

**Government of India  
Planning Commission**

**Report of the Working Group on  
Agricultural Extension  
for Agriculture and Allied Sectors  
for the  
Twelfth Five Year Plan (2012-17)**

**Chairman**

**Shri Suresh Kumar, IAS  
Former Additional Chief Secretary,  
Government of Maharashtra**

**Member Secretary**

**Shri Sanjeev Gupta, IAS  
Joint Secretary,  
Department of Agriculture and Cooperation  
Ministry of Agriculture, Government of India**

## CONTENTS

Sl. No.	Particulars	Page No.
1	List of Abbreviations	2 – 4
2	Preface	5 – 7
3	Executive Summary	8 – 27
4	Report of the Working Group on Agricultural Extension for Agriculture and Allied Sectors for the Twelfth Five Year Plan (2012-17)	28
5	Section I – Introduction	29 – 30
6	Section II - Performance of Extension Schemes of Department of Agriculture and Cooperation in 11 <sup>th</sup> Plan	31
	I. Support to State Extension Programmes for Extension Reforms	32 – 34
	II. Mass Media Support to Agricultural Extension	35 – 38
	III. Establishment of Agri-Clinics and Agri-Business Centres	39 – 41
	IV. Kisan Call Centres	42 – 43
	V. Extension Education Institutes	44
	VI. Model Training Courses	45 – 46
7	Section III - Farm Sector Challenges in the 12 <sup>th</sup> Plan and the role of Agricultural Extension	47 – 49
8	Section IV - National Agricultural Extension Mission	50 – 54
9	Section V – Recommendations	
	I. Technology Solutions and Innovations	55 – 59
	II. Extension Policy and Systems	60 – 65
	III. Convergence, Programme Delivery, Governance and Innovations	66 – 69
	IV. Manpower Planning, HRD and Accreditation	70 – 74
	V. Leveraging ICT, Mass Media and e-Governance	75 – 80
	VI. Partnership for Agri-preneurship and Business Development	81 – 82
	VII. National and International Linkages and Partnerships	83 – 84
	VIII. Jai Kisan – Mobilization for Farmers Empowerment	85 – 88
	IX. Women Empowerment and Household Food and Nutritional Security	89 – 91
	X. Leveraging Youth for Agriculture	92 – 94
	XI. Extension Strategies for Difficult Areas and Disadvantaged Groups	95 – 99
	XII. Agrarian Distress and Conflicts, INSTA Response and Farm Studies	100 – 102
10	Budget proposed by Subgroups	103 – 107
11	Summary of Budget proposed for the 12 <sup>th</sup> Plan	108
12	Annexure I - Constitution of the Working Group on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)	109 – 112
13	Annexure II - Constitution of the Sub-Groups in the Working Group on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)	113 – 122

## List of Abbreviations

ACABC	Agri Clinics and Agri Business Centres
AICRP	All India Coordinated Research Project
AIR	All India Radio
ATMA	Agricultural Technology Management Agency
ATR	Action Taken Report
BFAC	Block Farmers Advisory Committee
BRGF	Backward Regions Grant Fund
BTM	Block Technology Manager
BTT	Block Technology Team
CCA	Call Centre Agent
CCEA	Cabinet Committee on Economic Affairs
CDAP	Comprehensive District Agricultural Plan
CGTF	Credit Guarantee Trust Fund
CRIDA	Central Research Institute for Dryland Agriculture
CRS	Community Radio Station
CSC	Common Service Centre
CSR	Corporate Social Responsibility
DAAP	District Agricultural Action Plan
DAC	Department of Agriculture and Cooperation
DAESI	Diploma in Agricultural Extension Services for Input Dealers
DARE	Department of Agricultural Research and Education
DD	Doordarshan
DFAC	District Farmers Advisory Committee
EI	Extension Education Institute
FAC	Farmers Advisory Committee
FAO	Food and Agriculture Organization
FCT	Free Commercial Time
FF	Farmer Friend
GOI	Government of India
HPT	High Power Transmitters
HRD	Human Resource Development
ICAR	Indian Council of Agricultural Research
ICT	Information and Communication Technology
IFS	Integrated Farming System
IGNOU	Indira Gandhi National Open University
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IRMA	Institute for Rural Management
ISRO	Indian Space Research Organization
IT	Information Technology

ITK	Indigenous Technical Knowhow
IVRS	Interactive Voice Response System
KCC	Kisan Call Centre
KKMS	Kisan Knowledge Management System
KRA	Key Result Areas
KVK	Krishi Vigyan Kendra
LPT	Low Power Transmitter
LWE	Left Wing Extremist
MANAGE	National Institute of Agricultural Extension Management
MHRD	Ministry of Human Resource Development
MLA	Member of Legislature Assembly
MNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MOA	Ministry of Agriculture
MP	Member of Parliament
MSP	Minimum Support Price
MTC	Model Training Course
NAARM	National Academy of Agricultural Research Management
NABARD	National Bank for Agriculture and Rural Development
NARS	National Agricultural Research System
NATP	National Agricultural Technology Project
NCERT	National Council for Educational Research and Training
NDDB	National Dairy Development Board
NEH	North-East Hill region
NFDB	National Fisheries Development Board
NFSM	National Food Security Mission
NGRCA	National Gender Resource Centre for Agriculture
NHM	National Horticulture Mission
NIC	National Informatics Centre
NIRD	National Institute of Rural Development
NMAE	National Mission on Agricultural Extension
NPM	Non-Pesticidal Management
NPMSF	National Programme for Management of Soil Fertility
NRAA	National Rainfed Area Authority
NREGA	National Rural Employment Guarantee Act
NRM	Natural Resource Management
NTI	Nodal Training Institute
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
PRI	Panchayati Raj Institute
RFD	Result Framework Document
RKVY	Rashtriya Krishi Vikas Yojana
RSETI	Rural Self Employment Training Institute
SAMETI	State Agricultural Management and Extension Training Institute
SAU	State Agricultural University

SC/ST	Scheduled Caste/Scheduled Tribe
SFAC	State Farmers Advisory Committee
SFC	Standing Finance Committee
SMS	Subject Matter Specialist
SREP	Strategic Research Extension Plan
SRI	System of Rice Intensification
TMNE	Technology Mission for North East
UGC	University Grants Commission
USA	United States of America
UT	Union Territory

## PREFACE

We have great pleasure in presenting the report of the Working Group on “Agricultural Extension for Agriculture and Allied Sectors” for the 12th Plan, constituted by the Planning Commission. Report follows the Executive Summary submitted earlier by the Working Group to the Planning Commission.

The Working Group had strongly recommended a National Mission on Agricultural Extension be launched during the 12th Plan to deepen, widen and carry forward the Extension Reforms agenda of 11th Plan to meet the challenges brought out in the 12th Plan Approach Paper and those brought out by the Hon’ble Prime Minister. Following mission statement was recommended:

“ National Mission on Agricultural Extension shall support the State governments, local bodies & institutions for enhancing their capacity and institutionalizing structures & mechanisms for a knowledge-driven, accountable, decentralized, broad-based & participatory programme planning & implementation to facilitate farmers, farmwomen & youth and to achieve economic, food, nutritional & environmental security and thus achieve Plan objective of faster, sustainable and more inclusive agricultural growth.”

