0.0 | 0.38 | 9.3 |
| Poultry | 0.67 | 17.5 | 0.24 | 4.9 | 0.00 | 0.0 | 0.54 | 13.0 |
| **Total** | **3.81** | **100.0** | **4.82** | **100.0** | **4.00** | **100.0** | **4.10** | **100.0** |

NSHG farms, a similar trend could be observed. The number of dairy animals depended on the farm operated area, availability of fodder and other resources available to farmers, in general. Therefore, in the study area also, larger the size of the holding, more were the number of dairy animals.

### Loan Borrowed

The SHG members borrowed loan amount through their SHGs for purchasing dairy animals. The average loan amount per farm by all the SHG farmers was Rs. 16,297 (Table 3). The loan amount per farm by small farmers was higher (Rs. 17,427) followed by large (Rs.17,100) and marginal farmers (Rs.16,117). The non – SHG members also borrowed loan from commercial banks for purchasing dairy animals and their loan amount per farm was higher (Rs.20,250) than that of SHG farms. The dairy loan amount per farm by large sized NSHG farms was higher (Rs.25,000) and it was followed by small and marginal farms. Although, the loan amount borrowed by SHG members was lesser than that of NSHG farms, the value of all dairy animals maintained (which included mostly the animals purchased with borrowed loan amount in both category of farms) was higher in SHG farms than that of NSHG farms.

### Socio-Economic Empowerment of SHG Groups

In order to understand the socio-economic empowerment of SHG groups, the specific features of SHG farm households have been compared with that of NSHG farm households below:

As could be seen from Table 5, the SHG farmers realized several economic and non economic benefits, mainly diversification of loan amount for several production and consumption purposes as per the priorities and emergent needs of the respondents. A part of the loan amount was diverted to meet out the urgent expenditures and later, if the loan amount was found to be inadequate, then, owned capital and / or borrowed private capital were supplemented for purchasing the dairy animal. Thus, there was high flexibility in using the loan amount.

At the same time, the loan repayment was prompt among SHG members owing to peer group pressure whereas, 63 per cent of the total number of NSHG farmers were not prompt in repaying their installment due. Also, the NSHG farmers were trying to postpone the repayment of installment - due with the expectation that the loan amount would be waived off.

### Constraints and Suggestions

The selected NGOs conducted 2 - 4 training programmes every week in order to sustain the very functioning of SHGs and also for the capacity building of SHGs. NGOs reported that they played a greater role in settling the disputes that may arise among the SHG members regarding allocation and recovery of loan amount, and organizing various training programmes for capacity building of the SHG members. NGOs also indicated that some of the SHGs could not function independently even after five years and the SHGs required the financial and administrative support of NGOs for their smooth and normal functioning. The NGOs have not thought of any strategies to withdraw their support to these older SHGs. NGOs, however, on an experimental basis should attempt gradual withdrawal and see whether the groups are able to function and transact their day-to-day operations independently. For older groups, promotion of cluster level institutional arrangements will provide such situations.

NGOs have reported that the State Government has fixed higher targets for the formation of SHGs and NGOs were entrusted with the task of organizing more and more new SHGs and some of

**A part of the loan amount was diverted to meet out the urgent expenditures and later, if the loan amount was found to be inadequate, then, owned capital and / or borrowed private capital were supplemented for purchasing the dairy animal**

these new SHGs have been started in a hasty manner and therefore, they could not successfully run after some time. Bankers were also pressurized to extent credit facilities to SHGs and thus, the SHGs are getting more and more formalized and gradually losing their identity of efficient and informal functioning. Some SHG members (20 per cent of SHGs in Nagapattinam district alone) wantonly delayed repayment of their loan and were more particular about getting the revolving fund and the subsequent subsidy from the government rather than focussing on the selection of enterprise / economic activity and sustaining the SHGs. Some SHGs have incurred heavy loss especially in the businesses like ready - made garments, palm-leaf plate making, and so on because they were improperly guided in the selection of the enterprise without ensuring the market tie-up arrangements.

