

SERVING FARMERS AND SAVING FARMING

JAI KISAN

A DRAFT NATIONAL POLICY FOR FARMERS



**NATIONAL COMMISSION ON FARMERS, MINISTRY OF AGRICULTURE
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(Draft for Comments, Public Debate and Consensus Building)

1.0 Why a National Policy for Farmers

1.1 At the time of our Independence, Jawaharlal Nehru said, “Everything else can wait, but not agriculture”. Unfortunately this profound truth is yet to be converted into concrete policies and action on an adequate scale. There have been several policy statements for agriculture during the last 59 years, including the comprehensive reports of the National Commission on Agriculture (1976). The last National Agricultural Policy was formulated in 2002. However, we are yet to place faces before figures and the problems of farm families as human beings and citizens of the country are yet to receive the attention they need and deserve. Agricultural growth has decelerated during the last decade. This has led to a decline in real per capita incomes in rural India, in comparison to the rapid growth in urban incomes. **The present Draft Policy for Farmers is designed to fill this gap and to get the focus of our agricultural policies shifted to the women and men feeding the nation, thus moving away from an attitude which measures progress only in millions of tonnes of foodgrains and other farm commodities.** Its main aim is to bring about a mindset change and a shift from an approach of patronage to partnership with farm and fisher families based on mutual respect. Progress in agriculture should be measured by the growth rate in the net income of farm families, if the human dimension is to be added to agricultural policies.

1.2 Farming is both a way of life and the principal means of livelihood for 65 per cent of India’s population of 110 crores. Our farm population is increasing annually by 1.84 per cent. The average farm size is becoming smaller each year and the cost-risk-return structure of farming is becoming adverse, with the result that farmers are getting increasingly indebted. Marketing infrastructure is generally poor, particularly in perishable commodities. No wonder, a recent NSSO survey revealed that nearly 40 per

cent of farmers would like to quit farming, if they have the option to do so. Unfortunately, there is little option for them except moving into urban slums.

1.3 The livelihoods of pastoralists and smallholder farmers are threatened by the progressive loss of grazing land for their animals, limitations to mobility, inadequate or inappropriate government policies, and lack of animal health and other services. These developments are also causing the progressive loss of the livestock breeds and species that provide rural livelihoods and life-style options.

1.4 The support systems needed by farmers, like research, extension, input supply and opportunities for assured and remunerative marketing are in need of review and reform. Small farmers are forced to borrow from moneylenders at high rates of interest, since only 51 per cent of the credit requirements of farmers are met by institutional sources. Only 27 per cent of all cultivator households receive institutional credit.

1.5 Farmers' suicides are not only persisting but are tending to increase, particularly in the Vidharbha region of Maharashtra. The suicides are driven by several factors that include debt from private moneylenders at high rates of interest, soaring input costs, low output prices, need for funds for non-farm expenditure, particularly for healthcare and a complete loss of hope. The farmers of such regions need to be rescued from the pall of despair and doom. Unfortunately, the economic, ecological, technological and social problems facing small farmers are yet to receive the integrated attention they need, although the NCF had recommended in its Second Report submitted in August 2005, a life saving package, including the formation of "**Hope Generation Teams**" of students by Agricultural Universities, to visit suicide hotspots.

1.6 The social prestige and status accorded to farmers are also low. **Farmers seldom receive recognition through Padma Awards on Republic Day - an index of the low recognition given to the contributions of 650 million farm women and men not only to food and livelihood security, but also to national sovereignty.** Lal Bahadur

Shastri's slogan "*Jai Kisan*" is yet to be converted into public policies which recognise the pivotal role of farming communities in national well-being and security.

1.7 Policies are needed for making the farming operators sub-marginal, marginal and small farmers economically viable and environmentally sustainable. Well-defined guidelines are needed for assisting such families with assured and remunerative marketing opportunities, particularly in the case of perishable commodities, and 'orphan' crops like a wide range of millets, tubers, pulses and oilseeds.

1.8 Technology has been a major factor in the rich-poor divide until now. We should now enlist technology as an ally in the movement for gender and social equity. This will call for a pro-poor, pro-women and pro-nature orientation to technology development and dissemination. Also, Intellectual Property Rights (IPR) policies should be such that **there is social inclusion in access to technologies**. This will call for a considerable stepping up of investment in **public good research** and an **antyodaya** approach to technology development and dissemination. There is no option except to produce more food and other commodities under conditions of diminishing per capita arable land and irrigation water resources. Hence, we must harness the best in frontier technologies and integrate them with traditional wisdom and thereby launch an ecotechnology movement.

1.9 Research should be tailored to the need for developing technologies which can help to add economic value to the time and labour of the poor, particularly women. Also, the advantage of the National Rural Employment Guarantee Programme (NREGP) should be taken for launching a massive adult and functional literacy programme using modern computer-aided joyful learning techniques. The poor are poor because they have no assets, neither land nor livestock nor fishpond. They are often illiterate also. Modern technologies can help to achieve a quantum jump in imparting literacy and market-driven skills. They should therefore be harnessed for the benefit of resource poor farm and

landless labour families living below the poverty line. Further, the NREGP should be used to create productive assets in rural areas.

1.10 Within a week after the launch of NREGP, 2.7 million applicants reportedly registered themselves for employment under this programme in 13 districts of Andhra Pradesh and a million registered in 12 districts of Maharashtra. The average wage under this programme is about Rs. 60 per day. While this will help them to get their daily bread, the programme cannot solve the challenge of pervasive poverty. Since NREGP represents employment of the last resort and caters only to unskilled work, the extent of despair and deprivation in rural India is obvious from the demand for placement in this programme.

1.11 Addressing the nutrition, healthcare and education needs of the poor, and particularly of agricultural labour, tribal women and men and fisher families should be given top priority. Nearly 75 per cent of children in the country are under-weight due to inadequate nutrition. India has the largest number of under-weight and low birth weight children and their prevalence is almost double that of Sub-Saharan Africa. Micronutrient deficiencies are widespread. More than 75 per cent of preschool children suffer from iron deficiency anaemia. About 57 per cent of preschool children have sub-clinical vitamin A deficiency. Many traditional food habits in rural and tribal areas included a wide range of millets, tubers and grain legumes. **The revitalization of nutrition-centred farming systems is an urgent task. Both dying crops and dying wisdom should be saved and harnessed for local level community managed food security systems, like Community Food Banks.**

1.12 While farm families are crying for additional investment in infrastructure and farm innovation, there has been a drop in government investment in the agriculture sector. The drop in government as well as private investment has significantly slowed down momentum in the entire rural economy. Public policies in the area of farm subsidies have led to distortions in land use and fertiliser consumption and have promoted the unsustainable exploitation of groundwater. The intensive wheat-rice

rotation in the Punjab-Haryana region has led to the depletion of groundwater and to soil salinisation in some areas. Balanced fertilisation has been affected by the heavy subsidy given to urea-based fertilisers, particularly in the context of a sharp rise in the prices of all chemical fertilisers. Soil micronutrient deficiencies are not being addressed. **Consequently, factor productivity is going down, with a consequent adverse impact on the cost of production.**

2.0 Silver Lining in the Dark Cloud

2.1 Fortunately, several significant initiatives have been taken during the last 2 years to reverse the downward trend in agricultural production and to find permanent solutions to the agrarian crisis. Some of the important new initiatives are:

- Bharat Nirman or a New Deal for Rural India.
- National Rural Employment Guarantee Programme.
- National Horticulture Mission.
- Expansion of agricultural credit and lowering of interest rates.
- National Rainfed Area Authority.
- National Fisheries Development Board.
- Changes in the Agriculture Produce Marketing Committee Act (APMC), to make them farmer-friendly.
- Integrated Food Law (currently the food processing industry is governed by 16 different laws).
- Warehouse Receipt Act, making warehouse receipts a negotiable instrument, thereby helping to prevent distress sales.
- Knowledge connectivity through the e-governance and Every Village a Knowledge Centre.

2.2 The time is therefore opportune for revitalising our agricultural progress by making agrarian prosperity the bottom line of government investment and agricultural and rural development policies.

2.3 Data and analysis relevant to the preparation of a **Draft National Policy for Farmers** are included in this chapter in order to provide the rationale underlying the recommendations. The conclusions of the Mid-term Appraisal of the Tenth Plan conducted by the Union Planning Commission are also included among the background documents (Annexure 1, Chapter 3.1), in order to emphasise the need to prevent a further fall in the productivity and economic viability of farming.

3.0 Next Steps

3.1 NCF is of the view that the process of preparation of a National Policy Statement is as important as the product. The present draft is the result of widespread consultations and field visits during the last 15 months. NCF proposes to provide a second draft in its fifth and final Report to be submitted to the Ministry of Agriculture on October 13, 2006, when the term of NCF ends. The second draft will be based on the views/comments on the present draft by Farmers' and Fisher People's Associations, as well as women's organisations, State Governments, financial institutions, Self-help Groups (SHGs), Cooperative Federations, private and public sector companies, mass media and all other stakeholders. State Governments have a special responsibility, since agriculture is a State subject under our Constitution. NCF hopes that the Ministry of Agriculture will get the draft policy finalised by early 2007, so that the policy can be adopted by Parliament and the National Development Council on the occasion of the 60th Anniversary of our Independence.