Working Group has recommended that Extension, as a delivery mechanism across agriculture and allied sectors and the frontline interface with the farmers, besides the traditional role, should also play facilitation, intermediation and advocacy roles. These, among others, should include organizing user/producer groups; facilitating access to production inputs; linking farmers to markets; engaging in research planning, technology selection and feedback; linking various support & service networks; redressal of grievances and attending to their welfare and contentment and enforcement of Farmers’ Charters. Project approach to extension through formulation of extension projects has accordingly been recommended to provide full support and facilitation to farmers including backward linkages (production) & forward (marketing) linkages and an integrated farming systems approach through convergence and projectisation of schemes, programmes and resources of public and private sector and adopting regionally differentiated best partner approach for maximising returns to the farmers and achieving the plan objectives.

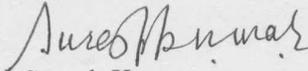
Working Group had constituted 9 sub groups for giving recommendations relating to various objectives, dimensions and concerns indicated in the approach to the 12th plan and instrumentalities for achieving the objectives, working the dimensions and addressing the concerns. The recommendations of the working group are grouped into 12 thematic areas namely i) Technology Solutions and Innovations; ii) Extension Policy and Systems; iii) Convergence , Program Delivery Governance and Innovations ; iv) Manpower Planning, HRD and Accreditation; v) Leveraging ICT, Mass Media and e-Governance; vi) Partnership for Agri-preneurship and Business Development; vii) National and International Linkages and Partnerships; viii) Jai Kisan-Mobilisation for Farmers Empowerment; ix) Women Empowerment and Household Food and Nutritional Security; x) Leveraging Youth for Agriculture; xi) Extension Strategies for Difficult Areas and Disadvantaged Groups; and xii) Agrarian Distress and Conflicts, INSTA Response and Farm Studies.

Working Group also recommended that the mission should challenge the states, SAUs, SAMETIs, ATMAs, KVKs, BTTs and other institutions of the extension eco system to realise their full potential and support and incentivise them for the same. Mission was recommended to be headed by Joint Secretary (Extension) and supported by MANAGE at National level, EEIs at Regional level and SAMETIs at State level and district and sub district institutions at their level who shall act as hubs for the respective levels and strengthened to perform their role. It also recommended that MANAGE may be developed as an International centre of excellence considering the key role required to be played by it.

Detailed discussions took place in the Working Group, Department of Agriculture and Cooperation and the Planning Commission in connection with the National Agricultural Extension Mission. We are very happy that the Hon. Finance Minister announced the constitution of National Mission for Agricultural Extension and Technology in the budget speech. We are sure that the Mission shall prove a transformative instrument for facilitating achievement of national goals in agriculture sector. We are grateful to Hon'ble Minister for Agriculture Shri Sharad Pawar, the then Hon'ble Finance Minister Shri Pranab Mukherjee, Member (Agri.) Planning Commission Dr. Abhijeet Sen, the then Secretary, Department of Agriculture and Cooperation, Shri P. K. Basu and officers of the Ministry of Agriculture and Ministry of Finance for making the Mission a reality.

We had the opportunity of interacting with member (Agri.) Planning Commission and Members of the Steering Committee and benefited enormously. Members of the Working Group; Chairmen, Conveners and Members of the nine subgroups; and eminent persons in various fields, gave their valuable time to attend the meetings and provided inputs and insights. Inputs and suggestions were received from a large number of individuals. We received very valuable support from Advisor (Agri.) Planning Commission and his team. We sincerely thank all of them. We wish to place on record our appreciation for the kind support received from officers and staff of Extension Division of the Ministry, Directorate of Extension as well as the faculty and staff of MANAGE.

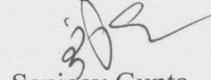
Signed



Suresh Kumar

Former Add. Chief Secy. & Prin.  
Secy.(Agri.) Maharashtra and  
Chairman Working Group  
on Agricultural Extension for 12th Plan

Signed



Sanjeev Gupta

Joint Secy. (Extn.)  
Department of Agri & Coop. and  
Member Secretary Working Group  
on Agricultural Extension for 12th Plan

## **Executive Summary**

### **Report of Working Group on Agricultural Extension for Agriculture and Allied Sectors for 12<sup>th</sup> Plan**

The extension system which carried the bandwagon of green revolution on its shoulders during 70s and 80s is in cross-roads. There has been a demand for re-examining the architecture of Agricultural Extension Services so that scientists, administrators and private entrepreneurs can together help farmers to bridge the gap between yields that are possible and those which are actually achieved. A strong, vibrant and responsive extension system which can play a pivotal role in enabling the county to achieve the Plan objective of faster, sustainable and more inclusive agricultural growth is the need of the hour.

Restructuring and strengthening of agricultural extension system has to be a judicious mix of extensive physical outreach of personnel, enhancement in quality through domain experts & regular capacity building, interactive methods of information dissemination, Public Private Partnership and pervasive & innovative use of ICT / Mass Media. Agri entrepreneurs, agri-business companies and experts in NGOs also need to be involved to further bolster the public extension system. The Extension Working Group, therefore, recommends that National Mission on Agricultural Extension be launched during the 12<sup>th</sup> Plan to deepen, widen and carry forward the extension reforms agenda of 11<sup>th</sup> Plan to meet the challenges brought out in the 12<sup>th</sup> Plan Approach Paper and those brought out by the Hon' Prime Minister for achieving the plan objectives of faster, sustainable and more inclusive growth.

#### **Mission statement**

**“National Mission on Agricultural Extension shall support the state governments, local bodies & institutions for enhancing their capacity and institutionalizing structures & mechanisms for a knowledge-driven, accountable, decentralized, broad-based & participatory programme planning & implementation to facilitate farmers, farmwomen & youth to achieve economic, food, nutritional & environmental security and thus achieve Plan objective of faster, sustainable and more inclusive agricultural growth”**

Mission shall, on priority, develop the capacity of ATMA and other local institutions in formulating CDAP, preparation of competitive projects based on local needs and constraints, selection of best projects and their implementation. The systems and processes shall promote flow of ideas and innovations to incentivize & empower the institutions and enforce their accountability for the outcomes. Mission shall challenge the states, SAUs, SAMETIs, ATMA, KVKs, BTT and other institutions to realize their full potential and support and incentivize them for the same. ATMA, KVK & BTT shall be the fulcrum of activities. Mission shall be headed by the Extension Commissioner & JS Extn and supported by MANAGE at the National level, EEIs at the Regional level, SAMETI at the state

level. No separate mission staff is proposed at any level. **Some Salient features, innovations, new approaches proposed for the Mission are summarized below:**

1. During 12<sup>th</sup> Plan, the Mission shall focus on sustainable small farm agriculture, especially in rainfed areas, through integrated farming systems approach incorporating components of natural resource management minimizing external costs and maximizing realization through value addition in crops, horticulture, livestock, fisheries etc.

2. Programme implementation, convergence, service delivery and good governance which are the central focus of 12<sup>th</sup> Plan, shall be the core strategy of the Mission. Convergence shall be achieved through (a) convergence of technologies by following the Integrated Farming Systems approach to technology solutions and extension. Farmers' portal shall be developed as a single window access to farming situation wise technologies; (b) convergence of schemes and programmes through project approach to extension, preparing and enforcing a convergence matrix of schemes and components indicating schemes for each component; (c) institutional convergence at national and state level through cabinet sub-committees; and (d) convergence at District level through representation of various institutions on ATMA Governing Board & Management Committee, and at Block level in Block Technology Teams.