The bankers and NGOs of the study districts were asked to indicate their suggestions for the successful functioning of SHGs. They have reported that judging the requirements and assessment of the capacities of SHG members, proper guidance of SHGs in the selection of area specific and need-based enterprises, helping the SHGs in making tie – up arrangements to ensure smooth marketing of their produces, organizing appropriate training programmes, especially during summer / lean season regularly, provision of subsidy for taking up economic activities continuously, regular monitoring of the functioning of the individual groups by the staff of *Mahalir Thittam* and banks, regular visits by the staff of the NGOs to monitor the performance of the SHGs, creating the legal awareness about the management of the credit and production and marketing of various produces, changing the SHG leaders every year, educating the members in the maintenance of their accounts, training the SHG members to function independently without external financial assistance and so on may be considered for the successful functioning of SHGs.

The MFIs need to assess the strengths of the groups instead of assessing each individual loan for provision of microcredit. The group may in turn


decide to whom and for what purpose the loan is to be lent. Similarly, the group may prepare its repayment schedule which needs to be accepted by the MFIs.

Banks operating in these two districts may gradually start providing financial linkage directly to those SHGs which are in operation for more than five years. Banks may follow certain criteria in selecting SHGs for their linkage programme. Some of the suggested criteria are as follows:

i) The group should have been in active existence for at least a period of five years.

ii) The group should have successfully undertaken savings and credit operations from its own resources.

iii) The groups should maintain proper accounts / records.

iv) The SHG members should preferably have homogeneous background and interest.

NABARD needs to take initiative not only in making available a comprehensive micro insurance to the SHGs but also in making it mandatory for availing the microcredit. With the increasing thrust for SHG Bank linkage, provision of insurance cover serves as a value addition. The insurance cover (Life as well as Accident) provided along with SHG loans comes in handy as it aims mainly to mitigate the distress of the borrowers besides taking care of the credit risk. One such insurance product available for the benefit of SHG members is Group Insurance Scheme specially meant for the members of the Self-Help Groups under the name Jana Shree BimaYojana (JBY) promoted by LIC of India. When the SHGs are linked with MFIs and avail the first loan, then, they should also be provided with micro insurance. The existing SHGs that are not covered by any micro insurance may be covered immediately by the MFIs concerned. Provision of insurance cover would help to make the microcredit programme viable and sustainable in the long run.

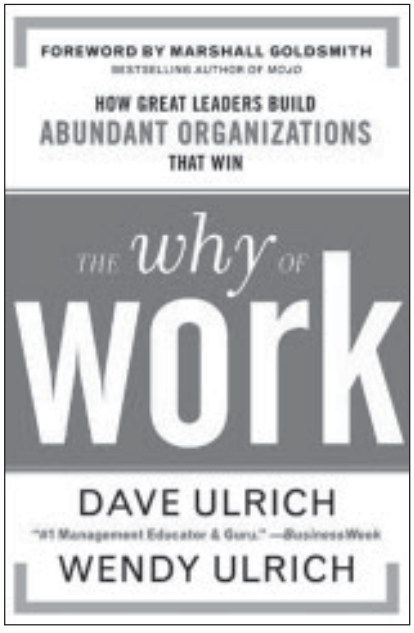
NABARD and the banks ensure the provision of only microcredit to the SHG members. However, it is high time that an integrated approach to offer savings and loan products along with micro insurance need to be provided as a *package* through a *single window system*. Indian Bank has already formed the Special Unit for Microcredit (SUM) along the lines of SUM of the World Bank. Similar initiatives by other banks are needed to reach the *unreached* rural clients.

*The writers are *Professor, **and *** Assistant Professors, Department of Agricultural Economics, Tamil Nadu Agricultural University, Coimbatore – 641 003. The first author can be contacted at his e-mail address: Krishmani1959@yahoo.co.in*

# The Why of Work

***'The Why Of Work' is an attempt to help leaders create organisations that help employees' personal ambitions match organsiational goals and encourage civility and delight in how work is done***

By **Giraj M. Sharma**




| | | |
|---|---|---|
| **Book** | : | The Why Of Work: How Great Leaders Build Abundant Organisations That Win |
| **Authors** | : | By Dave Ulrich & Wendy Ulrich |
| **Publishers** | : | Tata McGraw Hill Education |
| **Pages** | : | 281 |
| **Price** | : | Rs 525 |

The world is obsessed with work. Always was. But never before have so many people looked at the concept of work so critically as they seem to be looking at it now. While Alain De Botton looked at it philosophically in his extremely poetic *The Pleasures And Sorrows Of Work* - we have Dave Ulrich and Wendy Ulrich examining work from a completely different point of view in their book *The Why Of Work.* Dave's and Wendy's is a lethal combination with Dave being a professor of Business at Michigan University and Wendy a practicing psychologist.