4.0 Draft National Policy for Farmers

Box I

Mission Statement

- To mainstream the human dimension in all farm policies and programmes and to give explicit attention to issues relating to women in agriculture.
- To end the era of farmers' suicides and to restore pride and confidence in India's agricultural capability.
- To complete the unfinished agenda in land reforms and to initiate comprehensive asset and aquarian reforms in rural India.
- To enhance the income, livelihood, nutrition and health security of farm, fisher, tribal, pastoral and agricultural labour families through mutually reinforcing packages of technology, techno-infrastructure, services and public policies.
- To protect and improve the land, water, biodiversity and climate resources essential for sustained advances in the productivity, profitability and stability of major farming systems, and thereby the livelihood security of nearly two-thirds of our population.
- To introduce measures which can help to attract and retain youth in farming and which can confer the power of scale to small and marginal farmers both in the production and post-harvest phases of farming, thereby enhancing their income and competitiveness.
- To strengthen the biosecurity of crops, farm animals, fishes and forest trees for safeguarding both the work and income security of farm and fisher families, and the health and trade security of the nation.

4.1 Definition

For the purpose of this Policy, the term “farmers” will include landless agricultural labourers, sharecroppers, tenants, small, marginal and sub-marginal cultivators, farmers with larger holdings, fishers, dairy, sheep, poultry and other farmers involved in animal husbandry, pastoralists, plantation workers, as well as those rural and tribal families engaged in a wide variety of farming related occupations such as sericulture and vermiculture. The term will include tribal families sometimes engaged in shifting cultivation and in the collection and use of non-timber forest products. In all cases, both men and women will receive equal attention. This Draft Policy aims to suggest methods of improving the income and work security of such citizens of the country who not only constitute the genuine majority of our population, but also represent the largest private sector enterprise of the country.

4.2 Ending the Era of Farmers' Suicides

4.2.1 We live on this earth as guests of the green plants which convert sunlight into food, and of the farm women and men who toil in sun and rain to cultivate them. It is

therefore sad and shameful that the very farmers making life possible for others are forced to take their own lives. **Ending this chapter in our national history must be the first and foremost task of Government.** From its first Report, NCF has been giving both generic and location specific recommendations to end this sad chapter of our agricultural history. A 'Livelihood Security Compact', programme for instilling hope in the minds of those farmers who have lost all hope, and specific steps for solving the Vidharbha agrarian crisis have been proposed in the earlier Reports of NCF. The establishment of Village Knowledge Centres managed by the widows and/or sons and daughters of the farmers who have taken their lives will help to spread the right information, at the right time and to the right people, particularly in the areas of credit, insurance and trade literacy. Such a programme is being launched on May 1, 2006 (Maharashtra Day) at Nagpur. Also, the 'Hope Generation Teams' to be set up by Agricultural Universities should start functioning immediately, since the summer vacation will afford an opportunity to scholars and staff to stay in the 'Suicide Hot Spots' and spread a message of confidence in our agricultural future.

4.2.2 Ours is a nation of subsistence farmers, who constitute one fourth of the global farm population. There is little or no evidence that policy is being shaped by that reality. Farming is the largest people's private sector and not a corporate domain. The immediate step Government must take is to implement the NCF recommendation for a Price Stabilisation Fund. While a multiplicity of factors is driving the farm suicides, the greatest worry of the farmers relates to the price he is likely to get for his produce at harvest time. This has proved true regardless whether the produce is cotton, onions, groundnut, sugarcane or pulses. **Assured and remunerative price for farm produce is the core issue. Farmers should be assured that there will be strong Government intervention to prevent distress sales.**

4.2.3 There are no conclusive figures on the number of farmers' suicides. According to media reports, it appears that this number may be about 30,000 across six States. There is need for a proper "Suicides Census". Gram Sabhas may be involved in this process. The review and overhaul of credit operations ought to be far more transparent and rigorous. The Indian Trade Organisation (ITO) should come into

existence soon as a watchdog body to safeguard farmers' interests. The ITO could be supported by a Trade Advisory Body for Small Farmers. The objective would be to allow farmers to engage with decision makers in the formulation of appropriate policy responses to developments in agricultural markets.

4.2.4 Another area where the Central and State Governments can help is input costs. High quality inputs should be made available at affordable prices at the right time and place, along with credible extension advice. Today, the farmer depends on the input dealer who sells seeds, pesticides and fertilisers for technical advice. In many "Suicide Hot Spot" areas, the input dealer is also the moneylender, the scientist, agricultural expert, counselor and buyer all rolled into one.

4.2.5 NCF urges State Governments and all concerned not to place the underlying causes for the increasing number of farmers' suicides under the carpet and delay action on its recommendations. Some immediate financial support to the bereaved families is important, but not adequate. Until such time we do not recognise the root causes of this sad chapter of our agricultural history, remedial actions will largely be cosmetic.

4.3 Asset Reform

4.3.1 The purpose of asset reform is to ensure that every man and woman in villages either possess or has access to a productive asset like land, livestock, fishpond, homestead farm or income through an enterprise, or a market driven skill, so that household nutrition security is safeguarded, and children are able to go to school. Child labour has to be rendered unnecessary by improving the economic wellbeing of the adults.

4.3.2 Land

4.3.2.1 The major assets available to farm families are land, water, livestock, biodiversity, fisheries and forestry. The ownership of land is highly skewed with over 60 per cent of the rural households owning less than one hectare. Farmers owning over one hectare comprise nearly 28 per cent of rural families. The landless population amounts to

11.24 per cent of rural households. These data relate to 1991-92 and it is obvious that by now there would have been further fragmentation of holdings leading to a much larger incidence of very small operational holdings. The slow growth of opportunities in the non-farm employment sector has led to the proliferation of tiny and economically non-viable holdings. **Increase in small farm productivity and creating multiple livelihood opportunities through crop-livestock integrated farming systems as well as agro-processing have become urgent tasks.** The first and foremost task of the National Policy for Farmers should be in the area of land reform with particular reference to tenancy laws, distribution of ceiling surplus land, attention to common property and wasteland resources and the consolidation of holdings. Following the conferment of land rights to women under the Hindu Succession Amendment Act (2005), the provision of appropriate support services to women farmers has become urgent. Joint Pattas are essential for women to get access to credit. Also, there should be stringent restrictions on the diversion of prime farmland for non-farm purposes.

4.3.2.2 Methods of providing the power of scale to small farmers will have to be developed and popularised on a win-win basis for all concerned. Such methods should include the following:

- i. Cooperative Farming – This has by and large not been successful except in the case of the dairy industry. Marketing cooperatives are successful since members cooperate on the basis of enlightened self-interest. Other forms of service cooperatives are yet to emerge on a significant scale. For example there is scope for Irrigation Water Cooperatives which can operate community tubewells, lift irrigation etc. Cooperative farming will be ideal for small and marginal farmers since the cooperative can provide centralised services like tractors and other farm equipment as well as threshing and drying machines, to support small scale decentralised production. This will bring down the cost of production and enhance the quality of produce and thereby of income. Instead of denying small farmers the many opportunities provided by cooperatives, the emphasis should be on the introduction of appropriate reforms to make them small farmer-friendly and efficient. Cooperative credit institutions also need revamping and revitalisation.

- ii. Group Farming by Self-Help Groups – So far, Self-Help Groups (SHGs) have been mainly organised for supporting micro-enterprises operated by women with the help of micro-credit. With the growing diminution in the size of operational holdings, it will be useful to promote SHGs at the production end of the farming enterprise involving men. This will be particularly helpful in the case of integrated pest management, integrated nutrient supply, scientific water management and improved post-harvest technology. SHGs will however become sustainable, only if they have backward linkages with technology and credit and forward linkages with processing and marketing organisations. Steps will have to be taken to convert micro-finance into livelihood finance through appropriate support systems. There is also need for establishing **SHG Capacity Building and Mentoring Centres**.

- iii. Small Holders' Estates – In its earlier reports, NCF has recommended the formation of Small Holders' Cotton, Horticulture, Herbal, Poultry and Aquaculture Estates. The aim is to promote group cooperation among farmers living in a village or watershed or the command area of an irrigation project in improving productivity, reducing the cost of production and entering into marketing contracts with textile mills, food processing industries, pharmaceutical companies, fish marketing agencies etc. Such Small Farmers' Estates can also manufacture products under brand names and enhance income security. Group insurance will then become feasible. Agri-clinics and Agribusiness Centres could be linked to such Estates.

