

NEW/EFFICIENT APPROACHES/SCHEMES OF AGRICULTURAL FINANCE TO COPE WITH NATURAL DISASTERS

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Chairman ,
Dignitaries,
Ladies and Gentlemen,

It indeed gives me immense pleasure to be here before this August gathering on the occasion of this International Meet of the Banking Fraternity and am happy to be part of this meet and present the paper titled 'New/ Efficient approaches of Agricultural Finance to cope with natural disasters'.

Introduction

We all know The 20th century was marked by unprecedented human achievements in a range of endeavors. Yet, at the beginning of this century, widespread poverty, chronic hunger, malnutrition, disease, conflict and severe environmental degradation made the goal of sustainable development appear elusive. The human family has been facing formidable challenges.

The most important challenge is the world's ability to feed its inhabitants. Agriculture is the sector that provides solution to this challenge. This is clearly brought out by the world-renowned sage 'Thiruvalluvar' in one of his couplets. **Let me quote:**

*Howe'er they roam, the world must follow still the plougher's team;
Though toilsome, culture of the ground as noblest toil esteem.
(Couplet 1031)*

meaning that Agriculture, though laborious is the most excellent (form of labor); for people, though they go about (in search of various employments), have at last to resort to the farmer. At the same time, **in my Opinion**, it is also the sector that is affected most by climate change. In the circumstances, modernizing agriculture is essential for meeting the challenges of reducing hunger and poverty, increasing and sustaining agricultural productivity and protecting the environment. **Agriculture is still the engine of growth for many countries in the world and India is no exception.**

Unfortunately, agriculture is one of the important economic sectors that is most affected by natural disasters. For example, India, since time immemorial, has borne the brunt of a large number of natural disasters. **I would say**, Estimates about India indicate that around 60% of the country's land mass is vulnerable to earthquakes of various intensities; over 40 million hectares is prone to floods; 68% to droughts; and, 8% to cyclones. Often, agricultural activity is adversely affected by any unforeseen weather changes or variations in physical conditions that influences plant growth, health and productivity. The adverse impact of a disaster on agriculture get accentuated in case of cyclones, floods, and droughts, not only resulting in disruption of people's livelihood, but also adding to the risk, damage and stress associated with the disaster.

Susceptibility of agriculture to these disasters is compounded by the outbreak of epidemics and man-made disasters such as fire, incidence of spurious seeds, fertilizers and pesticides, price fluctuations, etc., which severely affect farmers through loss in production and farm income.

Disaster gives rise to casualties and/or damage or loss of property, infrastructure, essential services or means of livelihood on a scale which is beyond the normal capacity of the affected communities to cope with unaided. Disasters have direct and indirect impacts, Agriculture being the worst affected sector, these calamities have various short term and long-term implications on the livelihood situations of the farmers. Not only farmers suffer immediate and direct economic losses when natural calamities strike, sometimes they tend to lose the livelihoods, support structures and resources altogether. Their land and water bodies may get damaged – at times irreversibly; their animal resources may be wiped out totally. **Disaster management is therefore extremely important in agriculture sector.**

As a measure of disaster management, Government and its various agencies have become more user friendly and come out with weather bulletins, scientific forecasts and contingency plans. They have also provided early warning systems.

Some of the important measures for mitigating the effects of national disasters are institutional arrangements for land development, water conservation works, watershed management dryland agriculture etc.

In India other factors like weak rural infrastructure, imperfect markets and inadequate and sub-optimal financial services not only **endanger the livelihoods and incomes of small farmers** but also undermine the viability of the agriculture sector and its potential to become a part of the solution to the problem of the endemic poverty of farmers.

Let me say, the critical nature of agriculture with respect to rural transformation and the national economy requires **substantial governmental and financial sector interventions** in order to not only ensure the food and nutritional security of households in the farming community but also generate savings and investments in this grossly under-funded sector.