3. Knowledge driven growth to be facilitated by (a) providing quality extension resources at cutting-edge level along with critical mass of extension personnel (one extension worker for about 1200 farmers) by supplementing public extension system with agripreneurs, trained input dealers etc.; (b) enhancing the extension efficiency and effectiveness by institutionalizing Farmers Friends at village level; (c) capacity building of farmers, extension functionaries, institutions and other stakeholders on lifetime basis through a network of Knowledge Centres like KVKs, Agriculture Research Stations etc.; (d) partnering with knowledge generators (public & private, formal & informal systems) to develop knowledge portals for capturing, collating and disseminating knowledge through all channels including print & electronic media, farm journals, regular meets etc.; (e) reaching out to and connecting farmers and stakeholders so that they communicate with each other; and (f) test all indigenous technical know-how (ITKs), identify farmer innovators, recognize their skills and leverage for field extension as farmer consultants.

4. Precision, quantification and benchmarking, which facilitated growth of modern economy, shall be incorporated in the Mission in various areas like (a) delineating, coding and mapping farming situations, yield gaps, yield variability; (b) technology availability, adoption and impact directories and indices; (c) indices of resource use efficiency; (d) defining quantifiable capacity levels, testing and certifying capacity of farmers, extension functionaries, trainers, institutions; and (e) monetization of agriculture wealth of the district.

5. Inclusive growth shall be achieved through (a) comprehensive framework of development of difficult areas and disadvantaged groups of farmers on the highest priority by every sector since the low yield in these areas (which otherwise have huge potential) keeps the macro yields low; (b) assessing gaps in infrastructure and development on each parameter and bridging the gaps as per fixed time schedule; (c) computing index of variance\standard deviation of growth along with average growth to measure inclusion and prescribing inclusion as a target along with average

growth; (d) constructing disadvantaged index and matrix to capture various disadvantages for prioritizing resource allocation by every sector; (e) prescribing allocation of mission resources to these groups eg proportionate allocation to those belonging to SC, ST, small & marginal farmers and women.

6. Full potential of KVKs shall be harnessed for location, farmer and field constraint specific best technology solutions independent of source of technology generation through technology solutions and innovations project. The human resource and infrastructure of SAU/ICAR/KVK and other institutions shall be utilized to organize large scale frontline demonstrations of technology under field conditions which serve as training arena for farmers & extension functionaries. Concept of Challenge Approach should be developed and implemented to realize the full potential of decentralized approach and the zeal and capacity of various stakeholders to extend the frontiers of possibilities of achievement for others to follow.

7. The Mission shall fully leverage power of ICT for linking every component of the Mission from national to field level, provide accountability and empower farmers to demand & access service. Continuous contact with farmers shall be established to provide knowledge & information, empower & facilitate them to demand & access services; redress their concerns & grievances; and capture ground reality for use in policy making & improving delivery through (a) farmers portal (b) Kissan Call Centres (c) Common Service Centres (d) short message services (e) community radio stations etc.

8. MANAGE, EEs and SAMETIs have to be strengthened for aligning and linking all their activities with the mission. These institutions shall develop linkages with institutions in respective sectors eg NIRD for rural development, NAARM for research management, National Police Academy for issues of LWW affected areas etc. An INSTA Response Centre can also be established in MANAGE for foreseeing the foreseeable events and situations, preparing plans, building capacity for tackling the same, capturing them online and effecting instant response.

9. Leveraging youth for agriculture and generating employment in providing on and off farm services through various interventions and programs needs priority attention. Pilot testing the program of 'full employment for youth in agriculture'; developing concepts of employment budgeting and employment mapping and designing technology modules have to be complemented by an extension approach for attracting, stimulating and retaining youth in agriculture. "Jai Kisan" movement needs to be launched to mobilize every societal unit and generate a national movement to support agriculture and give prestige to farming through creating proper atmosphere.

10. Promote frugal household food and nutrition security through counseling farmwomen and youth on scientific storage, processing & value addition, food & water quality, better eating habits, maintain personal & kitchen hygiene etc. to leverage the preventive healthcare properties of food for frugal health care. Similarly promote urban agriculture for tackling food inflation, and promoting nutrition, livelihood and environmental security. Shift from concept of greening to edible greening and landscaping to edible landscaping to converge environment and food concerns.

11. Centre for agrarian distress and conflicts to track, study and provide policy support to tackle distresses, such as suicides by farmers and their indebtedness, farmers' agitations, violence and

conflicts and other concerns through action research projects, challenge projects and linkages with other institutions. Promote national outreach through long term extension projects in developing countries as per policy at the field level.

### **Major Recommendations**

The recommendations of the working group are grouped under the different components as below.

## **I. TECHNOLOGY SOLUTIONS AND INNOVATIONS**

1.1 Initiate an All India Coordinated Research Project (AICRP) for mapping (a) farming situations and farming situation-wise technology & yields to provide technology yield matrix, yield gaps (actual and potential in the local/similar context) and yield variability; (b) farm-wise resource mapping for farm-level planning; (c) construct technology availability, technology adoption and technology impact directories and indices; (B) determine agricultural wealth of the district through monetization of natural resources, bio-physical resources and human resources including farmers knowledge; (C) determine indices to assess the growth in agriculture wealth, and efficiency of each resource use.

1.2 Initiate a National Technology Solutions Project (NTSP) to operationalize contextual research-extension-farmer linkage as single window source for providing best technology, independent of source of generation for specific farming situations under varying resource base and risk bearing capacity of farmers. The project should be led by MANAGE and implemented through the Zonal Project Directorates (ZPDS) of ICAR which should be the platform for extension research linkage. The ZPDs need to be expanded from 8 to 12 and strengthened along with extension wings of ICAR and SAUs.

1.3 ICAR Institutes, SAUs and other institutions should take at least 5 large-scale frontline demonstrations over large areas as action research projects (as competitive challenge projects) for scalable technology applications under field conditions and ground realities with backward linkage with extension and education and forward linkage with field extension. Challenge projects may be classified with respect to increased yields and/or incomes in the project areas with Gold, Silver and Bronze standards at say 100%, 50% and 25% increase respectively.

1.4 Establish a Farm Innovation Foundation and launch a National Mission for ITK in agriculture to test all ITKs, identify farmer innovators, recognize their skills and leverage these for field extension activities. It should capture and monetize farmers' knowledge, monitor its accreditation over the period and further leverage for farmers' incomes and farm growth.

## II. EXTENSION POLICY AND SYSTEMS

2.1 On-going extension programmes of 11<sup>th</sup> Plan should be continued as components of National Mission on Agricultural Extension which could be the single program for extension in 12<sup>th</sup> Plan subsuming all extension schemes and interventions. Core support could be provided under the mission as a central programme with subsequent additionalities from RKVY and other sources. The extension resources with ATMA may be strengthened including increased field functioning, infrastructure, enhanced remuneration to contractual posts to attract and retain quality manpower and enhanced provision made for Farmer Friends.

2.2 At least one extension person for about 1200 cultivators may be ensured in 12<sup>th</sup> plan through various sources although lesser number of cultivators per extension worker is desirable. Block level functionaries under ATMA need to be doubled (4 SMS per Block). States need to ensure at least 30 % (equivalent to about 30,000 functionaries in the country) of the existing manpower should work exclusively for providing extension service. RKVY guidelines may be suitably amended to provide filling up of posts as a mandatory condition for release of funds under the project. Vacancies beyond prescribed level in tribal areas should attract provisions of various enactment concerning tribal areas.