- iv. Contract Farming – Symbiotic contracts which confer benefits to both producers and purchasers will be ideal for ensuring assured and remunerative marketing opportunities. At the moment, the Central and State Governments through organisations like Food Corporation of India (FCI), NAFED, etc., ensure the operation of the Minimum Support Price (MSP) announced by Government. Contract cultivation based on a well-defined Code of Conduct will be helpful to small producers in getting good quality input, a fair price as well as prompt payment for their produce. A **Code of Conduct for Contract Farming** will have to be developed for major groups of farm commodities like vegetables, fruits, flowers, medicinal

- plants, tuber crops, pulses, oilseeds, sugarcane, cereals, cotton etc. Both production and marketing contracts are growing. **Available evidence indicates that direct contract between the producer and purchaser is more advantageous to small farmers than indirect contract through intermediary agencies.** A National Federation of Farmers entering into contract cultivation will be useful to identify the best pro-farmer practices that will ensure a win-win situation for both producers and purchasers.
- v. Corporate Farming – The scope for corporate farming is rather limited except in cases relating to the restoration of degraded lands and cultivation of raw material for industries like paper, rayon, furniture, building materials, etc. The corporate sector could bring the best available technology for upgrading degraded lands and for getting high yields through improved technology. The cultivation of crops for biofuels also presents opportunities for corporate farming. However, care has to be taken to ensure that common property resources or grazing lands are not allotted to corporations, thereby leading to a shortage of vital grazing areas for sustainable livestock production.
- vi. Company Farming – Private limited companies, registered under the Companies (Amendment) Act, 2002 are now coming into existence in the area of seed production and the production of biofertilisers, biopesticides and other forms of biological software essential for sustainable agriculture. Small farmers can then become shareholders in companies managed by them.
- vii. Government State Farms – In the fifties, there was considerable emphasis on the development of large State farms on the model of the farms promoted by the former Soviet Union. Most such farms are now being used for purposes other than the production of food crops. The land available with State Farms could be made available to women self-help groups for the production of hybrid and improved seeds of crop plants, vegetables, fruits and flowers, as recommended by NCF in its First Report. Also, State Farms could be used for developing **Living Heritage Gene Banks** of the Germplasm of local breeds of cattle, sheep, poultry, etc. This will be

very helpful to preserve our animal genetic wealth. Where possible, they should be handed over to farmers' organisations or NGOs for management. Such farms should be given the responsibility of assisting and encouraging community-based conservation of livestock breeds and species in the surrounding areas. They should be run on scientific lines and monitored by a committee consisting of local farmers' representatives, scientists and NGOs.

4.3.2.3 To sum up, even the ownership of a small plot of land will help the family to improve household income and nutrition security. Wherever feasible, landless labour households should be provided with at least 10 cents per household which will give them space for kitchen gardens and animal rearing.

4.3.3 Livestock

4.3.3.1 According to the 17th Livestock Census released in January 2005, India has 57 per cent of the world's buffalo population and 16 per cent of the cattle population. Also, we rank third in sheep wealth and second in goat population. The contribution of the livestock sector to agricultural GDP has increased from 18 per cent in 1981 to 26 per cent in 2004-05. **It is clear that livestock and livelihoods are very intimately related in our country and that crop-livestock integrated farming is the pathway for farmers' well being.**

4.3.3.2 The ownership of livestock is much more egalitarian since resource poor farming families own a majority of cattle, buffalo, sheep and goats. The major constraints experienced by such families relate to fodder, feed and healthcare. There is an urgent need for establishing **Livestock Feed and Fodder Corporations** to assist SHGs to produce good quality animal feeds. Such a Corporation should be a facilitating body for providing seeds and planting material of improved varieties to SHGs for local level production. The productivity of our livestock is low and can be easily improved through better nutrition and healthcare. Agri-clinics operated by veterinary and farm science graduates will be very helpful to enhance the income of livestock owners through higher productivity. At the same time, crop-livestock mixed farming systems should be promoted since this will help to improve both income and household nutritional security.

It should be noted that suicides by farmers are rare in areas where there are multiple livelihood opportunities. India's achievement in becoming the largest producer of milk in the world has an important message, namely concurrent attention to all links in the production, processing and marketing chain through cooperatives and group endeavour will lead to striking results.

4.3.3.3 The Union Finance Minister in the recent budget has announced that banks are being asked to provide a separate window for SHGs as well as for joint liability groups of tenant farmers. This window will provide an opportunity for achieving a fodder and feed revolution for enhancing the health and productivity of our unique livestock wealth. Livestock insurance also needs revamping and be made accessible to small livestock owners. Livestock rearing can be linked to organic farming, so that there is value addition to the produce from small farms.

4.3.4 Fisheries

4.3.4.1 Both coastal and inland fisheries provide employment and livelihoods to millions of families. There is considerable scope for improving the income of fisher families on an environmentally sustainable basis by introducing Integrated Coastal Zone Management and scientific fish rearing, harvesting and processing. In the area of public policy, there is need for well-planned **Aquarian Reforms** addressing the following issues:

- Conflicts between mechanised and artesanal fishing enterprises.
- Conflicts between aquaculturists and agriculturists as well as local population because of salt water entering into the aquifer, and pollution caused by intensive systems of aquaculture.
- Lack of well-defined policies for the allocation of ponds and reservoirs to landless labour and *dalit* families for practicing modern aquaculture based on composite fish farming.
- Concerns of environmentalists in the areas of seaweed farming and introduction of exotic carps and other alien invasive species.

4.3.4.2 Therefore, aquarian reforms should address issues in the areas of ecology and equity and should enable resource poor fisher and landless labour families to earn their livelihood from capture and culture fisheries in a sustainable manner. The other aspects of policy which need attention are fish seed and feed production, post-harvest technology and subsistence allowance for fisher families during the ‘close season’ period. The subsistence allowance per fisher family should be at least Rs.1500 per month during the ‘close season’. The establishment of a **National Fisheries Development Board (NFDB)** on the lines of the National Dairy Development Board is a welcome step. The guiding principles for NFDB should be ecology, economics, gender equity and employment generation. Such a Board should have representatives of fisher communities representing both the capture and culture aspects of fish farming. Also, the Board should establish “**Fish for All Training and Capacity Building Centres**” which can impart training to fisher families in all aspects of the capture/culture–consumption chain. Quality literacy is important to safeguard the harvested fish from *salmonella* and other infections capable of producing mycotoxins. Another area requiring attention is the standardisation of Low External Input Sustainable Aquaculture Techniques (LEISA) which will be environment friendly. The National Fisheries Development Board should also help those engaged in small scale ocean fisheries by providing Mother Ships which can ensure hygienic handling of catch in the mid-ocean. Other forms of centralised services to support the decentralised capture and culture fisheries sectors are also important. Special attention needs to be given to the training needs of fisher women who handle the harvested catch. The National Aquaculture Authority and the National Fisheries Development Board should work together, so that capture fisheries and aquaculture become mutually reinforcing in improving the economic well being of fisher families and the nutritional well-being of consumers.

4.3.4.3 Inland aquaculture including ornamental fish culture and air breathing fishes can provide additional income to resource poor families. This is why well-defined aquarian reforms are essential to provide fisher families, particularly women, with the necessary space in ponds and reservoirs. There are also opportunities for establishing artificial coral reefs to compensate for the loss of natural coral reefs. This will help to

revive the fish catch. The new Integrated Coastal Zone Management Policy should pay concurrent attention to the management of about 10 km of land surface and 10 km of sea surface from the shoreline. This will ensure that land-based occupations do not cause damage to ocean fisheries as a result of release of effluents and other pollutants. The coastal communities can also be enabled to raise bioshields comprising mangroves, casuarina, salicornia, atriplex and other halophytic plants. This will help to safeguard the lives and livelihoods of coastal fisher and farm families in the event of cyclonic storms and seawater inundation, as for example like the one caused by **tsunami**. Coastal Bioshields, Biovillages and Village Knowledge Centres would help all families living in coastal areas to earn sustainable and secure incomes.

4.3.4.4 There is also need for a dynamic policy for the management and economic use of the Exclusive Economics Zone (EEZ) extending to nearly 2 million km² of sea surface, which amounts to two-thirds of the land surface available to India. This can be a priority task of the National Fisheries Development Board since it can help to generate both new income and employment opportunities for coastal communities.

4.3.5 Water

4.3.5.1 Irrigation water at the right time and in adequate quantities is now becoming a serious constraint in achieving both higher productivity and stability of farming in many parts of the country. Jal Swaraj or self-sufficiency in irrigation water availability is the need of the hour. Though the total rainfall in our country is satisfactory, its distribution is highly skewed, with most of the rainfall occurring in 100 hours in a year. Therefore, rainwater harvesting and aquifer recharge have become essential for ensuring the stability of supply. They must be made mandatory. Water quality also needs attention since water often gets polluted at source with pesticide residues and toxic chemicals. There is also the problem of arsenic poisoning in groundwater. The problem of arsenic poisoning abounds because people residing in regions blessed with abundant surface water such as West Bengal increasingly depend on the groundwater for drinking and irrigation purposes. There is an urgent need to remove this dependency by making available other safe drinking water options—for instance, surface water, which is arsenic free. West

Bengal has 7000 cubic meter of available surface water per capita. Effective management of surface water including rivers, canals, water bodies, lakes, ponds and rainwater can reduce groundwater dependency in irrigation.

4.3.5.2 Besides problems relating to adequacy and quality, there are serious issues concerning equity in water distribution. Water is a public good and a social resource and not private property. The privatisation of water supply distribution is fraught with dangers and could lead to water wars in local communities. **A nationally debated and accepted strategy for bringing 10 million hectares of new area under irrigation under the Bharat Nirman programme should be developed.** The Polavaram Project to be built across the Godavari in Andhra Pradesh is a case in point. Different viewpoints can be reconciled only by dialogue and consensus building; Taking **Prior Informed Consent** of the community that will be affected by a project should be a precondition for approval of a project.