Methodology/Approach

This paper presents a comprehensive set of agriculture risk management tools and policies provided within a global framework by both the public and private sectors, while specifying the role of every tool implemented. **Our** presentation is a wide overview of agriculture risk management policies with specific reference to India which may be adopted wherever worthy of emulation. Inputs in this paper are founded on **my experience, learning(s) and reflections. Fortunate enough, I had varied opportunities that led me to a variety of exposures and experience in the field of Agricultural Finance and rural development.. As the CEO I had been given opportunities to manage the affairs of rural cooperatives, more particularly in various District Central Cooperative Banks in the State of Tamil Nadu. And now as the CEO of the State Cooperative Bank which is Apex body of the State's Short-term Cooperative Structure.** As to the methodology/approach adopted, it is stated that **our** experience and the things we learnt and reflected form the basis for this paper. As this paper is more a reflective study, it does not contain too much data to bother the audience with.

Results/Findings through Reflections

Studies relating to Comprehensive Agriculture Risk Management Framework underline three kinds of State/Non-Governmental interventions to mitigate risks, viz.,

1. **Direct initiatives** (Agricultural Credit, Input Subsidies, Calamity Relief, Research and Extension Services);

2. **Indirect initiatives** to mitigate production risks (Insurance mechanisms covering crops, weather, livestock and micro insurance);
3. **Government and market-based approaches** to mitigate price or income risks (minimum support prices, farm income insurance, price stabilization fund, Commodity markets, contract farming, etc.)

Realizing that the ploughers are the lynch-pin of the world as they support all others (again, borrowed from Thirukkural), these kinds of interventions are happening in India, some of them, however, need depth and intensity.

1. Direct initiatives:

A. Agricultural Credit:

In India, traditionally banks used to provide short-term finance to trade and industry. The quantum of advance was linked to assets owned by borrower. But, Nationalization of commercial Banks had radically changed the concept of bank lending in India. India has perhaps the world's largest network of rural financial institutions, boasting about 175000 credit outlets which cater to the credit requirements of the agricultural and related sectors.

Banks now consider the viability of the projects while entertaining the credit proposals and not merely the availability of the assets with the borrower. As a result of adopting a need-based approach, the neglected sectors of the economy have steadily come within the fold of banking industry.

Banks give crop loans for agriculture and generally repayable at the time of harvesting. At present, banks are formulating **Special Agricultural Credit Plans** under which they fix for themselves targets for disbursement of agricultural credit during a year.

In India, considering the importance of agriculture, **credit procedures** have been **simplified**, thus paving way for small/marginal farmers to be able to access credit. The Government has further stipulated that the **interest charged by banks for the agriculture sector should not exceed 7%** while reimbursing the banks with 2 percentage points as subvention. In addition to this Scheme offered by the Central Government, some of the State Governments are also providing interest incentives for making prompt repayment of loans. For example, the Government of Tamil Nadu State has devised an Interest Incentive Scheme for Cooperative Banks that requires them to provide loans to their prompt-repaying borrowers at 0% interest. The State Government will reimburse the banks towards their interest cost.

The Central Bank of our country has issued guidelines to banks for providing relief to persons affected by natural calamities. These guidelines, inter alia, provide for conversion/rescheduling of loans in the case of crop failures due to natural calamities.

Let me point out for example, in the light of measures announced by the Central Government, the debts as on March 31, 2004 of farmers who have suffered production and income losses on account of successive natural calamities; were rescheduled/restructured by the banks and accordingly, were made repayable over a period of 5 years including an initial moratorium of 2 years. On restructuring as above, the farmers concerned became eligible for fresh loans. **May I suggest**, that Similar approach may be considered for adoption by the Central Banks of the member-countries of this esteemed Forum.

Banks also grant MT loans to agriculturists for purchase of farm equipments, livestock and for land development, sinking of wells, etc. Banks in India are aware that there are bankable projects in the areas of minor irrigation, Land Development, Plantation and Horticulture, Agri Engineering, Forestry and Wasteland, Fisheries, Agro-processing, Animal Husbandry and Biotechnology.