The authors introduce an interesting concept of an 'abundant organisation'. They define it as a work setting in which individuals coordinate their aspirations and actions to create meaning for themselves, value for the stakeholders and hope for humanity. The book is an attempt to help leaders create organisations that help employees' personal ambitions match organsiational goals at one level to leaders encouraging civility and delight in how work is done at another level. *The Why of Work* is a handy guide for leaders to driving this 'abundance' agenda. It invokes leaders to seek answers to seven questions at a personal level, at a inter-personal level, at a organizational level and at a societal level. Not just to leave one there, the authors go on to define approaches to these seven questions which as per them form the basic architecture for abundance. There is focus on employees finding meaning in what they do. This is because, the authors feel, meaning has both inherent value to individuals and market values to companies. Leaders who diagnose, invest in, and improve meaning land up addressing underlying causes as against symptoms ensuring that their solutions thus arrived are enduring and not just quick-fix activities.

The seven questions and their suggestive answers are engaging and provoking. Ranging from that of identity (what do I want to be known for) to purpose and motivation (where am I going) on one level to relationship and team (whom do I travel with) on another - they are extremely relevant in the contemporary context. The probable answers to these questions are arrived simply but not before probing the reader. In fact the solutions come under challenging headings such as 'Leadership Positive Work Environment Challenge' where issues about inspiring employees, meeting customer expectations and giving investors' confidence are discussed. There are these seven 'challenges' tackling each of the questions. In a sense the book is teasing and interesting. It keeps you on track and never lets you drift from the singular purpose of creating that abundant organsiation and no it isn't an utopian set up that the Ulrichs are wanting you to create. *The Why of Work* is grounded in reality.

*The Review as Published in Businessworld*

# How To Avoid A Con Bite

***Two books outlining lessons in banking to be learnt from the global financial crisis and the American financial system to safeguard against Wall Street cons following different approaches – Featured in this edition is the first part of the review. The next one will be featured in our upcoming issue.***

By **Raghu Mohan**

| | |
|---|---|
| **Book** | : Alchemists Of Loss: How modern finance and government intervention crashed the financial system |
| **Authors** | : By Kevin Dowd, Martin Hutchinson |
| **Publishers** | : John Wiley & Sons |
| **Pages** | : 432 |
| **Price** | : Rs 1,268 |

There is no substitute for common sense. if you suspend it, you will pay a heavy price. And if there is one good thing that has come out of the global financial crisis, it is the spate of books that tell us the same. Right now, there are two out there – *Alchemists Of Loss* by Kevin Dowd and Martin Hutchinson and *Jimmy Stewart Is Dead* by Laurence J. Kotllikoff.

Let's get to the common sense part first. William McChesney Martin Jr, the Federal Reserve's chairman during 1951-70 said: "The Fed, as one writer puts it, after the recent increase in the discount rate, is in the position of the chaperone who has ordered the punch bowl removed just as the party was really warming up."

Now, central banks the world over are pilloried for being spoilsports; big business always rants that a liquidity slosh is the best cure going around. The clever piece of thinking behind this — the best way to beat a hangover is to have another gulp or two.

The truth is that dud loans, and most financial crises, are created when you have money to throw about. Money chases all kinds of assets, their values soar; and then it crashes to new lows as everbody tries to cut losses. And the authors hit the nail on the head when they say that there is no question that loose money and low interest rates increased Wall Street's leverage. "In particular, leveraging very heavily and investing in assets with only a modest perceived degree of risk (such as mortgage-backed securities) was thought to give potential returns that were both higher than could be achieved through conventional stock investing and (supposedly) "uncorrelated" with the stockmarket". During 2002-06, Wall Street houses became "laboratories for this thesis".