4.3.5.3 **Further, increasing supply through rainwater harvesting and recharge of the aquifer should become mandatory.** All existing wells and ponds should be renovated. Demand management through improved irrigation practices, including sprinkler and drip irrigation, should receive priority attention. A Water Literacy movement should be launched and regulations should be developed for the sustainable use of groundwater. Seawater farming should be promoted in coastal areas through the cultivation of mangroves, salicornia, casuarina and appropriate halophytic plants. The conjunctive use of rain, river, ground, sea, and treated sewage water should become the principal method for the effective use of available water resources. In water scarce areas, the land use system should place emphasis on the cultivation of high value–low water requiring crops, such as pulses and oilseeds. Pulses and oilseed villages can be promoted where all farmers work together in harvesting rainwater and sharing the water equitably for growing pulses and oilseeds. There is need for a **Pani Panchayat** in every village consisting of the Members of the Gram Sabha who could help in getting the available water distributed on an equitable basis. **Where large scale dislocation of families living in the areas which will be submerged as a result of the construction of large dams or linking of rivers is likely, the Gram Sabhas of the affected villages should be involved**

in the preparation of the rehabilitation plans. This should be done at the time the large dam or other steps like the interlinking of rivers are in the drawing board. Proactive consultations and consensus building will help to save both avoidable human hardship and suffering and protracted litigation. Appropriate legislation should also be in place to prevent further exploitation of groundwater in *Dark Blocks* by individual farmers. Farmers also need technical advice in the selection of sites for borewells. A farmer-friendly insurance cover should be in place for failed wells.

4.3.5.4 Land use decisions are also water use decisions. Hence, in areas characterised by water scarcity, the cropping pattern should be designed in such a manner that low water requiring, but high value crops like pulses are grown. Water Users' Associations are now being encouraged for maximising the benefits of the available water. The National Rainfed Area Authority could help in promoting scientific water harvesting, sustainable and equitable use and the introduction of efficient methods of water use like drip irrigation. There should be symbiotic interaction between the National Rainfed Area Authority, the National Horticulture Mission, the Technology Missions and the National Rural Employment Guarantee Programme.

4.3.5.5 There are many schemes currently in progress with support from the Central and State Governments to harness the following sources of water for agricultural, industrial and domestic purposes.

- groundwater;
- rainwater;
- surface water including rivers and reservoirs;
- recycled water by treating effluents and sewage water; and
- sea water.

4.3.5.6 All the above sources of water can be utilised both in a conjunctive manner and separately using the most efficient technologies available. For example, all along the coast as well as in the Andaman and Nicobar Islands and Lakshadweep Group of Islands, seawater farming could be promoted for coastal area prosperity. This will involve the

introduction of agro-forestry systems which combine the cultivation of mangroves, salicornia, casuarinas, coconut, cashewnut etc. along with prawn culture. Such agro-aqua farming systems will open up great opportunities for income and employment generation in coastal areas on a sustainable basis, provided they are based on sound ecological principles.

4.4 Biodiversity

4.4.1 The Government of India has already enacted a Plant Variety Protection and Farmers' Rights Act (PVPFR), 2001 and Biodiversity Act, 2002. The implementation of both these Acts has also begun. The PVPFR Act recognises the multiple roles of farmers as cultivators, conservers and breeders. Detailed guidelines should be developed for ensuring that the rights of farmers in their various roles are protected. For example, most farmers who are cultivators are entitled to **Plant Back Rights**. This implies that they can keep their own seeds and also enter into limited exchange in their vicinity. Farmers as breeders have the same rights as professional breeders and they can enter their varieties for registration and protection. Farmers as conservers are entitled to recognition and reward from both the National Gene Fund and the National Biodiversity Fund. Quite often, the conserved material of great value could have been the contribution of a community and not an individual. Therefore, the procedures adopted should be such that community contributions can be recognised and suitably rewarded. Breeders should be required to indicate in the pedigree of the variety for which they are seeking protection, the names of the landraces and the areas from where they were collected, while submitting their application for registration. For example, *Oryza nivara* from Eastern UP was the major donor of *tungro* virus resistance in improved rice varieties like IR 36 which occupied over 10 million hectares in South and South East Asian countries.

4.4.2 The provisions in the Biodiversity Act, for prior informed consent and benefit sharing, are equally important for tribal and rural women and men. Invariably much of the conservation work has been done by women. Therefore, the recognition procedures should take into account gender roles in the conservation and enhancement of bioresources.

4.4.3 There is also need for assisting tribal and rural women and men in revitalising their *in situ* on-farm conservation traditions. Participatory breeding procedures, involving scientists and local conservers, would be particularly helpful in improving the productivity of landraces. Genetic engineers, working in public-good institutions should perform the role of pre-breeding, i.e., development of novel genetic combinations for important economic traits, such as resistance to biotic and abiotic stresses. They should then work with farmers in participatory breeding programmes, so that genetic efficiency and genetic diversity can be integrated in an effective manner. Genetic homogeneity enhances genetic vulnerability to pests and diseases. This is why the integration of pre-breeding and participatory breeding would help to insulate small farmers from the risks of pest epidemic.

4.4.4 There is also need for launching **genetic and legal literacy** movements in areas rich in agro biodiversity, such as the North East Region, Western and Eastern Ghats and the arid zone. **Genome Clubs** can be organised in rural schools for imparting an understanding of the importance of genetic resources conservation. Legal literacy would help tribal and rural families to understand the provisions in PVPFR and Biodiversity Acts with reference to their entitlements. If such steps are taken, we can prevent some of our genetic paradises becoming ‘hotspots’ from the point of view of threat to biodiversity. Farm and tribal families should be trained in methods of preventing gene erosion. Coastal biodiversity, including coral reefs and sea grass beds, are also in urgent need of conservation. Tribal, farm and fisher families can play a major role in this area provided they are involved as partners in the genetic conservation movement. Traditional methods of conservation like Sacred Groves need to be supported and encouraged.

4.4.5 Animal Genetic Resources

4.4.5.1 Apart from conserving genetic diversity and acknowledging the vital role of livestock keepers, there is need to document the indigenous knowledge of pastoral communities about animal maintenance and breeding. Community-based conservation and development of indigenous livestock breeds and species should be encouraged. There should be a special focus on both hot and cold arid and semi-arid areas where the genetic

diversity and associated indigenous knowledge are particularly well developed. Wastelands could be used to promote *in situ* conservation of animal breeds, even those that are amenable to *ex situ* conservation. A policy focus will need to be created, to conserve grazing lands, to enable the conservation of animal genetic resources. Documentation of special traits should be done in the context of the new biology and new nutritional needs or for other economic traits like hide/ leather quality. There is need for offshore Genetic Resource Centres for screening germplasm for resistance to serious diseases like the H5N1 strain of avian influenza virus.

4.4.5.2 The burden of conservation cannot be allowed to fall on the largely impoverished communities that maintain animal genetic diversity. A system of rewards and incentives must be developed to enable and motivate people to conserve their breeds under the Biodiversity Act. The Biodiversity Fund should be used for such purposes. Livestock keepers' inherent rights to continue to use and develop their own breeding stock and breeding practices should be acknowledged. The government must recognise these rights, acknowledge livestock keepers' contribution to the national economy, and adapt its policies and legal frameworks accordingly. This is particularly important to pre-empt attempts to use the intellectual property system to obtain control over animal resources that are an important component of the country's food and livelihood security systems.

4.4.6 Plant Genetic Resources

4.4.6.1 A nationwide programme needs to be launched for the *ex situ* and *in situ* conservation of plant genetic resources at the field/farmer level. Farmer level gene/seed banks need to be put up in areas where traditional varieties are saved. Some State governments, as for example Jharkhand is promoting a 'Seed Exchange Programme' under which farmers are given hybrid rice in exchange for their traditional rice varieties. There is need to ensure that in this process, the traditional rice gene pool is not lost. Participatory management of National Parks, Biosphere Reserves and Gene Sanctuaries should be promoted.

4.5 Climate Change

4.5.1 Climate change leading to adverse changes in temperature, precipitation and sea level is no longer just a theoretical possibility. Most experts agree that we are already beginning to experience the impact of global warming as evident from the melting of glaciers and Antarctic and Arctic ice caps. Coastal storms and cyclones are also increasing in frequency and intensity. Droughts and floods are likely to be more frequent. Although climate change is a product of the unsustainable consumption of non-renewable forms of energy by industrialised countries, the harmful impact of climate change will be felt more by poor nations and the poor in all nations due to their limited coping capacity. Steps will have to be taken to standardise proactive measures that can reduce the vulnerability to climate change. Based on computer simulation models, contingency plans and alternative land and water use strategies will have to be developed for each major agro-climatic zone. Protecting the livelihood security of farm and fisher women and men from adverse climatic changes has to become a priority task. In drought and flood prone areas, experienced farm women and men can be trained as ‘Climate Managers’.

4.6 Science and Technology

4.6.1 Science and Technology are the drivers of change in farm operations and output. New technologies which can help to enhance productivity per units of land and water are needed for overcoming the prevailing technology fatigue. Frontier technologies like biotechnology, information and communication technology, renewable energy technologies, space applications and nanotechnology provide uncommon opportunities for launching an ever-green revolution, capable of improving productivity in perpetuity without ecological harm. In order to ensure social inclusion in access to new technologies, public investment in socially relevant agricultural research should be stepped up under the umbrella of the National Agricultural Research System (NARS) which comprises large numbers of ICAR institutions, State Agricultural Universities, All India Coordinated Research Projects and National Bureaus. NGOs carrying out research should also be encompassed under the NARS umbrella.