Some thrust areas of financing in which we, Bankers participate are:

- a) *Minor Irrigation*
- b) *Land Development*
- c) *Agri Engineering:*
- d) *Finance for setting up of Rice Mill*
- e) *Farm Mechanization*
- f) *Group approach to finance agricultural operations*

Every calamity presents also an opportunity for new innovations. An innovative small farmers' Self-help Groups based agriculture is the answer to the threat of reduced crop yield and uncertain food security arising from adverse changes in climate. It will be difficult for small and marginal farmers to face individually the adverse impact of climate change and natural disasters.

Based on the success of loans to individuals as a group (Self Help Group concept) for carrying out any economic activity and effective recovery thereafter from the group, another group-lending concept has been devised by NABARD. The Government of Tamilnadu also formulated a Flagship scheme to ensure credit to small and marginal farmers, rural artisans, Tenant Farmers and cultivators of temple lands.

Under the title "Joint Liability Groups" (JLGs), farmers are encouraged to form themselves into Groups of not more than five or ten members each, for the purpose of raising crops or carrying out other agricultural operations. Under the Scheme, credit would be made available by Banks to the individual members of the JLGs on per acre basis for raising any crop of their choice. Credit is extended based on the principle of 'each for all and all for each' and hence the members would be **jointly liable** for the loans taken by the group. The **peer pressure** would play a vital role in ensuring repayment of the loan on or before the due date.

In our State of Tamilnadu, wherefrom our Bank operates, The JLGs formed are also given a revolving fund of Rs. 10000/- per group, by the state Govt. as a one-time grant which could be made use of by the group for purchase of any agri. input of its choice. The group approach has benefited the lower strata of rural people / and landless farmers who could not otherwise get credit without a piece of land.

The JLG concept has benefited the rural credit cooperatives and banks as well, since they are able to lend for agricultural operations and recover the loans on or before due dates, and thus ensure the quality of their assets. The scheme works well in the Southern states especially Kerala and Tamilnadu.

I would like to share with you the two JLG models working successfully in India – 1) the Kuttanad model (Kerala) and 2) the Omakuppam Model (Tamil Nadu) which provide credit suiting local conditions and ensure effective recovery.

g. Agri-Clinics/Agri Business Centers

Banks and Financial Institutions, in the mutual interests of the Farmers and themselves, shall have to join hands with Extension Agencies and NGOs in educating the farmers in proper crop

selection, soil testing, seed selection, application of organic fertilizers, use of available farm implements improved farming methods and technology.

In India, Government of India have devised Schemes for setting up of **Agri clinics and Agri. Business Centers** by agricultural graduates, with institutional term loan finance from Cooperative and Commercial banks clubbed with a dose of **back-ended subsidy**..

One of the primary tasks of Agri-clinics shall be to caution farmers against the excessive use of pesticides and fertilizers. The **unchecked depletion** and **pollution** of groundwater is another cause for concern and the trained agri graduates shall have to appropriately guide the farmers in **ground water usage, Organic farming and inter-cropping**.

The Banks have to encourage Agri-Clinics to join hands with enterprising farming community and conduct experiments on advanced cropping techniques, use of high yielding strains, apply of organic manure, conserving water resources, preserving of moisture content and recharge of soil nutrients, multi-cropping and integrated farming. Successful trials/experiments have to be propagated and popularized among local farmers thereby ensuring substantial increase in productivity levels.

B. Input Subsidies:

Important subsidies for inputs to the agriculture sector are with respect to fertilizers, power, irrigation, and credit. Year after year, the Governments need to spend a huge amount of money on subsidizing these inputs. This suggestion is given in spite of many researchers and economists feeling that input subsidies are progressively losing their relevance and are becoming an unbearable fiscal burden **for the State Exchequer** About a dozen Government-sponsored Subsidy Schemes linked to Bank Credit to encourage agricultural activities are available in India.