Authorities in India made sure that stage never came about – the Reserve Bank smelt an asset bubble a full year ahead of the crisis and started to curb money supply. We are celebrated for it now. Yet, this wild party with "helicopter money" was fantastic for both India and China. Their real and perceived growth stories acted as a magnet and funds came pouring in.

Will India and China go down the same path? Well, the agony of the crisis has singed the US so badly that it is believed that it will never be the financial superpower it once was. "The record of history suggests that it will: India and China will want their place in the sun." That is to mean that both countries will use the chance to cement their place on the world's stage.

Kotllikoff's book is in a different mould. It basically tells you in relatively simple terms how the great con was carried out by Wall Street. Is the US banking system a ponzi scheme? Here is a case to show it ran on lines similar to Ponzi. An unnamed US bank told the world that it was valuing mortgage-backed securities at 98 per cent of par value. Its market price was 38 per cent of par value. In effect, the bank was telling its investors that it will receive 2.6 times (98 divided by 38) as income from this security than what its current market price indicated. That this was valid as the current market was shallow. Now, that is not very different from what Bernard Madoff told his investors. Only in scale — he promised them $65 by way of return for every dollar they gave him.

Kotlikoff says there has to be a shift in the way banks go about their business. He argues for Limited Purpose Banking (LPB). That a bank should bring savers and borrowers together. That is their first job. Of course, they can take a punt, but by making it clear as to what they are doing with our monies. Here is gem on the banking world as he sees it: "Most (bankers) are fine people doing their best by their clients. But their ranks, particularly their top ranks, include a remarkably large number of fast-talking con artists, riverboat gamblers and highway men whom you'd never trust with your money, let alone your kids, if you really got to know them."

*The Review as Published in Businessworld*

# AGRI NEWS

## John Deere to initiate joint project with Gujarat govt

Deere & amp; Company , a world leader in the field of agricultural equipment, will work with the Gujarat government on an innovative public-private partnership to benefit marginalized tribal farmers over the next five years. The company also plans to build a new tractor facility in India in addition to its Pune factory.

According to a company press release, the programme could benefit approximately 50,000 farm families, who will learn skills to help mechanise their farms, which could increase crop yields.

"The world is challenged to increase food production significantly in the next few decades," Samuel R Allen, the Chairman and CEO of Deere & Company, was quoted as saying in a press release.

"All around the world, John Deere is working to help customers be more productive. Deere supports developmental projects such as this one in India to help farmers increase their chance for prosperity and improve their quality of life," he said.

John Deere, the Moline-based company in Illinois, will open small agricultural implement resource centres across Gujarat, making more than 500 tractors available for use by local farmers and providing the farmers access to a set of 13 different implements for various operations. Each centre will include a trained operator and maintenance staff. Farmer groups that use the equipment for crop cultivation will pay only for operating and maintenance costs and not for the actual tractor or implements.

According to Narendra Modi , the Chief Minister of Gujarat, the new public-private partnership is the first of its kind in the agriculture sector in India.

"This is a shining example of a programme that will help empower and provide economic wealth to our marginalised farmers and tribal brethren," he said at the inaugural ceremony, organised jointly by the Gujarat Tribal Development Department and John Deere.

The ceremony was attended by beneficiary tribal farmers, representatives of NGOs, senior government officials and John Deere staff. The Gujarat government not only aims to train farmers on the productive use of tractors and farm implements, but also to help develop additional skills in soil testing and micro-irrigation. John Deere will help ensure technical skill development and enhance future employment opportunities in Gujarat by training approximately 1,000 local individuals as tractor operators and another 500 as tractor mechanics.

"We have seen many policy initiatives in recent years in Gujarat to improve agriculture, including significant efforts to facilitate farm mechanisation in the state," said Allen.

"The initiatives have addressed important topics such as market access, contract farming, agriculture extension services, water conservation, micro irrigation and the availability of quality electricity," he said.

## Haryana promotes organic farming

The Haryana government has drawn up a new scheme to promote organic farming by adopting good agricultural practices and minimising the use of pesticides in the state and a sum of Rs one crore has been earmarked for its implementation during the year 2011-12.

According to a spokesman for Horticulture Department, 10,000 hectares of area would be used for adoption of organic farming.