4.6.2 The research strategy should be pro-nature and pro-small farmer oriented. For example, in the case of Bt Cotton, public good institutions should concentrate on developing varieties rather than hybrids, so that farmers can keep their own seeds. Even now 80 per cent of the seeds used in agriculture come from farmer-seed systems. These will have to be strengthened and supported through infrastructure for community managed Seed Villages and Seed Technology Training Centres. In order to spread scientific literacy and to remove inadequately informed apprehensions about the risks and benefits associated with biotechnology and other new technologies, atleast one woman and one male member of every *Panchayat* should be trained as **Farm Science Managers**.

4.6.3 Among the other steps, which need urgent implementation are the addition of post-harvest technology wings to Krishi Vigyan Kendras, and the organisation of lab-to-land demonstrations in the area of post-harvest technology, agro-processing and value addition to primary products. This will be important for providing skilled jobs in villages to landless labour families. Also, there is need for establishing **Farm Schools in the fields of outstanding farmers** like Krishi and Udyan Pandits and awardees of nationally recognised awards for farmers like the Karshakhashree of Malayala Manorama and ASPEE Awards. Farmer-to-farmer learning can speed up the process of technological upgrading of crop and animal husbandry, fisheries and agro-forestry. Priority could also be given for the establishment of Farm Schools in the fields of eminent horticulturists including those, who are raising organic vegetables and fruits and tissue culture propagated planting material. Human resource development holds the key to breaking the stagnation in agricultural growth and productivity.

4.6.4 Organic farming requires greater scientific inputs than chemical farming. This area of research hence needs high level multidisciplinary attention. Certification procedures which are internationally recognised are also needed. Organic farming zones could be created in medicinal plants and other crops which are likely to be in demand in national and international markets. Science for the small farmers should be the motto since whatever new technologies are adopted by resource poor farmers will easily spread among large farmers. The reverse may not happen.

4.6.5 In intensive agriculture areas like the Punjab and Haryana, crop diversification may be beneficial from the point of view of ecology, economics and employment generation. **However, any advice on crop diversification must be accompanied by steps to ensure effective market support for the alternative crops.**

4.6.6 Agriculture is becoming knowledge intensive. Knowledge is often a substitute for land and water, since it helps farmers to produce more from the same plot of land and same quantity of water. This is why computer-aided and internet connected Village Knowledge Centres assume great importance in the movement for a technological upgradation of both farm operations and farming efficiency.

4.6.7 IPR policies should make provision for compulsory licensing of rights in the cases of research products and processes of value to resource poor farming families. In all cases of health and food security, social inclusion should be the guiding factor in the development of IPR.

4.6.8 Agro-meteorology

4.6.8.1 The national capacity in short-, medium- and long-term weather forecasting is quite considerable. What is now important is to convert generic information into location-specific land use advice, based on cropping patterns and water availability. The Agro-meteorological Advisories issued by Indian Agromet Advisory Service Centre, Pune, can be used by **Panchayat Level Farm Science Managers**, trained to give appropriate land use suggestions. Also, the **National Land Use Advisory Service**, recommended by NCF in its Third Report, would help to make the information relevant to both farm and fisher families. In the case of marine fisheries, data on wave heights and location of fish shoals are now available. These will have to be transmitted to the fishermen before they move into the sea. An integrated internet – FM or HAM radio service would be very helpful to fishermen on the high seas.

4.6.8.2 Timely and dependable advice on weather conditions will be very helpful to farm families to plan their sowing and the other operations. The National Land Use Advisory Service in collaboration with *Panchayat* Level Farm Science Managers can

help to bring the benefits of the advances in agricultural meteorology to farm and fisher populations.

4.6.9 Agricultural Biosecurity

4.6.9.1 Agricultural Biosecurity covering crops, trees and farm and aquatic animals is of great importance since it relates to the work and income security of 70 per cent of the population, and food and trade security of the nation. There is need to develop a **National Agricultural Biosecurity System (NABS)** with the following aims:

- Safeguard the income and livelihood security of farm and fisher families as well as the food, health and trade security of the nation through effective and integrated surveillance, vigilance, prevention and control mechanisms designed to protect the productivity and safety of crops, farm animals, fishes and forest trees.
- Enhance national and local level capacity in initiating proactive measures in the areas of monitoring, early warning, education, research, control and international cooperation, and introduce an integrated biosecurity package comprising regulatory measures, education and social mobilisation.
- Organise a coordinated **National Agricultural Biosecurity Programme** on a hub and spokes model with effective home and regional quarantine facilities capable of insulating the major agro-ecological and farming systems zones of the country from invasive alien species of pests, pathogens and weeds.

4.6.9.2 The NABS should have the following three mutually reinforcing components:

- i. **National Agricultural Biosecurity Council (NABC)** chaired by the Union Minister for Agriculture to serve as an apex policymaking and coordinating body.
- ii. **National Centre for Agricultural Biosecurity (NCAB)** having four wings dealing with crops, farm animals, living aquatic resources and agriculturally important micro-organisms and dealing with the analysis, aversion and management of risks, as well as the operation of an early warning system. NCAB will provide the Secretariat for the National Agricultural Biosecurity Council.

- iii. **National Agricultural Biosecurity Network (NABN):** NCAB will serve as the coordinating and facilitating centre for a National Agricultural Biosecurity Network designed to facilitate scientific partnerships among the many existing institutions in the public, private, academic and civil society sectors, engaged in biomonitoring, biosafety, quarantine, and other biosecurity programmes to help maximise the benefits from the already existing scientific expertise and institutional strengths.

4.6.9.3 The establishment of a National Biosecurity Council, National Centre for Agricultural Biosecurity and a National Agricultural Biosecurity Network will help us to strengthen considerably our ability to undertake pro-active measures to prevent the outbreak of pandemics and the introduction of invasive alien species. Such an **Agricultural Biosecurity Compact** is an urgent national need since prevention is always better than cure. The details on the structure and organization appear in chapter IV of this Report.

4.7 Inputs

- i. **Seeds:** Good quality seeds and disease free planting material are essential for crop productivity and security. Hybrids are now becoming available in many crops. Seeds of such hybrids can be produced by women SHGs on contract with seed companies. Mutually beneficial farmer-seed company partnership can be fostered. In the case of new varieties, foundation seeds could be provided to SHGs. Proper technical guidance and training in seed technology will be necessary for SHGs to produce high quality seeds. This will be an ideal area for private sector–farmers’ association partnership.
- ii. **Soil Health:** Pricing policies should be such that balanced fertilisation is promoted. As recommended in the First Report of NCF, every farm family should be issued with a Soil Health Passbook, which contains integrated information on the physics, chemistry and microbiology of the soils. In particular, more laboratories to detect micronutrient deficiencies are urgently needed. **Soil Health Enhancement holds**

the key to raising small farm productivity. There is also need for proper technical advice on the reclamation of wastelands and on improving their biological potential.

- iii. Implements: Small farmers need implements which can enable them to sow the crop at the right time and manage weeds and adopt improved post-harvest technology. Women need implements which can reduce drudgery and enhance output.
- iv. Vaccines and Sero-diagnostics: Major gaps in the facilities presently available will have to be filled in the case of important animal diseases. Biotechnology research in the area of vaccine development needs to be stepped up. Public-private partnerships should be encouraged in this area.
- v. Fish Seed and Feed: Good quality and disease free fish seed holds the key to successful inland aquaculture. Suitable SHGs could be trained in induced breeding and fish seed production. Similarly, feed at affordable prices is another requirement. Fish farmers' cooperatives could organise the production of feed and seed with technical assistance from the National Fisheries Development Board.
- vi. Animal Feed: Inadequate nutrition is the primary cause of low milk yield in dairy animals. There is both under nutrition and malnutrition. Annual milk production can reach over hundred million tonnes if the nutritional requirements of cows and buffaloes can be met. Here, both conventional and non-conventional approaches are needed. Many of the cellulose wastes can be converted into good animal feed through appropriate treatment and enrichment. Breeding of nutrition rich fodder plants should receive high priority. Established technologies such as baling and ensiling, need to be disseminated widely.
- vii. Support Services: A few other essential support services needed for higher farm animal productivity are-establishing genetic evaluation systems for indigenous breeds as well as crosses so that selection can lead to genetic improvement of

production characteristics upgrading of breed through artificial insemination, cross breeding suited to the farmers' resources and improved processing and marketing.

viii. There are other areas of input supply also which merit intensive attention. Some examples: bio-fertilisers and bio-pesticides, irrigation equipment, assured power supply, postharvest technology and infrastructure and rural godowns and warehouses.

4.8 Farmer Categories needing Special Attention

4.8.1 Landless Agricultural Labour

4.8.1.1 Agriculture accounted for 21 per cent of GDP in 2004-05. Employment in the farm sector however amounted to as much as 60 per cent in 1999-2000. This represents a decline of just 16 percentage points since 1950-55. Parts of the non-agricultural economy are on a roll, while the agricultural economy is in a state of distress. Those most affected by the agrarian crisis are the ones without assets, particularly women. Men often migrate to towns and cities in search of jobs. The National Rural Employment Guarantee Programme should help to save the assetless poor from starvation. However, it cannot lift them out of poverty.