C. Calamity Funds:

Governments may create Relief mechanisms in the form of Relief Funds. Here again, India has one of the best Calamity/Disaster Relief mechanisms among emerging nations. The **Calamity Relief Fund** (CRF) was created at the **State level** with contributions from both **central and state Governments** and is used to pay for relief in the event of droughts, floods, cyclones, hailstorms, tsunamis, etc. **The National Calamity Contingency Fund** (NCCF) was created **at central level** and is used for any relief operations not covered by the CRF.

The Indian Government has also instituted the **Disaster Management Act** (DMA), which set up a mechanism for the creation of a **National Disaster Management Authority** (NDMA); a State and District-level Disaster Management Authority; a National Executive Committee; a National Institute of Disaster Management; and, a National Disaster Response Force. Through these efforts, the Government has brought about a change in the approach to disaster management. It has gone from **relief-centric to holistic, covering the entire cycle of disaster management including prevention, mitigation, preparedness, response, relief and rehabilitation.**

D. Research and Extension Services:

With the extreme weather events and adverse trends becoming more frequent and widespread, it is important to consider how **agricultural practices** can be modified and adapted to make crops (production) and animals more **'climate-proof.'** changes in **crop management** should be ensured

for quicker and surer remedies. Experience with the **System of Rice Intensification** has shown that by altering the management of plants, soil, water and mostly organic nutrients, farmers can raise the productivity of their land, labor, capital and water.

a) Reorienting Research Agenda:

In Our opinion, The need of the hour is to tailor new varieties which can **adapt to the adverse effects of climate change** and have still higher yield. Even while the **consultative Group on International Agricultural Research institute** (CGIAR) is investigating how to make crops more **resilient to environment stresses**, the Indian Council of Agricultural Research (ICAR) and Dr. M. S. Swaminathan Research Foundation (MSSRF) have initiated projects on impact, adaptation and vulnerability of Indian agriculture to climate change. **MSSRF is also doing projects on Bioshields (Coastal System Research), Biodiversity, Biotechnology, Ecotechnology, Medicinal Plants, and Food Security. As a part of their project on Food Security, they are doing a project called ‘Fish for all.’**

b) Food Security:

With world population growing by **leaps and bounds** (6.91 billion) rapid urbanization, agricultural lands becoming industrial parks and satellite towns, changing weather patterns, and environmental pollution, **food security** has become a growing challenge today. Governments around the world, Environmentalists, NGOs, researchers and world organizations are taking all-out efforts to ensure sustainable food production and food security.

. Food security is not just a problem of increasing production. It is a problem of improving access. It is a problem of equitable distribution, and it is also a problem of enhancing effective demand of the poorest of the poor for food.

Soil erosion is a serious problem under rain-fed agriculture. **In India, it has been estimated that more than 5 billion tons of soil is washed away every year taking away with it more than 6 million tons of nutrients. Hence**, adoption of proper soil and moisture conservation practices which would restore and stabilize the productivity of agriculture is essential.

In improving the food accessibility through increasing purchasing power and food utilization, **I can say**, the current programs of the Government of India such as the Public Distribution System reinforced by the National Food Security Act, National Rural Employment Guarantee Act and the Integrated Child Development Services are the largest safety net programs in the world

I would like to share with the august audience here, the following are some of the techniques, developed through Research, to retain the surface layers of lands in their respective places.

b.i) Cover crops

Cover crops play a vital role in controlling erosion by (1) shielding the soil surface from the impact of falling raindrops; (2) holding soil particles in place; (3) preventing **crust** formation; (4) improving the soil's capacity to absorb water; (5) slowing the velocity of runoff; and (6) removing subsurface water between storms through **transpiration**.

b.ii) Green manure

Crops grown as green manure **add nitrogen** to the soil, **increase the general fertility level, reduce erosion, improve the physical condition of the soil, and reduce nutrient loss from leaching**.