The state government had taken a serious view of the higher level of pesticide residue in fruits and vegetables, which was 200 times more than the prescribed limit. Farmers were using pesticides in unorganised manner to increase the production level by containing insects, pests, and diseases.

The scheme aimed at making the farmers, vendors, pesticides firms and dealers aware of the safe use of pesticides and promoting good agricultural practices and organic way of farming, said the spokesman, adding that it also aimed at promoting organic farming in the state and implementing organic component of various schemes, besides conducting seminars, workshops, trainings or awareness campaigns regarding ill effects of the pesticides.

# AGRI NEWS

## India's overflowing grain bins may lead to crisis

A key government panel has warned that the country's overflowing grain bins will lead to a crisis if the government did not come up with a plan to dispose of the stored grain.

The Commission for Agricultural Costs and Prices (CACP) painted the grim picture in a presentation to Prime Minister Manmohan Singh recently. The presentation said the centre, which is the biggest buyer of grain in the country, was sitting over huge grain inventories and that the problem will compound further when the wheat procurement begins in a few days. India's wheat production is expected to touch a record 81.47 million tonnes (mt) this year.

"There's going to be huge storage crisis unless we make grain availability data transparent, release the excess in the market and open it to timely exports," an agriculture ministry official said, adding "At present, we have locked up in our stores the potential of extra foodgrain worth 40,000 crore."

The disclosure is indicative of an increasing concern in the government on the subject and comes barely a year after the country faced an acute grain supply strain, which resulted in double-digit inflation and spiraling food prices.

"The agriculture situation is a very dynamic one and there is urgent need to come up with a policy that will deal with the fast changing exigencies of over stocking one season and under supply the next," the official said.

Efficient foodgrain management has been a subject of intense concern since last year's food price spiral, primarily in the open market, although the government had record level of grain in its stored. The CACP computed the cost to the government on the storage of additional grain based on current economic cost of around 20 per kg for rice and 16 for a kg of wheat.

The CACP's presentation was part of an exercise to link all commodity markets in the country electronically and make grain availability and stocks transparent.

According to government estimates, foodgrain harvest in 2010-11 would be to the tune of 232mt, second highest of all time.

The government has set a procurement target of 26.3mt, but storage is woefully inadequate and incentive schemes for the private sector slow and unattractive.

The government had sanctioned 150 lakh tonne of additional storage facility, but less than 1 percent of it has been constructed so far. Last year, archaic distribution rules forced release of only a small amount of grain despite high inflation. This led to wastage of about 50,000 tonnes of wheat.

## World wheat production to be 676 Mt, India to see good harvest: FAO

Food & Agriculture Organisation's (FAO) first forecast for world wheat production in 2011 stands at 676 million tonnes, representing a growth of 3.4 percent from 2010, the March 2011 edition of the Crop Prospects and Food Situation report said on Wednesday. This level would still be below the bumper harvests in 2008 and 2009.

Wheat plantings in many countries have increased or are expected to increase this year in response to strong prices, while yield recoveries are forecast in areas that were affected by drought in 2010, the Russian Federation in particular, the report specified. As the bulk of the world's coarse grains and paddy crops are yet to be planted, it is, however, too early to forecast total cereal production for this year.

**Asia and South America:** In Asia, good 2011 wheat harvests are forecast in India and Pakistan. In China, the drought situation in the North Plain has been eased by recent precipitation but the outlook for the wheat crop still remains uncertain. In the Asia CIS sub-region, where Kazakhstan is the major producer, the bulk of the crop is yet to be sown but in view of current strong prices plantings are expected to be in line with the relatively high level of the past two years. Assuming a recovery in yields after last year's drought-reduced level, a significant increase in production could be achieved.

**Food deficit countries importing less, paying more:** Looking back to last year's production, the FAO report notes that in the low-income food-deficit countries (LIFDCs) as a group, the 2010 cereal output rose by 5.6 percent, a development that will result in reduced cereal imports in the 2010 / 11 marketing years. But this will not necessarily spell much relief for these countries as their overall cereal import bill is estimated to increase by 20 per cent because of higher international prices.