4.8.1.2 China has addressed the need for creating opportunities for skilled non-farm employment through a massive Township and Village Enterprises (TVE) movement. There were 21.15 million TVEs in China at the end of 2001, employing a total of 130 million workers. Their added value of 29356 billion Yuan (3669.5 billion US \$) accounting for 31.1 per cent of the national total (He Kang, 2006, China's Township and Village Enterprises, Foreign Language Press, Beijing)

4.8.1.3 Several programmes have been initiated by KVIC and NGOs for generating off- and non-farm employment. The SHG movement is helping women, particularly in South India to come out of the poverty trap. There is need for a counterpart to NREGP in the skilled employment sector. Initiatives like Small Farmers' Agribusiness Consortium (SFAC), Agri-clinics and Agribusiness Centres, Food Parks etc., which could have provided substantial additional livelihood opportunities to the rural poor are yet to take

off. **It would be useful to integrate all of them into one initiative like China's TVEs and launch a Rural Non-farm Livelihood Initiative** for families without land or other productive assets. The joyful learning programme through computer aided adult/functional literacy procedures should help to accelerate the progress of eradication of illiteracy. **The Rural Non-farm Livelihood Initiative** could have as its core the KVIC and restructured SFAC and bring all rural non-farm employment programmes together, in order to generate convergence and synergy among them. A Consortium approach could be adopted involving Central and State Governments, Academia, NGOs, public and private sector industry and financial institutions. The sooner we initiate a massive and market-driven rural non-farm livelihood programme, the greater will be the prospect for peace and security in rural India. Also, food security in India is best expressed in terms of million person years of jobs, rather than in million tonnes of foodgrains. Where there is work, there is money. Where there is money, there is food. There is therefore need for a restructuring and revamping of organisations like SFAC, KVIC, Agri-clinics and Agribusiness Centres.

4.8.2 Women Farmers and Farm Labour

4.8.2.1 Public policies in the field of agriculture are yet to be engendered. Women-headed farm households suffer many handicaps in the areas of access to technologies, inputs and extension advice. Absence of titles to land prevents many *de-facto* women farmers from eligibility to institutional credit. Kisan Credit Cards have been issued mostly to men. Small farm productivity will not go up unless there are serious efforts in the areas of knowledge and skill empowerment of women in all aspects of the farming system. Considering the critical role played by women in post-harvest handling, processing, storage and marketing, women farmers and farm labour should be actively involved in the 60,000 Lab-to-Land post-harvest technology and agro-processing demonstrations recommended by NCF in its Third Report.

4.8.2.2 Joint *Pattas* should be issued speedily, particularly in the areas where there is outmigration of men. Also, women farm workers require support services like crèches, healthcare and functional literacy courses. Nutritional requirements of pregnant and

nursing women need to be met. Women SHGs need Capacity Building and Mentoring Centres. They should also be given land in State Farms for seed production, animal genetic resources conservation, etc. Women perform multiple functions. The aim of agricultural research and extension should be bringing about a reduction in the number of hours of work and an increase in the income per each hour of work, i.e. value-addition to the time and labour of women in agriculture. Training in food safety and quality management is essential, since women handle many of the post-harvest operations. Legal literacy with reference to their entitlements is equally important.

4.8.2.3 Credit continues to be a big problem for women farmers and even more so for women tribal farmers. Even though the criteria have been made flexible to include tenant farmers, ownership of land pattas is still the norm for extending credit. This implies a problem for women farmers (who are generally not title-holders), and also small and marginal farmers, who may be cultivating more land than that for which they have pattas. **Institutional credit for agriculture needs to be delinked from land titles.**

4.8.2.4 Women are not allowed to participate in the traditional decision-making bodies. This is a major constraint and leaves them out of decision-making and planning processes, as say in the case of NREGP. The majority of representatives of the farmers' union at the district level are men. The voices of women are not heard in such consultation bodies.

4.8.2.5 Without conscious effort to change this state of affairs and promotion of womens' skill and technological empowerment, the productivity of small farms will remain low and post harvest losses will remain high.

4.8.3 Tribal Farmers

4.8.3.1 Scheduled Tribes account for 8.6 per cent of the total population of the country. A majority of tribal communities across the country are dependent on forests for their livelihoods. These include cultivation (shifting cultivation in many parts of East and North East India), collection of fuel, fodder and a range of non-timber forest produce.

Tribal farmers are among the poorest within the category of farmers. These communities have customary norms for ownership of the forest areas, and also have community based mechanisms for protection and rejuvenation. Since the colonial period and even in the subsequent years of independence, several policies have been enacted related to forests and rights of forest dwelling communities (mostly tribals).

4.8.3.2 At the same time, protection and conservation of forests areas, has been under the control and administration of the State Forest Departments. There has been no systematic effort to demarcate areas that are used and managed by forest dwelling communities, or to provide legal rights and titles to these communities. The relation between the Forest Department and forest dwelling communities has largely been one of conflict and confrontation, with forest dependant communities being labeled ‘encroachers’. Forest communities are often forced to eke out their livelihoods through a pattern of bribes and fines. Attempts towards Joint Forest Management have been successful in some States. These however are dispersed and have also not been gender sensitive.

4.8.3.3 Historically, large development projects including dams and mines have also encroached upon large tracts of forest areas, and displaced several thousand forest dwelling communities, who are still struggling to survive in the absence of human-centred rehabilitation efforts. In most instances, in the absence of land titles, their very existence is not acknowledged. According to the Ministry of Environment and Forests, close to 10 lakh hectares of forestland have been released for various projects such as mining and industrial development. This area is almost as large as the same Ministry’s estimate of the total forestland area under ‘encroachment’ (13.4 lakh hectares).

4.8.3.4 Efforts to manage forest areas in the country will have to balance the demands for ecological conservation as well as protecting the livelihoods of forest dwelling communities. The following steps will be helpful in this respect:

- i. A clear statement of rights relating to what has traditionally been the domain of forest dwellers (both tribal and non-tribal) including lands traditionally occupied and resources traditionally used.
- ii. A clear process by which legitimate right-holders can be identified and recorded, and conversely, by which recent encroachers, and others who have been taking advantage of forest dwellers for vested interest, can be identified and alienated.
- iii. Explicit provisions to ensure conservation, including priority to provisions of wildlife/biodiversity/forest laws that are meant to ensure conservation, and special focus on protected areas and threatened species.
- iv. Strengthening of or changes in institutional structures that would enable more participatory processes of decision-making, including in the management of protected areas.
- v. Explicit provisions that enable forest-dwelling communities to say ‘no’ to, or seek changes in, ‘development’ projects that are impinging on their lands and resources.
- vi. Provisions for regular and open processes of dialogue, consultation, sharing of information, etc, involving communities, NGOs, officials, and others.
- vii. Clear monitoring provisions that enable a constant check on whether the rights are being honoured or not, as also whether the exercise of rights is respecting conservation parameters.

4.8.3.5 An important area of conflict between people and protected areas is the problem of compensation for damage caused to livestock, crop or life by animals. States must review the provisions and procedures for compensation for human life, livestock and crop damage. Compensation must be paid to families who continue to live within the reserves also. The joint forest management programme in the vicinity of the reserves must be revamped so that people living in the fringes can be given management decisions

and rights over the produce of forests; this will help to enhance the productivity of the resources as well.

4.8.3.6 Some of the generic problems of tribal farm families, also applicable in general terms for small and marginal farmers and women farmers across the board are the following:

- i. Lack of inputs especially quality seeds and fertilisers.
- ii. No mechanism for State purchase of output at Minimum Support Price.
- iii. Lack of attention to soil and water conservation that could facilitate double cropping.
- iv. Total lack of attention to livestock management especially fodder production. Free grazing of cattle during the rabi season is a major bottleneck for the taking of a second crop.
- v. Vesting of land in the community, absence of alienable rights with the farmers and the problems in creation of charge/mortgage on land in certain tribal areas constrain flow of institutional credit. The need is to develop innovative methods of collateral substitution and documentation procedures to overcome the difficulties.
- vi. Integrated farming projects based on plantations and inter-cropping (as granted under the Meso-area development programmes, or ITDP) again need to be delinked from land titles. At present, to gain sanction, a scheme of this nature requires the farmers to agree to provide at least 5 acres of land. In a hilly terrain and with continuous subdivision of plots over generations, this not only becomes difficult even for male farmers, but more so for women who lack titles. Yet, trees in particular are seen as women's resource, with the output used both for family nutrition and sale.
- vii. While KVKs and ATMA are now providing more of agriculture and resource-related training, the old home science model continues for women. Training for tribal women SHG group members is provided in candle-making, tomato sauce making and making bead necklaces—obviously a total waste of time and resources, unless market tie-ups for such products exist.

4.8.4 Pastoralists

The Draft Scheduled Tribes (Recognition of Forest Rights) Bill, 2005 envisages, “rights of uses or entitlements such as grazing in forests and traditional seasonal resource access of nomadic or pastoralist communities”. This Act is yet to be passed by Parliament. Many of the Joint Forest Management Committees are designed to provide opportunities to tribal families and pastoralists for access to non-timber forest products. The following steps are needed to ensure the right to livelihood of pastoralists:

- i. Restoration of traditional grazing rights and camping rights in forest areas including wildlife sanctuaries and national parks, and also those areas earmarked for grazing purpose in village common lands.
- ii. Formalising entitlements (including issue of permanent grazing cards) for the traditional pastoralists/herders maintaining native animal breeds and who depend upon them for their livelihood for enabling their free access to notified or demarcated grazing sites and migration routes.
- iii. Whenever a tree planting programme is to be implemented, alternative grazing land and drinking water resources for animals should be allotted by the concerned authorities. It should be made mandatory for the implementing agency before initiating afforestation, to seek prior consent from forest dependent communities including pastoralists. Rotational system of grazing should be encouraged instead of complete closing of forest zone for tree plantation purpose.
- iv. In-depth documentation, characterisation of indigenous livestock breeds should be carried out to recognise and protect intellectual property rights of the local communities / individuals, conserving these livestock breeds.
- v. Pastoralists should be involved in all local natural resource management programmes, including village forest committees.