b.iii) Precision farming or precision agriculture

Precision agriculture management practices can significantly reduce the amount of nutrient and other crop inputs used while boosting yields. Farmers thus obtain a return on their investment

by saving on fertilizer costs. Precision agriculture can be the cornerstone of [sustainable agriculture](#), since it respects crops, soils and farmers

b.iv) Zero Budget Natural Farming

Quite interestingly, there is a new concept emerging in India called “**Zero Budget Natural Farming (ZBNF)**. The fundamental principle underlying natural farming is that **every thing is connected to every thing else on earth**, as every function is served by many elements and every element has many functions. The relative placement of elements is thus an important key to the success of this method and requires a **minutely detailed observation of nature** in order to recreate in the fields the same kind of symbiosis, of interactivity between the plants. **Natural Farming is based on four principles. They are:**

b. iv) i. Zero budget farming

The production cost for the farmer is zero as no input needs to be purchased. The nutrients are taken from the soil air, water and solar energy by the plant, and there is no need to add fertilizers. These nutrients provided by nature (as in the forest) are totally free of cost. The farmer uses his own seeds and protects the crop with natural products that he collects himself so that he does not have to buy either chemicals or seeds.

b. iv) ii Natural inputs

Natural farming does not require chemical inputs or organic compost like vermiculture but promotes a natural catalyst of biological activity in the soil and natural protection from diseases by application of local cow dung.

b. iv) iii. Mulching

. It is necessary to create the **micro-climate** under which **micro-organisms** can best develop, Mulching indeed conserves humidity of the soil (therefore diminishing the need for (irrigation) cools it and protect its micro-organisms.

b. iv)iv . Multicropping

Intercropping, multicropping or mixed cropping, is the cultivation of two or more crops in proximity in the same field, based on the assertion that there is a **complementarity** between plants. Natural farming enhances the use of the soil and its nutrients through this complementarity between the crops.

The banks and financial institutions can encourage natural farming and lend financial support to farmers in marketing their produce or for processing their produce for value addition ensuring better shelf life.

.v) Integrated Farming

For a farmer who depends on rains, conserving every drop of water by increasing moisture retention in the soil is important.. To achieve this he should integrate mixture cropping, tree growing and animal breeding. **Thus, the by-product of one unit will serve as input for another. Labor utilization will be optimum.**

b.vi) Organic farming

It is gaining prominence as sustainable alternative in **reviving Indian agriculture**. and there is sufficient manpower and infrastructure to promote organic farming in the country.

b.vii) Cultivation of nutri-cereals:

Ragi and bajra, which are nutritionally rich and could redress ‘**hidden hunger**’, should be propagated among farmers.

The Banks may document Success stories, and arrange for visits to successful farms to make farmers believe in what they have heard of earlier, by word of mouth or visuals. These documents may prove to be good source for future research activities.

Let me take up indirect initiatives, now.

2. Indirect initiatives to mitigate production risks:

A. Crop Insurance

India is administering the world's largest crop insurance program in terms of the number of farmers insured. The National Agricultural Insurance Scheme (NAIS) annually insures approximately 18 million farmers, or 15% of all farmers and approximately 17% of all farmed land.

B. Weather-based crop insurance

Weather based insurance was introduced in India in 2003. At present, Agriculture Insurance Company of India is providing weather-insurance services along with two private insurers. Even while offering an alternative to NAIS by initiating pilot projects in select areas for select crops, the Government is also trying to remove the constraints like sparse network of weather stations and the prohibitive cost of insurance.

C. Livestock insurance

Livestock forms a significant proportion of rural wealth and is an important source of rural livelihoods in India. In addition, livestock-related activities are the exclusive source of income for some community members. Livestock insurance scheme encourages rapid development of dairy, poultry and other animal husbandry projects backed by government subsidy, thereby addressing food security issues.

D. Micro Insurance

Poverty is not just a state of deprivation but has latent vulnerability. Micro Insurance would provide greater economic and psychological security to the poor as it would reduce exposure to multiple risks and **cushions the impact of a disaster**. Micro Insurance is a key element in the financial services package for people at the **bottom of the pyramid**. Realizing the need for an increased coverage of poorer households through some form of social security measure, micro insurance has been introduced in India.