2.3 Private para extension service providers should be integrated into the extension system including Agripreneurs under ACABC Scheme (currently about 11000, 2000 added every year which takes the total to about 21000 by the end of 12<sup>th</sup> Plan) and Input Dealers possessing Diploma in Agricultural Extension Services (DAESI) - about 12000 trained per year and 60000 by the end of 12<sup>th</sup> Plan.

2.4 Farmer Friends (FF) who are being identified @ one for two villages under ATMA, needs to be supported with increased financial provisions to ensure that these farmer friends take part in extension activities with more interest. Additional resources should be provided in disadvantaged regions, for instance providing an extra SMS and by identifying one FF for every village, one extension resource per village and two KVKs per district in these regions.

2.5 Domain expertise should be made available for field visits and supporting SMS in effective extension delivery. Agricultural University Technical Units may be made available at district level on lines of District Agriculture Advisory and Technology Transfer Centres of Andhra Pradesh. KVKs should be also strengthened to play their role.

2.6 Extension, as a delivery mechanism across agriculture and allied sectors in addition to their conventional knowledge dissemination role, should also play facilitation, intermediation and advocacy roles. These include organizing user/producer groups, facilitating access to production inputs, linking farmers to markets, engaging in research planning, technology selection, feedback, linking various support & service networks, redressal of grievances, enforcement of Farmers' Charters including filing cases on their behalf in consumer courts, and advocacy of policy implementation issues to support farmers.

2.7 Extension should follow project approach through projects of suitable sizes to provide full support and facilitation to farmers including backward linkages (production) & forward (marketing) linkages and an integrated farming systems approach through convergence. While doing so, follow projectisation of schemes, programmes and resources of public and private sector and adopting regionally differentiated best partner approach. Resources of PRI institutions need to be fully leveraged and they need to be provided a prominent role in planning and implementation of extension programmes. Project proposals should indicate potential income gains and risks and returns to investments to facilitate informed selection of projects.

2.8 The Project Planning and Management (PPM) capability of ATMA and other institutions should be improved through (a) engaging a project management agency at the district level to formulate projects, access funding, train the staff and stakeholders and support service delivery, assist in project implementation and monitor project implementation; (b) improve PPM skills of ATMA, BTT and other institutions through induction and refresher courses (c) prescribing PPM skills for recruitment; (d) quantification of PPM skills which should be indicated in every project for funding along with efficiency of implementation of previous projects; and (e) leveraging the capabilities of ICT to the fullest extent for formulation and implementation of the Extension Mission.

2.9 The entire range of traditional and modern extension methods should be deployed effectively to extend the outreach and funding provided for the same. Extension Manuals should be compiled and updated in both print and audio visual versions containing detailed guidelines for conducting extension activities.

2.10 ATMA shall be the platform for convergence and service delivery of all schemes and programmes of agriculture development at the district level and below. ATMA governing structure should be enlarged to provide representation for various organizations and stakeholders involved in CDAP including those from NRM, water resources, power, NREGA, rural livelihood mission etc. All committees implementing Ministry of Agriculture schemes shall be subsumed in ATMA Governing Board and Management Committee. To address concerns of allied sectors, Districts and Blocks should be classified with reference to prominent sector such as livestock, fisheries, horticulture etc. Composition and leadership of the technical team at KVK and ATMA and field extension resources should reflect the needs of the respective dominant sectors. Mechanism may be designed for redressal of grievances of any sector.

2.11 MANAGE may start a Centre for Urban Agriculture and take steps for promoting urban agriculture and its inclusion in national agriculture planning as per deliberations in the meeting held in Planning Commission on 29.9.2010. Vacant lands in institutions and industrial areas may be covered on priority. Concepts and practices and guidelines of urban farming may be developed and included in the proposed extension manual. Concept of moving from "greening to edible greening" and from "landscaping to edible landscaping" may be developed and operationalized.

### III. CONVERGENCE, PROGRAMME DELIVERY AND GOVERNANCE AND INNOVATIONS

3.1 Identify, support and reward Eagles. For full realization of potential of the proposed decentralized approach, Concept Challenge should be developed to extend the frontiers of possibilities. Challenge programs (say Gold Challenge, Silver Challenge and Bronze Challenge) should be developed for extension staff and extension institutions eg SAUs/ICAR institutions, PRIs, ATMAs, KVKs and BTTs with each institution selecting the challenge and prepare plan accordingly. Such Infrastructure supported to fulfill the challenge selected which need to be rewarded and incentivized based on their performance. Standards for various parameters in terms of achievement in increasing yields, incomes, employment etc. should be determined (Gold Challenge - 100% increase, Silver Challenge - 50% increase and Bronze Challenge - 25% increase) in yields and or incomes. National and state awards may be instituted and given on National Extension Day to be designated. Mechanism and methodology may be developed and put into practice for assessing extension impact.

3.2 An Agriculture Sub-Committee of the Cabinet, comprising of all Ministries and Departments, having mandate of promoting agriculture and rural development or building rural and agriculture infrastructure should be created at national and state level for devising and institutionalizing convergent mechanisms and processes for formulation and implementation of programs and giving approval to programs and monitoring implementation. Official inter-departmental committee headed by the Cabinet Secretary/Chief Secretary may be established for giving approval to all programs of these ministries, instead of committees for independent programs, to bring synergy within the programmes and also to ensure convergence. Committees may be serviced by a professional group to screen proposals and assist the committees.

3.3 MANAGE, EEIs and SAMETIs should be strengthened to support the mission in formulation, implementation and monitoring and policy support through aligning all its training and research activities with mission. They should link with other institutions for developing linkages in respective sectors eg NIRD for rural development, NAARM for research management. MANAGE, NIRD and NAARM could help to provide most of the linkages at national level which could be extended to other institutions for linkages eg National Police Academy for issues of LWV affected areas. Linkages could be through informal meets and formal joint workshops and training programs. Proximate location of a large number of institutions in Hyderabad provides most powerful instrument for implementation, convergence which should be fully leveraged through a suitable mechanism. Similar institutional linkages may be put in to place at regional and state level. A compact institutional arrangement may be created for formulation and implementation of joint programs by drawing resources from various institutes through a suitable rotation. This team should service the cabinet sub committees and official committee under chief secretary and formulate convergence interventions.

3.4 A convergence matrix may be prepared which will list out scheme and component wise allocations and activities. Every proposal for funding under existing schemes or new schemes should be accompanied by a convergence matrix relating to that department with a detailed explanation about to what extent convergence has been achieved. Every authority scrutinizing and approving the programme must do convergence scrutiny to satisfy himself/herself that convergence has been brought about. Departments and institutions in the convergence matrix shall co-opt the departments in the related institutions in decision making. This should also be done while constituting the working groups and their sub-groups for preparing plans.

3.5 Government must encourage and promote organisations of farmers as commodity interest groups, user groups or producer companies to collectively negotiate and buy/receive inputs, to avail of technologies and to process/market their produce collectively. Adequate resources should be provided for building their capacities related to consensus building, conflict resolution and access to technologies and markets.

3.6 Plan for implementation of the plan, should be an integral part of every plan. Centre for e good governance may be established. Design and adopt most advanced project formulation, implementation and monitoring techniques for fixing responsibility and accountability of each institution and functionary by leveraging advances in IT Sector. It should have in-built process driven transparent mechanisms and provisions for internalizing feedback from field situations. To improve delivery and enforce accountability, every functionary, task, reports and other components shall be given a unique identity.