- vi. Common land assigned to forest departments and unutilised or encroached land should be retrieved and brought under the control of village level committees or grassroots institutions for pasture development.

4.8.5 Plantation Labour

4.8.5.1 A large number of small farmers are engaged in the cultivation of plantation crops like tea, coffee, rubber, cardamom, pepper and vanilla. Price fluctuation and competition from products imported from abroad are among the major problems facing them. A Price Stabilisation Fund is essential to insulate them from the vagaries of the market. Similarly, plantation labour, many of whom are women, require support services like crèches and health and life insurance. The problems of plantation labour therefore need special attention.

4.8.6 Island Farmers

4.8.6.1 The farming and fisher families in Andaman and Nicobar Islands and the Lakshadweep group of Islands need special attention. Their needs cover the areas of technology, training, techno-infrastructure and trade. Island agriculture also has the problem of transport costs, particularly for commodities like fish which may have to be sold in the main land. There are several ancient tribes in the Andaman and Nicobar Islands who have rich traditional knowledge and wisdom. Steps should be taken to recognise and reward their indigenous knowledge in the areas of biodiversity conservation and traditional healthcare. The islands are also ideal for horticulture including coconut plantation. There are also special health problems. Therefore both the National Horticulture Mission and National Rural Health Mission should pay particular attention to the needs of Island farmers and fishermen. Proactive measures like the erection of mangrove and non-mangrove based bioshields should be initiated in order to safeguard the lives and livelihoods of island populations in the event of sea level rise due to global warming.

4.8.7 Urban Farmers

4.8.7.1 Urban home gardens could make a substantial contribution to improving nutrition security through the cultivation and consumption of vegetables and fruits. Home nutrition gardens could be designed in the case of low-income groups in such a manner that they can provide horticultural remedies to major nutritional maladies like deficiency of micronutrients in the diet. Urban backyard farming will require support services in the form of good seeds and planting material and safe plant protection techniques. Urban slums need particular attention from the point of view of combating malnutrition through nutrition gardens. The National Horticulture Mission could pay particular attention to enhancing the nutrition security of urban slum dwellers and low income groups through promoting the cultivation and consumption of appropriate vegetables and fruits.

4.8.8 Organic Farmers

4.8.8.1 The challenge to organic farmers lies in raising the organic carbon content in the soil to 1 per cent and total organic matter to about 10 per cent. The approximate cost of converting one hectare of wasteland to organic farming will be about Rs.30,000 per annum. Such expenditure will be needed for about three years, so that the soil fertility can be enhanced to sustain good yield. The organic farming movement in India suffers from a lack of institutional support in the areas of research, extension and marketing. Farmers feel the need for technological guidance, but research work based on careful field experiments is currently inadequate. Organic farming requires more scientific support than chemical farming. The Krishi Vigyan Kendras should be equipped to provide training in organic agriculture. Assured and remunerative marketing opportunities are yet to develop. Internationally accepted certification procedures also need strengthening. Organic farming zones could be identified, like some of the hill areas and islands where currently chemical fertiliser use is very low. **A National Federation of Organic Farmers' Association** could be formed to develop common brand names both for the home and external markets. Food safety and quality specifications should conform to the codex alimentarius standards, since there are

occasional reports of heavy metals being present in organic foods. Certification procedures should be made farmer-friendly and affordable. When subsidies or loans are given to farmers to buy fertilisers, there should be no insistence on the purchase of only chemical fertilisers. Farmers should be able to spend the money on organic fertilisers and bio-pesticides.

4.8.8.2 Farm men and women thus belong to different categories and require differential support. However, there are many generic problems affecting the farming community as a whole. Therefore, the Central and State Governments should assist the growth of Farmers' Associations which can empower the voiceless. Voicing the voiceless and reaching the unreached should be major goals of public policies relating to the agrarian population.

4.9 Credit and Insurance

4.9.1 The need is to improve the outreach and efficiency of the rural banking system. The financial services must reach all its users effectively; the credit must be in time, in required quantities and at appropriate interest rate. NCF had recommended an interest rate of 4 per cent per annum and the Government of India had met this recommendation partly, by announcing credit availability to farmers at 7 per cent up to Rs. 1 lakh. It should be possible to bring about a considerable reduction in transaction cost by eliminating all forms of ostentation in the operation of the banking system. The inefficiencies of delivery system should not be loaded on borrowers. The delivery system has to be proactive and should respond to the needs of the financial services in the rural areas in an efficient manner. The banking system needs to explore the large unmet credit potential for raising agriculture to higher thresholds, growth of rural and agri-business enterprises and employment. There is also need for considering a credit cycle of 4 to 5 years in chronically drought prone areas, so that farmers will be able to repay the loans when there is a good monsoon leading to a good crop.

4.9.2 The State has a responsibility in improving the credit absorptive capacity of the farmers and to support the banking system by creating favourable environment for expanding and deepening of financial services by the banks.

4.9.3 NABARD as the leader of agriculture and rural credit should ensure convergence among credit availability, credit absorptive capacity of the farmers and other rural borrowers and an efficient credit delivery system, by providing financial and technical assistance to the banking system and necessary inputs to the State. As a development bank, NABARD should actively involve in institution building and provide back up support through research and development initiatives.

4.9.4 The Reserve Bank and Government of India have to broadly assign the role and responsibilities to different agencies in the multi agency system and ensure implementation of their policies and programmes.

4.9.5 Agriculture is a high risk economic activity. The farmers need user friendly insurance instruments covering production right from sowing to post harvest operations and also the market risks for all crops throughout the country for insulating them from financial distress and in the process making agriculture financially viable. There is need for both credit and insurance literacy in villages.

4.9.6 Since part of the debt incurred by small and marginal farmers and landless labour is for healthcare, priority should be given in extending the benefits of the National Rural Health Mission to areas affected by agrarian distress.

4.10 Cooperatives

4.10.1 The cooperatives have an important role to play particularly in banking, marketing, agro-processing and other agri-businesses to protect the farmers from the vagaries of existing imperfections in the supply of inputs, production, value addition and marketing etc. and also in the process improve their welfare. The cooperatives are basically economic enterprises (not an extended arm of the State) and require entrepreneurial approach. They should not only gather competitive edge through suitable

enterprise focus on the traditional primary value creating activities, but also in secondary value creation activities through suitable strategic alliances with private and public sector units. The need is to identify means and measures by which the farmers could gain power of scale and economies, which they otherwise do not have, obtain greater control of the market channels and improve their chances of being profitable.

4.10.2 For achieving the above objectives, the policy and legal framework under which the cooperatives are functioning would require to be reviewed, so as to create enabling environment for them, to attain autonomy to run their operations in business like fashion, without rigid controls and regulations imposed by the State laws. To succeed and serve the farmers to their full potential, the cooperatives need to function as voluntary, member driven, autonomous and largely self-regulating organisations, working on the principles of self-help. The management of the cooperatives needs to be professionalised with clear demarcation of functions of the elected members and the professional managers. The audit and accounting systems also has to be improved, so as to give greater confidence to all those who are associated with them.

4.10.3 With economic liberalisation and market competitiveness, the cooperatives would require much larger capital and other financial resources to be successful. However, the changes in legal framework, regulatory system and constraints in liberal State support would necessitate identification of new ways and means, as also instruments to gain greater access for the cooperatives to capital/financial resources and removal of impediments due to law and regulations in capital formation, which prevent the members from obtaining the benefits of surplus retention in the business. Opportunities to increase non-members financing, consistent with the objectives of cooperation will also have to be explored.

4.11 Assured and Remunerative Marketing Opportunities

4.11.1 Assured and remunerative marketing opportunities hold the key to continued progress in enhancing farm productivity and profitability. Already, several significant market reforms have been initiated by the Union Ministry of Agriculture. The State

Governments will have to undertake such reforms speedily in order to provide more options to the farmers for selling their produce, allowing the private sector including the cooperatives to develop markets, promote direct sale to the consumers and removing bottlenecks and scope for corruption and harassment. What farmers seek is greater protection from market fluctuations. The Minimum Support Price (MSP) has to be protected more effectively across the country. Of late, the farmers have been feeling that the MSP of crops have not kept pace with the rising input costs. Likewise, the Market Intervention Scheme (MIS) should respond speedily to exigencies, especially in the case of sensitive crops in the rainfed areas. Similarly, the establishment of **Community Foodgrain Banks would help in the marketing of underutilised crops** and thereby generate an economic stake in the conservation of agro-biodiversity. Indian farmers can produce a wide range of health foods and herbal medicines and market them under strict quality control and certification procedures. The Public Distribution System (PDS) can also be encouraged to store and sell nutritious millets with appropriate price support to farmers.