E. Marketing & Price Insurance

One major issue in an agrarian economy is in the form of price fluctuations, as they pose a serious risk to farmers' income and well-being. Supply-side problems and agricultural marketing system, infrastructure weaknesses seasonal production also leads to price volatility when harvested crops reach markets in very large volumes within a short time span. This type of insurance is a good instrument to mitigate these risks. **This kind of insurance has to be propagated and popularized.**

Let me unfold the third set of initiatives now.

3. Government and market-based approaches to mitigate price or income risks:

A. Minimum Support Prices (MSP)

Minimum Support Prices and Market Intervention Schemes are specific instruments of insuring a remunerative and stable price environment for so long. MSP is available for different commodities, and has been efficient in protecting the income of the farmers. Some of the proactive States have come out with their own policy of support prices, like the State of Tamil Nadu.

B. Commodity markets and Electronic Spot Exchanges

To establish better links to quality parameters and to ensure better price references, National-level Commodity Exchanges have been set up. These exchanges ensure transparency and offer incentives for quality-consciousness, removing the layers of intermediaries for the benefit of the farmers.

Price Stabilization Fund:

In 2002, the Government of India launched an income stabilization fund for small farmers of four plantation crops, namely, coffee, tea, rubber, and tobacco. As PSF plays the role of income mitigation instrument for small farmers, emerging economies may adopt this model with local variations.

C. Contract Farming

In India Fragmented holdings and conventional farming techniques, high cost of cultivation and poor marketing leave the farmers high and dry after the harvest. Large scale farming with partnership between Corporate houses and the farmers can provide a solution in the form of contract farming. Contract farming is beneficial in terms of astounding productivity increases, sound agricultural practices, reduced costs, quality inputs, better farm management, better markets, processing and use of technology. Contract farming in the sphere of farming operations will definitely **prove to be a win-win approach** for the parties to the contract **if practiced with mutual faith and fairness**.

D. Agricultural marketing and Agri-business

Agriculture sector needs 'well-functioning Market' to drive growth, employment and economic prosperity. The Department of Agricultural Marketing enhances many activities, some of them are:

1. Establishment and maintenance of Uzhavar Sandhais (Farmers' Local Markets)
2. Establishment and maintenance of regulated markets
3. Agmark grading of agricultural, animal husbandry and forestry products for the benefit of the consumers.
4. Setting up Agriculture Export Zones.
5. Promotion of Food Processing to minimize wastage of agricultural products and to increase employment opportunities

E. Common Service Center (CSC)

CSC is a project under the National E-Governance Scheme. This project is a **good demonstration of Public and Private Sector Partnership**. The Common Service Center will be a network providing information efficiently to each village thus creating a completely new mode of distribution of e-services to farmers and rural folks.. **The Govt. of Tamilnadu has taken the initiative of introducing this facility in 5440 centers in the state and 2500 centers are currently operational.**

F. Market-based initiatives by Corporate Houses in India

Indian Tobacco Company (ITC) is trying to provide a **trail-blazing answer** to the problems faced by the farming community by setting up e-Choupals – the single largest information technology-based intervention by a corporate entity in rural India. **This they do as a part of their efforts to fulfill Corporate Social Responsibility.** These e-Choupals deliver **real-time information** and customized knowledge to improve the farmers' **decision-making ability** in terms of meeting the market demands, securing better quality, productivity and improved price discovery by linking them to remunerative markets.

Similarly, Hindustan Uniliver in India has partnered with the SHGs by offering them opportunities for business and named this project as Shakti **as SHGs in India are generally feminine in composition.** Though the business objective of this project has been to reach into untapped markets, it has made a deep social impact. This project also fulfilled the objective of providing sustainable livelihood opportunities for **underprivileged rural women.**

G. Farmers' Club Program

Banks in India are encouraged to promote Farmers' Clubs in rural areas under this program. This Program was launched by the National Bank for Agriculture and Rural Development to inculcate financial discipline amongst farmers.. The broad objective of these grassroot level informal forums is to achieve prosperity for the farmers with overall agricultural development by facilitating credit counseling, technology counseling, transfer of technology, propagation of seed village concept, strengthening of agricultural extension services, undertaking of collective purchase and distribution of inputs, market counseling, production and marketing, capacity-building of members, and assumption of a leader's role.