3.7 A Farmers' Charter may be adopted and declared by every organization (public as well as private) providing services to farmers indicating the quantity, quality, price and timings of services to be provided. These need to be uploaded in the "Farmers Portal" and its implementation has to be closely monitored. Grievance redressal officers should be nominated for complaints relating to Farmers Charter. They should also file complaints with the Consumer Courts. Services amenable for "rights based approach" should be identified and brought under the general law on guarantee of services.

3.8 Innovations must be prescribed as a key instrument of mission. Result Framework Documents (RFDs) and Key Result Areas (KRAs) have to be modified to suitably reflect the needs of the Mission as part of Plan.

## IV. MANPOWER PLANNING, HRD AND ACCREDITATION

4.1 Take up farmers' capacity development in a mission mode to develop the capacity of farmers and bridge their knowledge and skill gaps on a life time basis for managing their farm enterprises and to tap agri-entrepreneurship opportunities on a modular basis. Standards should be evolved upto the highest level which are benchmarked as standards for testing and certification. Farmers competency shall be monetized which can be linked to higher credit rating.

4.2 Launch "National Farmers' e-Literacy Campaign" (Rashtriya Kisan e-Saksharata Abhiyan) to train over 2 crore farmers for developing skills related to ICT instrument and channels of agricultural information delivery so that they can demand and access services, give feedback and leverage power of e procurement and e marketing for value additions.

4.3 Establish e-Extension and Agricultural Knowledge Management Centre as an ICT-enabled research and capacity building initiative of ICAR.

4.4 Develop an HRD Policy for Extension in Agriculture and Allied Sectors based on a census of extension service providers and supported by Agricultural Extension Human Resource Development Project to build capacities of all extension service providers in agriculture and allied sectors representing the public, private and civil society. Every extension functionary shall be required to undergo minimum 10 days of need based and diagnostic-skill based training every year for being able to perform the task in the field as per a pre-decided career progression plan. Annual competency assessment of every extension professional may be done to identify capacity gaps and needs for training planning, manpower development and career progression. Yearly assessment of capacity of institutions at all levels may be made as part of planning process. Employees should be encouraged and facilitated to build their capacity on a life time capacity building basis to achieve excellence and be paid capacity linked excellence allowance. Capacity building of professionals of NAARM and other institutions should also be built on a long term basis.

4.5 Strengthen MANAGE as 'International Centre of Excellence' and its capacity needs to be built for it to support the Mission from the front.

4.6 One time catch up grant should be provided all training institutions for up-gradation of their training infrastructure. Accreditation of existing and new HRD and Training Institutions must be made mandatory to enhance effectiveness, accountability and ensure quality training. Appropriate accreditation protocols, procedures and institutionalization may be developed by MANAGE in collaboration with institutions for international excellence.

4.7 Agricultural Extension Human Resource Information System (AEHRIS) shall be established with data on personnel, vacancies, expertise, training history to guide HRD planning implementation. Take up extension census as per prescribed schedule of extension

resources and infrastructure of all extension service providers which can serve as a data base for extension and training planning.

4.8 Collaborative and concerted efforts shall be initiated by NCERT, ICAR and agricultural universities to develop innovative and quality training resource material in local languages.

4.9 Programmes for sensitization and capacity building of peoples' representatives, senior policy makers, implementers and various community stakeholders shall be designed and organized on a continuous basis.

## V. Leveraging ICT MASS MEDIA AND E-GOVERNANCE

5.1 The National e-Governance Plan, currently under implementation in 7 States needs be rolled out nationally.

5.2 Continuous interactions with farmers of all categories are needed through customized information services, tailor made to specific local needs. One message in broadcast or interactive mode may be sent to about 20% of cultivators every week in the first year. Number of farmers covered could be progressively increased by 20 % every year so that at the end of 5<sup>th</sup> year, all the cultivators (12.73 crore cultivators) in the country will receive weekly messages & advisory services. A mechanism may be put in place to provide weekly/ daily personalized information (thru SMS/MMS) to the farmers by the Departments of Agriculture/ Horticulture/ Animal Husbandry/ KVKs/SAUs.

5.3 The Farmers Portal being developed by DAC should emerge as a one-stop portal for all Agricultural Information (digital content) emanating from all public agencies and stakeholders. All other portals developed by ICAR/ SAUs and portals developed by NIC (e.g. AGMARKNET, SEEDNET, EMS, HortNET, agriclinics.net etc.) should preferably be linked to Farmers' Portal. A stakeholder directory of Institutions/ Agencies, Experts / Agricultural Magazines/ Journals/ Newspapers / channels shall be prepared and linked on to Farmers Portal. The Farmers/Kisan Portal will include details about all schemes and programmes including C-DAPs, SREPs, related procurements, recruitments, list of beneficiaries & services provided and expenditure incurred. The portal will also provide for farmers/ beneficiaries feedback for each programme.

5.4 National Centre for e-Governance in Agriculture (NCeGA) may be set up to leverage ICTs for promoting improved delivery, transparency, accountability and good governance through digital system for performance monitoring at all levels (through job-chart). Platforms for getting farmers' feedback on-line and promoting practices of e-procurement, e-recruitment, e-bill payment and e distribution of grants and subsidies may be made functional.

5.5 A comprehensive Agri-Knowledge Portal may be designed and developed to host information about the happenings in Agricultural sector relevant for extension functioning. Farming situation-wise *Technology Solutions* generated by SAUs/ ICAR system, National level seminars & workshops recommendations, agricultural magazines/ journals/ directory of contents with links to their full text shall also be available in the portal.

5.6 Work towards establishing a 24 X 7 National Farmers' Channel (Rashtriya Kisan Channel) to be managed on time-slot basis for District specific content and one Community Radio Station in each District. Resources and infrastructure of ISRO/ IGNOU need to be used to enhance the outreach of programmes.

5.7 Services of Kisan Call Centre (KCC) shall be expanded from 5000 farmers to one million farmers a day (reaching out to all 127 million farmers, at least once in a season, thrice in a year). Participation of the officers of Agriculture & Allied Departments right from Block level and also other service providers like Irrigation, Power, and Agricultural Marketing at appropriate level also needs to be ensured supported by teleconferencing facility with experts in SAUs & ICAR Scientists for specialized advice. Feedback from KCC needs to be further fed into the system to determine research and extension agenda through a generic approach of dealing with the problems.

5.8 The e-procurement of inputs and services required by the farmers may be promoted to give them negotiating power to get the inputs at the most competitive rates without transaction costs. Virtual markets may be promoted to bring farmers and consumers together through disintermediation for getting the best prices for farmers without taxing the consumers. E procurement and virtual markets together shall help tackle the two big national concerns namely; incomes for farmers and food inflation.

5.9 Over 96000 CSCs working at village level should be re-christened as Kisan Seva Kendras to be developed to evolve as village resource centres for providing services including training, information, complaints, upload visuals about crops, video conferencing etc. Aggregate farmers demand for inputs and assist in e procurement of inputs and services to get them at best rates. Similarly provide for e-marketing of produce and facilitate lodging of complaints in consumer courts related to deficiency in services, quality of inputs, marketing etc.

5.10 A monthly 'KISAN PATRIKA' may be brought in local Language at ATMA level/ State level (by SNO), to share Farmers' Success Stories at grass-root level.

5.11 All the officers and staff involved in the NAEM may be provided a state-of-the-art Hand-held device to disseminate information on all technology solutions, online reporting and uploading status of field implementation of programmes which provide for on-line monitoring and timely aggregation of field data at District, State and National level.