**The Editor**
**Financing Agriculture**
**Agricultural Finance Corporation Ltd.**
**Dhanraj Mahal, 1st floor**
**Chhattrapati Shivaji Maharaj Marg**
**Mumbai 400 001**

# SUBSCRIPTION FOR 'FINANCING AGRICULTURE'

I / We request you to enroll me / our organization as a subscriber to the Monthly Journal "***Financing Agriculture***" for a period of _____ year(s).

***Details are as under***

**Name:** _____

**Mailing Address:** _____

**City:** _____ **State:** _____

**Pin Code:** _____

**Email:** _____

**Subscription Period:One, Two, Three, Year (s)** _____

**Subscription Amount:Rs.** _____

**(Rs: 600/- for one year; Rs.1200/- for two years; Rs.1800/- for three years)**

***Remittance details: Demand Draft / Cheque No.***

**Date:** _____ **Bank:** _____

Cheque / Demand Draft should be drawn in favour of
**M/s. Agricultural Finance Corporation Ltd., Payable at Mumbai.**
Add Rs.25/- towards collection charges for outstation cheques.

**SIGNATURE:** _____ **DATE:** _____

Annexure-3

# Photographs of handicrafts training of SHGs under NAIP, Godda (Jharkhand)












# Agricultural Finance Corporation Ltd.

Incorporated since 1968

## *Technical Support Institution Committed to Rural Prosperity (Wholly owned by Commercial Banks, NABARD, EXIM Bank)*

**Vision**: To facilitate increased flow of institutional credit and other support services for rural prosperity.

**Mission:** To continue to be leading agri-consulting organization by providing timely, appropriate and feasible client – specific end to end solutions not only in India but in other developing countries.

### Consulting Services

Specialised services which by no means are exhaustive, can be classified as:

- Agribusiness Management
- Water Resources Management
- Watershed Development and Management
- Environment Impact Assessment & Environment Management Plans
- Horticulture & Plantation
- Micro Enterprises and Micro-Finance
- Fishery, Forestry, Wasteland Development
- Gender Development
- Resettlement & Rehabilitation
- CDM Services

### Capacity Building and Training

Projects included in this category are:

- Consultancy for World Bank Assisted Process Monitoring of Andhra Pradesh Rural Poverty Reduction Project – Phase-II (Zone-II) – Society for the Elimination of Rural Poverty, Government of Andhra Pradesh – 2007-08
- Implementation of DFID funded Western Orissa Rural Livelihood Project (WORLP) – Watershed Development Mission, Govt. Of Orissa – 2005-2010
- Comprehensive Watershed Development Project in Karnataka - Watershed Development Department (WDD)-Government of Karnataka – 2006-07
- Madhya Pradesh Tribal Development Project - The International Fund for Agriculture Development (IFAD), Rome – 1997

### Grass Roots level Livelihood Implementation

AFC has undertaken large scale Agricultural Extension Programme in 820 Blocks covering all 71 districts of Uttar Pradesh.

The mission of the implementation project is to increase the farm productivity, profitability and sustainability of farming systems, efficient use of natural resources and agricultural inputs etc., by customised farmers' trainings at village cluster level and to provide online information on weather parameters, demand and use of agricultural inputs and market intelligence.

### Organic Farming

This project involves the adoption and certification of Organic Farming in 22000 hectares.

### Watershed Development

AFC is implementing Livelihood Development Programme based on Watershed Development with funding by DFID, and NABARD.

### Panchayati Raj Institutions

AFC has set up an independent division for providing support services in terms of grass roots level planning, training of various stakeholders in UP, Bihar and Jharkhand. AFC has prepared Perspective District Plans in 25 districts of Uttar Pradesh under Backward Region Grant Fund (BRGF).AFC has also conducted TNA and prepared Training Manual for PRIs in Jharkhand.

The PRI division will also provide the following services:

- Organise training programmes for the senior & middle level executives of the NGOs.
- Capacity building of the ERs and various stakeholders.
- Conduct research studies, develop learning material for each level on local self governance, organise seminars and workshops, promote exchange of academic expertise on various aspects related to local planning & DPCs, disseminate specialised information and provide expert advice to all concerned.
- Take up advocacy role to strengthen democratic process, particularly grassroots level democracy through decentralised institutions.
- Lay special emphasis on involving the poor, marginalised and weaker sections of the society in the democratic governance.


**www.afcindia.org.in**