H. Financial Inclusion

In India, the Government has taken the initiative of bringing every citizen within the formal channels under the name of Financial Inclusion. Indeed a quite efficient approach, the prime objective of which is to achieve **inclusive growth** through **delivery of banking facilities/services to all people in a fair and transparent** manner at an **affordable cost.** The ultimate objective of total Financial Inclusion is that all households in the country should have bank accounts and all financial assistance extended by the Government under their various programs should be routed through the banking channel. This is in addition to providing limited access to financial services such as savings, loans, remittances and insurance services to a vast majority of population.. **This constructive approach to Agri finance/ rural and urban development is sure to pay dividends since it is bound to cater to the needs of the needy population , especially in countries like India , often afflicted by natural calamities and disasters.**

Government of India has also instituted two funds for the purpose of helping the process of Financial Inclusion. To support Developmental and Promotional activities, **Financial Inclusion Fund** has been set up. To enhance investment in Information Communication Technology aimed at promoting Financial Inclusion, **Financial Inclusion Technology Fund** has been set up.

Practical Implications

Banks give crop loans which are the direct finance to agriculture. At present, banks are formulating Special Agricultural Credit Plans under which they fix for themselves targets for disbursement of agricultural credit during a year. Enhanced credit delivery at reduced / nil cost is ensured. Introduction of SHG/JLG concepts has led to Team culture in agriculture,

providing the advantage of better recovery and lower NPAs for banks. Better deals could be struck for rural households through better farming practices/techniques, processing and marketing opportunities, use of technology, and insurance. These deals have proved to be beneficial in terms of better yield, price discovery, information and indemnity for the farming community. With the implementation of various Schemes, Central and State Governments are in a position to achieve the objective of inclusive growth in partnership with Banks and Financial Institutions.

Conclusion:

In this paper, the enabling actions and interventions by stakeholders from the public and private sector as well as civil society that have served as mechanisms have been presented. It is easily discerned that the various stakeholders from the Government to the banks to the insurance companies are reasonably aware and concerned about the risks smallholders face in the face of disasters, as manifested by the large number of policy measures and mechanisms for managing these risks.

The plethora of Government policies and interventions in India has been successful in ameliorating the problems of smallholders to a larger extent. The success has been mainly owing to the Government having implemented its Schemes in line with the wisdom enshrined in the following Thirukkural:

*Cherish the all-accomplished men as friends,
Whose skill the present ill removes, from coming ill defends* (Couplet 442)

Farmers must work to increase productivity of their lands in a sustained manner, thus bringing about an **‘evergreen’** revolution. The revolution must result in a doubling or tripling of productivity and not merely an annual ‘evolving’ single-digit increase. Even while applying their traditional wisdom that **“the maiden Earth will laugh at the sight of those who plead poverty and lead an idle life”** as enunciated in Thirukkural, farmers must optimally utilize technological advancements in agriculture. Farmers must be extended help in marketing their produce and assured of good remuneration. There also has to be a sufficient number of godowns to store crops, to prevent wastage of food. Farmers’ enthusiasm too is important. They must be guided not to go for genetic homogeneity in crop selection, since their crops would become vulnerable to particular diseases. Variety of crops is thus very important.

We have seen some of those great human costs – people going hungry all over the world despite some of the richest farmlands. Some of the policies might have led to counterproductive consequences in various periods. Yet, we need to understand these issues and to do that we need to stop and think through certain issues.

This forum is for understanding these issues. Here, several empirical questions need to be asked as we are truly interested in the well-being of others, rather than in excitement or a sense of moral superiority for ourselves. For those who are willing to stop and think, this conference has provided some tools for evaluating policies and proposals in terms of their logical implications and empirical consequences.

If this paper has contributed to that end, then it has succeeded in its mission.

Thank You, Ladies and Gentlemen, Thank You.

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