5.12 Concept of participatory approach where in farmers and Community Resource Persons play major role in film production as well as screening through low cost Pico Projectors has been successfully demonstrated. The concept may be internalized by providing training and equipments to produce low cost films and to screen these films to farmers by using Pico projectors. Films will be made available on the internet for display through e-Panchayats and Common Service Centres.

5.13 Path-breaking methods such as Kala Jathas, Extension Buses tried successfully to deliver the message effectively shall be used on a large scale.

5.14 Besides the above, the ongoing Mass Media Scheme will continue to be implemented.

## **VI. PARTNERSHIP FOR AGRIPRENEURSHIP AND BUSINESS DEVELOPMENT**

6 Develop an overarching policy framework that defines the role of the private sector in the agriculture sector at a macro level for development of state-specific partnership strategies based on local priorities and needs. Standards and regulatory framework for certifying and validating extension activities by all players, including public extension agents should be developed. Innovative and effective extension strategies developed by the private / NGO sector may be identified and upscaled by putting public funds behind them. Public and private infrastructure may be opened up of for use in extension. Challenge programmes, competitive grant funds and incentives to promote PPP in Extension should be launched. Special efforts should be made to bring corporate social responsibilities under PPP.

## **VII. NATIONAL AND INTERNATIONAL LINKAGES AND PARTNERSHIPS**

7 MANAGE should be supported to evolve as an International Centre for Excellence on Extension Management. MANAGE, with the support of SAMETIs and EEIs should develop an inventory of potential partners who can support extension in various ways at different levels through partnerships and joint initiatives. This information should be shared widely among the different organizations and through web pages. MANAGE should promote extension projects in developing countries as part of larger plan of promoting people to people contacts as per policy framework.

## VIII. JAI JAWAN - MOBILIZATION FOR FARMERS EMPOWERMENT

8.1 As per practice followed by various kings the Kharif and Rabi campaigns may be launched at national and state level by Hon'ble Prime Minister and Chief Minister respectively. Campaigns at regional, district, block and sub block levels may similarly be launched by other VIPs ceremonially. Functions may be launched in every institution on a specified day which may be fixed nationally or by each state. Institutions may review work done by them to support agriculture and to release their Farm Agenda for the next year. All these Farm Agendas should be posted on a special website created for this purpose, besides Farmers Portal.

8.2 All organizations and social groups should be facilitated to support farm growth & farmer empowerment, which shall supplement & complement the efforts of public sector efforts. A policy framework, mechanisms and systems may be formulated and designed for mobilization of every group in the society so that every group in turn supports the National Mission on Agriculture Extension. Forums should be established for regular consultations, getting feedback and identifying better performing groups for recognizing and rewarding their good performance. Those organizations may also be allowed to partner for development of extension projects and may be considered as project partners to be selected as per transparent guidelines under the concept of best partner for regionally differentiated projects. A web site may be established to provide information to all these organizations about the support which could be provided. The work done by various social units should be aggregated to reflect the total work done by various groups at national, state and district level. Voluntary work done should also be monetized and shown in the plan.

## **IX. WOMEN EMPOWERMENT AND HOUSEHOLD FOOD AND NUTRITIONAL SECURITY**

9.1 To the extent of availability, 50 % of resources in all missions and programs relating to agriculture being implemented by all ministries should be allocated to women. Collection of gender disaggregated data in all plans should be mandated and responsibility of monitoring needs to be fixed. Mahila Kisan Sashaktikaran Pariyojna may be strengthened and implemented through the National Gender Resource Centre in Agriculture (NGRCA) of MoA. NGRCA shall also initiate efforts to determine contribution to national income by unpaid work of women. NGRCA of MoA may be strengthened with additional manpower to accomplish the given tasks.

9.2 Promote food and nutritional security at the household level through promotion of kitchen gardens/nutritional gardens of women in urban, peri-urban and rural areas. Kitchen garden/nutritional garden associations may be formed and supported. These organisations shall also provide household extension support for women, including value addition. Massive awareness generation and support should be provided for household level nutritional security through mass media and training by extension staff, local bodies and other organisations. National Household Nutritional Security Centre/Cell may be set up at the Centre as well as in States and should be linked to Community Food and Nutrition Extension Units (CFNUs) of Food and Nutrition Boards located in States/UTs and also to the National Institute of Nutrition/Departments of Nutrition under Home Science Colleges in Agricultural Universities.

9.3 Women's capacity should be developed on a life time basis as part of the National Farmers Capacity Building Project and to the extent possible, may constitute 50% of trainees. Testing and certification of women in farm skills may be done on a modular basis to recognise the inherent skills upto highest level which shall also help them in their entrepreneurial projects.

9.4 All existing and new assets distributed through various schemes should be registered in the name of both husband and wife. Priority should be accorded to women while leasing Common Property Resources such as wastelands, village ponds/water resources, etc.

## X. LEVERAGING YOUTH FOR AGRICULTURE

10.1 A comprehensive policy on farm youth may be framed. National Center for Youth in Agriculture may be established for research, policy and advocacy support on farm youth with networking across different agro-climatic zones in the country. Policy should support youth for farming and also provide employment in on and off farm services required for agriculture growth.

10.2 To give recognition and status to the farm youth, they should be trained, tested and certified in farm skills on a modular basis through life time capacity building pattern to enable them to engage in agri business activities and to take up employment in various farm related services. Rural Self Employment Training Institutes (RSETIs - 200 are existing and 300 more being established) may be utilized to train students with agriculture as one of the subjects in their academic programme. As an extension of Right to Education every youth should have right to vocational training. This should be free and the youth should not be required to pay for the same. Training of every youth on employable skills should be targeted in XII Plan.

10.3 Employment budgeting and employment mapping: Employment generation has to be the responsibility of every sector and organization. Employment budget therefore should accompany every plan and financial budget. Detailed employment mapping covering both formal and informal employment should be a pre-requisite for employment budgeting and employment generation. CDAP should include a separate section on employment generation.

10.4 Full Employment to Rural Youth for on and off-farm services needed in agriculture should be a major objective of 12<sup>th</sup> Plan. Pilot projects may be taken up for generating full employment by agricultural universities under Challenge programs. These may be funded through RKVY and should have backward linkage with research & education and forward linkage with field extension. Component of Employment for Rural Youth should be included in all large scale front line demonstration projects implemented by ICAR Institutes, Agricultural Universities and other institutions. The Agri Clinic and Agri Business Centres (ACABC) scheme should be upscaled as a flagship scheme of 12<sup>th</sup> plan.

10.5 Budgetary Support may be provided for mobilizing and involving Youth clubs (at present three lakh youth clubs are existing) and through Nehru Yuvak Kendras (501 NYKs in the country) and NSS volunteers in extension activity. They may be linked and networked to organizations including KVVKs for providing support.

10.6 A special package of support may be designed for intensive high tech farming on a limited area of say 1 acre for those who are trained and certified for possessing those skills. To attract and retain youth in farming, the farming itself needs to be redefined to meet their expectations and leverage their strengths.

10.7 "YUVAK KISAN SADBHAVANA DIVAS" may be organized at Village, Block, District, State and National level by involving local institutions. Youth with exemplary contribution to agricultural prosperity may be honored on this day.