4.11.2 Farmers require authentic advice based on meteorological, marketing and management information for land use decisions/investments etc. Restructured Land Use Boards supported by a team of technical experts/agencies could render this service. Infrastructure support has to be put in place to minimise post harvest losses and enable agro-processing and value addition at the village level itself to promote livelihoods. The collective strength of farmers has to be built up by encouraging farmers' organisations and other entities like cooperatives and small farmers' estates, so that they can get a fair deal and enjoy the economies and power of scale. The farmers, particularly the small and marginal farmers need pledge loans to be able to avoid distress sale and sell their produce when the price is favourable. Constraints in improving the negotiability of warehouse receipts also need to be removed.

4.11.3 NCF had recommended in its Third Report the establishment of an Indian Trade Organisation (ITO), which will safeguard the interests of farm and fisher families by providing a Livelihood Security Box to ensure fair trade. The Livelihood Security

Box should have provision to impose quantitative restrictions on imports and or/increases in import tariffs, under conditions where imports of certain commodities will be detrimental to the work and income security of large numbers of farming families. It should be emphasised that **there is no level playing field between the capital, subsidy and technology driven mass production agriculture** of the industrialised countries, and the **‘production by masses’** agriculture of India characterised by weak support services, heavy debt and ‘resource and technology poverty’. The steps recommended by NCF for promoting an **Indian Single Market** need to be examined and implemented. The bottom line of our trade policies in agriculture should be the economic well being and livelihood security of agricultural families. Nothing should be done which will destroy job opportunities in rural India.

4.11.4 Quality and trade literacy programmes have to be launched across the country. In relation to commodities which are exported, it will be essential to conform to WTO regulations. At present, such commodities constitute about 7 per cent of total agricultural production in the country. Farmers’ Associations and SHGs should be helped to export on competitive terms by spreading awareness of the opportunities available for external agricultural trade. In such cases, cost, quality and reliability of supply will determine long-term trade relationships. The agri-export zones should be further strengthened and should become places where farmers will get the best possible price for their produce.

4.11.5 The consumption capacity has to be increased within the country through the infusion of more purchasing power in the hands of families currently caught in the poverty trap. Farmers, who are also the largest consumer group, will produce more, if there is greater consumption and consequently greater demand for farm produce and products. **The Food Guarantee Act** recommended in the Second Report of NCF would help to make food serve the role of currency. Such a procedure will help to improve household nutrition security as well as farmers’ income. The future of Indian agriculture will depend upon the efficiency and seriousness with which pro-farmer marketing systems are put in place.

4.12 Public Policies for Sustainable Livelihoods

4.12.1 The cost-risk-return structure of farming is getting adverse, leading to increasing rural indebtedness. In addition to those already mentioned, the following steps will help to ensure that the well-being and livelihood security of all included under the category of “farmers” in this policy statement become the bottom line of public policies.

- i. The scope of the Minimum Support Price (MSP) programme should be expanded to cover all crops of importance to food and income security for small farmers. Arrangements should be made to ensure MSP at the right time and at the right place, particularly in the areas coming within the scope of the National Rainfed Area Authority. **Also, advice to farmers on crop diversification should be linked to the assurance of MSP. Small farm families should not be exposed to administrative and academic experiments and gambles in the market.**
- ii. A Market **Risk Stabilization Fund** should be established jointly by Central and State Governments and financial institutions to protect farmers during periods of violent fluctuations in prices, as for example, in the case of perishable commodities like onion, potato, tomato, etc.
- iii. There is also need for an **Agriculture Risk Fund** to insulate farmers from risks arising due to recurrent droughts and other weather aberrations.
- iv. The scope of Agricultural Insurance Policies should become wider and there should also be coverage for health insurance, as envisaged under the **Parivar Bima Policy** recommended by NCF in its First Report. There should also be insurance provided by Seed Companies in the case of GM crops, so that farmers who pay high prices for the seeds for such crops do not suffer in case of crop failure.
- v. Nutrition support to rural families affected by HIV/AIDS, tuberculosis, malaria and leprosy is needed to assist in recovery and restoration to a productive life. There is evidence to suggest that a pure drug based approach alone, is not

adequate to help economically underprivileged rural women and men recover from diseases involving prolonged treatment. In addition to health insurance, about 2 million tonnes of foodgrains may be earmarked for launching a Nutrition-cum-Drug Based Approach to getting farm families restored to normal health. A basic requisite for enhancing small farm productivity is the health of the farm worker. This is particularly true in the case of women suffering from a multiple burden on their time. The food grains allotted to such a programme can be distributed through the normal channels on the production of a Food Coupon issued by the appropriate government agencies. For example in the case of HIV/AIDS, the National AIDS Control Organisation (NACO) would be the appropriate agency for the issue of food coupon to the children, women and men affected by this debilitating and killing disease. The Food-cum-Drug based approach to healthcare should become an integral part of the National Rural Health Mission.

- vi. An **Indian Trade Organisation** (ITO) and an **Agro-ecological Land Use Advisory Service** should be established on the lines recommended by NCF in its Third Report. The ITO should help Government to operate a Livelihood Security Box.
- vii. Since agriculture is a State subject, every State Government should set up a **State Farmers' Commission** with an eminent farmer as Chairperson. The Membership of the Commission should include all the principal stakeholders in the farming enterprise. Such Commissions should submit an Annual Report for being placed before the respective State Legislature for discussion and decision.
- viii. Agricultural progress should be measured by the growth in the net income of farm families. Along with production growth rates, income growth rates should also be measured and published by the Economics and Statistics Directorate of the Union Ministry of Agriculture.

ix. Article 243 G of the 11th Schedule of the Constitution (73rd Amendment) Act, 1992 entrusts Panchayats **with responsibility for agriculture including agricultural extension**. In addition, Panchayats will also have to attend to:

- Land improvement, implementation of land reforms, land consolidation and conservation.
- Minor irrigation, water management and watershed development.
- Animal husbandry, dairying and poultry.
- Fisheries.
- Social forestry and farm forestry.
- Minor forest produce.
- Small scale industries, including food processing industries.

4.12.2 At the moment there are about 2,25,000 panchayats in the country. The problems facing Indian Farmers are generally dealt with in an aggregated manner – i.e., taking into consideration the problems of over 100 million farming families as a whole. They then appear formidable. **However, if such problems are disaggregated and dealt with by Gram Sabhas and Panchayats, location-specific problems can be attended to speedily and effectively.** The extreme distress faced by farmers in certain regions of the country can then be dealt with promptly. Therefore, it is time that the provisions of Article 243 G are implemented, both in letter and spirit. NCF in its earlier reports had recommended that Panchayats should be involved in water conservation and management as well as in the resettlement of those who will be displaced by big dams through Gram Sabhas serving as Pani Panchayats. Also, one woman and one male member of the panchayat should be trained to serve as Farm Science Managers. In the areas prone to drought, floods and cyclones, one male and one female member could also be trained to serve as Climate Managers. Panchayats could also be the location for the Village Knowledge Centres. They can then play a very important role in agricultural renewal and renaissance.

4.12.3 In addition to the resources being made available by the Government of India, State Governments should show their commitments to farmers' livelihood through greater allocation of resources in the State budgets.

4.12.4 Finally, the name of the Ministry of Agriculture both in the Centre and States should be changed to **Ministry of Agriculture and Farmers' Welfare** in order to highlight the critical role of these Government Departments in ensuring the income and work security of over 600 million members of India's population.

4.13 No Time to Relax

4.13.1 The consequences of inaction in addressing the prevailing agrarian distress will be disastrous. Mentioning three of them would be adequate to highlight the serious implications of neglecting the "Jai Kisan" commitment.

- Expansion of threats to internal peace and security (e.g. spread of Naxalite Movement)
- Reverting to a ship-to-mouth existence, thereby diluting national sovereignty and enlarging the rural-urban divide in economic growth
- Jobless or even job-loss economic growth resulting in joyless growth for nearly half of our population.

If agriculture goes wrong, nothing else will have a chance to go right. If conversely agriculture goes right, the vision of a hunger and poverty free India can become a reality sooner than the timeframe set under the UN Millennium Development Goals.

4.14 Avoiding a Mismatch between National Policy and Agro-climatic, Socio-economic and Socio-cultural Diversity

4.14.1 Indian agriculture is rich in diversity of soils, climate, farming communities and systems, and resource endowments. Hence, a broad national policy will have to be tailored to suit different agro-climatic, socio-economic and socio-cultural factors, by the local stakeholders. The framework for a **National Policy for Farmers** presented in this Report will have to be suitably adapted and elaborated to suit local realities in different parts of the country, particularly with reference to priorities in action points.

4.15 Way Forward

4.15.1 NCF will hold regional consultations with State Governments, Farmers' organisations including Women's organisations, all other stakeholders and mass media between May-August, 2006. On the basis of the inputs and advice received, the draft National Policy for Farmers will be revised and a second draft will be included in the final Report to be presented on October 13, 2006, when the term of NCF ends.

4.15.2 NCF requests the Ministry of Agriculture to get this draft policy considered by the NDC Committee on Agriculture, the Agriculture Coordination Committee chaired by the Prime Minister, Consultative Committee of Parliament and other appropriate bodies.

4.15.3 The Final draft could be put up by the Ministry to Cabinet, NDC and Parliament early in 2007 so that a **National Policy for Farmers** can be launched for the first time in 10,000 years of India's agricultural history on 15th August, 2007. Suitable financial provision may be made in the budget for 2007-08 for making the Policy operational.

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