## **XI. MORE INCLUSIVE GROWTH EXTENSION STRATEGIES FOR MAINSTREAMING DEVELOPMENT OF DIFFICULT AREAS AND DISADVANTAGED FARMERS**

11.1 Currently, only average yields are being computed, whereas, yield variability is needed to bring out inclusion. Inclusion has to be between regions, districts, sub-districts and between various disadvantaged groups. Targets need to be fixed both for growth rate as well as reduction in variance.

11.2 Disadvantaged regions and Disadvantaged groups should be supported in every sector including credit, market development, insurance etc on priority to be stated upfront. Norms and methodology for determining the gaps in infrastructure & development between difficult areas & other areas and disadvantaged groups & other groups should be developed. These gaps need to be filled through time bound programs. Each sector should have a separate chapter detailing policy, proposals, gaps, program to fill in the gaps and outlays for these areas and groups. The norms need to be suitably modified and should be armed with flexibility to ensure full use of the allocated resources.

11.3 There is a need for a comprehensive approach for constructing a “Disadvantaged Index and Matrix” and mainstreaming it in all schemes and programmes during the Plan. It may be advisable to adopt “Block” rather than “District” as a unit and then provide for a prescribed allocation of resources to these areas and its various component units.

11.4 Extension Mission should provide adequate resources to disadvantaged areas and disadvantaged groups for mainstreaming their concerns including proportionate resources to farmers belonging to Scheduled Casts, Scheduled Tribes and Small & Marginal farmers. Technology solutions should be developed and needed resources must be provided to meet the special needs of these farmers.

11.5 Effective monitoring systems need to be devised and put in place to ensure that disadvantaged groups actually receive the benefits provided for disadvantaged groups. More creative mechanisms have to be used for the participation of disadvantaged groups in programme planning, monitoring and evaluation.

11.6 In order to control the cross border disease threats in livestock & poultry, disease surveillance extension programmes need to be organized in collaboration with State Animal Husbandry Departments of border districts, particularly in North-East.

11.7 Establish piggery demonstration centres, piglets production farms, state-of-art pork processing and product preparation training centre, community piggeries and mobilize FIGs through identified KVKs in collaboration with AH Departments of NE States.

11.8 Food, Nutritional, and Livelihood Security in Left Wing Extremists Affected Region need to be taken up through strengthening the existing extension system. Technologies related to agricultural production with respect to food crops, major cereals and pulses grown in the selected districts affected with LWE need to be demonstrated in an integrated mode by establishing functional linkages among Development Departments, KVKs NABARD and district level marketing agencies.

## **XII. AGRARIAN DISTRESS AND CONFLICTS, INSTA RESPONSE AND FARM STUDIES**

12.1 Establish a Centre for Farm Studies on Agrarian Distress and Conflicts at MANAGE to network with other institutions involved in research on agrarian issues (rural distress, conflicts, and livelihood issues). The centre should focus on the problems of disadvantaged areas and farmers particularly in rainfed areas.

12.2 Initiate a Fund on Extension Research (All India Coordinated Research Project on Extension) at MANAGE and the fund should be made available to all organizations on competitive mode.

12.3 Tackling farmers distress and conflict resolution should be internalized in functioning of NAEM and accordingly in the formulation of CDAP. A mechanism may be designed to project the government initiatives and interventions helping the farmers in totality.

12.4 Farmers' suicides should be studied through structured inter disciplinary professional studies across regions and groups on a continuous basis to identify underlying causes so that necessary policy support can be taken up.

12.5 Separate studies and projects may be taken up in collaboration with relevant institutions for studying the issue of farmers' alienation of lands so that farmer does not lose both ownership and possession of land in the event of default in payment. There are various options which need to be studied while working out most feasible options.

12.6 Farming can be affected by a range of contingencies and calamities with both serious consequences and huge opportunities for the country and the farmers. Extension should be in a position to rapidly respond to these situations. INSTANT Response Centre may be established in MANAGE for foreseeing the future events and situations. The Response Centre shall build scenarios, prepare plans to tackle the same and build capacity of organizations for on line capturing the events and effecting instant response.

## SUMMARY OF BUDGET PROPOSED FOR THE 12<sup>th</sup> PLAN

### (i) Component-wise break-up

Components of National Mission on Agricultural Extension	TOTAL FOR 12 <sup>th</sup> PLAN (Rs. crores)
Technology Solutions and Innovations	375.00
Extension Policy & Systems	7966.69
Manpower Planning, HRD and Accreditation	958.00
Leveraging ICT, Mass Media and e-Governance	4586.41
Mobilization for Farmers Empowerment	475.00
Women Empowerment, Household Food & Nutritional Security	535.00
Extension Strategy for Difficult Areas	299.00
Leveraging Youth for Agriculture	200.00
<b>Total</b>	<b>15395.10</b>

### (ii) year-wise break-up

Components	Year-wise break-up (Rs.crore)				
	2012-13	2013-14	2014-15	2015-16	2016-17
Technology Solutions and Innovations	49.00	101.00	75.00	75.00	75.00
Extension Policy & Systems	1162.25	1461.96	1620.66	1765.10	1956.72
Manpower Planning, HRD and Accreditation	191.60	191.60	191.60	191.60	191.60
Leveraging ICT, Mass Media and e-Governance	801.33	1123.20	858.29	903.77	899.83
Mobilization for Farmers Empowerment	90.00	93.00	95.00	97.00	100.00
Women Empowerment, Household Food & Nutritional Security	107.00	107.00	107.00	107.00	107.00
Extension Strategy for Difficult Areas	59.80	59.80	59.80	59.80	59.80
Leveraging youth for Agriculture	40.00	40.00	40.00	40.00	40.00
<b>Total</b>	<b>2500.98</b>	<b>3177.56</b>	<b>3047.35</b>	<b>3239.27</b>	<b>3429.95</b>

**Report of the Working Group**  
**on**  
**Agricultural Extension for Agriculture**  
**and Allied Sectors**  
**for**  
**the Twelfth Five Year Plan (2012-17)**

## Section I. Introduction

Development of Agriculture continues to remain critical for India's economic growth and poverty reduction. The 12<sup>th</sup> Five Year Plan Approach Paper<sup>1</sup> recognizes the centrality of agriculture in achieving its basic objective of faster, sustainable and more inclusive growth. Agriculture growth is also crucial to generation for jobs, checking inflation, nutritional security and providing raw materials for industrial growth besides easing pressures on urban areas. Twelfth plan has provided for 9 per cent economic growth with 4 per cent growth in agriculture. Achieving these and other objectives of the plan are imperative. The nature of agriculture has been changing rapidly during the last two decades and farmers currently need a range of support including organizational, marketing, technological, financial and entrepreneurial support. Addressing this involves interventions from several agencies at different levels which need to be converged and effectively delivered. Agricultural extension services can and should play an important role in addressing many of these challenges. Perhaps, there cannot be a better agency at the ground level, other than agricultural extension services that can provide knowledge support to farmers and other intermediaries.

In order to provide this support efficiently, extension should expand its mandate beyond disseminating information on technologies. This includes, organizing user/producer groups, linking farmers to markets, engaging in research planning and technology selection, enable changes in policies and linking producers to a range of other support and service networks. However, the Indian extension system has been considerably weakened over the last two decades in terms of human resources and capacity. Huge vacancy levels in public extension system particularly in remote and disadvantaged regions have further constrained the extension support & services to farming community. Though the participation of private sector and civil society in extension has increased over the last few years, their presence is mostly restricted to few commodities, sectors and regions.

A strong, vibrant and responsive extension with an expanded mandate is a pre-requisite for achieving a faster, sustainable and more inclusive growth through agriculture. Agricultural extension services need to assume new challenges and reform itself in terms of content, approach, structure and processes and their delivery and implementation. Building these new capacities in extension and

---

<sup>1</sup> Planning Commission (2011) Faster, Sustainable and More inclusive Growth, An approach to the 12<sup>th</sup> Five Year Plan 2012-2017, Draft, August 2011  
([http://planningcommission.nic.in/plans/planrel/12appdrft/approach\\_12plan.pdf](http://planningcommission.nic.in/plans/planrel/12appdrft/approach_12plan.pdf))

to bring about vertical and horizontal integration of existing programmes, a mission approach is required.

A mission approach is also critical for bringing about convergence and synergy among the different kinds of extension support provided by different agencies in the public, private and civil society sector and effective delivery. The number and diversity of organizations involved in extension and advisory services have increased over the past few years and therefore, extension need to play an increasingly important intermediation and facilitation role. In this regard, extension should reform its strategies and programme delivery architecture to better meet the needs of its large number of clients representing varied resource base and risk bearing capacity.

This report is the outcome of the deliberations of the Working Group on Agricultural Extension constituted by the Planning Commission as part of the preparations for finalizing the 12<sup>th</sup> Five Year Plan (2012-2017). This report discusses the current challenges in extension delivery, which are essentially based on the experiences from 11<sup>th</sup> Plan and the current challenges articulated in the 12<sup>th</sup> Plan Approach Paper of the Planning Commission, and argues for a mission approach for strengthening extension during the 12<sup>th</sup> Plan. The Planning Commission constituted the “Working Group on Agricultural Extension in Agriculture & Allied Sector for the Twelfth Five Year Plan (2012-17)” on 07.03.2011 and subsequently, 9 subgroups were constituted on 10.05.2011. The details of the Working Group and its subgroups are annexed (Annexure I and II). Subgroups finalized their reports after wide consultations and deliberations. These reports form Volume 2 of this report. Subgroup reports formed the basis for preparing the final report of the Working Group.

This report is organized in 5 sections including the present Section-I. Section II analyses the performance of extension programmes during the 11<sup>th</sup> Plan. Section III provides a brief overview of the challenges in the farm sector as articulated in the 12<sup>th</sup> Plan Approach Paper and its implications for organizing agricultural extension. The strategy and broad contours of the proposed National Mission on Agricultural Extension (NMAE) are outlined in Section IV. The recommendations of the working group under various components of the mission are discussed in Section V.

## Section II. Performance of Extension Initiatives of Department of Agriculture & Cooperation during 11<sup>th</sup> Plan

Several new initiatives were launched and ongoing programmes were strengthened during the 11<sup>th</sup> Plan to strengthen extension and promote extension reforms for decentralized, demand driven and farmer-accountable extension. The overall objective was to achieve bottom up planning, broad based, multiagency and farmer centric delivery among others. Expansion and strengthening of ATMA, Kisan Call Centres, Agri-Clinics & Agri-Business Centres, Mass Media support to Agriculture and Krishi Vigyan Kendras were carried out. Additional Central Assistance for agriculture was increased through RKVY. A brief summary of performance of various schemes related to extension is given below:

- Centrally Sponsored Scheme “Support to State Extension Programmes for Extension Reforms” - the Scheme is being implemented in all the states by way of new institutional arrangements for technology dissemination, wherein 614 Agricultural Technology Management Agency (ATMA) have been established at the District level.
- Central Sector Scheme “Establishment of Agri-Clinics and Agri-Business Centres (ACABC)” supports establishment of private agri-ventures which in turn supplement state agricultural extension services.
- The Scheme “Mass Media Support to Agricultural Extension” is being implemented to provide information to farmers on matters related to agriculture production through a network of Television and FM radio channels throughout the country, besides establishment of Community Radio Stations.
- In order to help farmers in tackling multifarious problems relating to their farm activities, “Kisan Call Centres” have been established to reach out to all category of farmers at free of cost through national toll-free number, in their own language and at a time convenient to them.
- In order to provide continuous, need-based and horizon-expanding avenues for human resource development of extension officials, National Institute of Agricultural Extension Management (MANAGE), Extension Education Institutes (EIs) and State Agricultural Management & Extension Training Institute (SAMETIs) have been organizing training programme at different levels for different category of extension personnel.
- Agricultural Exhibitions, Regional Fairs, Newspaper Ad campaigns etc. further supplement the extension initiatives of DAC.

Performance of each of these Schemes and interventions during 11<sup>th</sup> Plan is given below:

## **1. Support to State Extension Programmes for Extension Reforms (ATMA Scheme)**

Centrally Sponsored Scheme “**Support to State Extension Programmes for Extension Reforms**” was launched in the year 2005-06. This concept was pilot tested under the World Bank assisted National Agricultural Technology Project (NATP) from 1999 to 2005. The scheme aims at promoting decentralized, demand-driven and farmer-accountable extension system through a new institutional arrangement for technology dissemination in the form of Agriculture Technology Management Agency (ATMA). ATMA provides an institutional mechanism for coordination and management of Agricultural Extension System in the district. At the Block Level, the Block Technology Team (BTT - a team of line department officials posted in the Block) and Block Farmer Advisory Committee (BFAC – a group exclusively of farmers in the Block) are jointly responsible for operationalization of the Scheme activities.

Under the Scheme, sustained efforts are being made to provide fillip to major extension reforms such as bottom-up planning, broad-based extension delivery, involvement of multi-agency extension service providers, farmer-centric extension services and main-streaming gender concerns in agriculture by introducing innovative and progressive arrangements at different levels viz. State, District and Block.

The performance of the Scheme has been very good during the 11<sup>th</sup> Five Year plan as is evident from the following facts:-

- **Coverage:** ATMAs have been established in 614 districts of 28 States & 3 UTs
- **Training of Farmers:** As against the target of 23,77,530 man days for training of farmers, a total of 73.36 lakh man days have been achieved.
- **Demonstrations:** As against the target of 4,52,529 beneficiaries through demonstrations, over 10.58 lakh beneficiaries have been covered.
- **Exposure Visits:** The achievement under Exposure Visit of farmers has been tremendous with 32.54 lakh man days achieved against the target of 3,69,694.
- **Setting up of Farm Schools:** 39,070 Farm Schools have been set up against a target of 47,045. The shortfall could be attributed to lack of conceptual clarity in the field, which has

been due to the perceived overlap with the Farmers' Field School in the NFSM. The gap between target and achievement will be narrowed during the last year of the plan period.

- **Mobilization of Farmers Interest Groups:** As against a target of mobilization up of 74,236 FIGs, a total of 89,608 FIGs/CIGs have so far been mobilized. Some of these groups have also been provided with seed money to initiate income generative activities.
- **Financial:** As against an approved outlay of Rs. 1219.10 Crore – R.E. (GOI Share), an expenditure of Rs.1201.70 crore has been achieved during 11<sup>th</sup> Five year Plan. The shortfall in expenditure is attributed to delayed approval of the Revised Scheme (CCEA approval accorded in March, 2010).

**Evaluation & Impact Assessment of the Scheme:** The Scheme was evaluated through an independent Agency (Agricultural Finance Corporation) during 2009-10. The study revealed that;

- There is manifold increase in the programme of trainings, demonstrations and exposure visits in the sample districts after the launch of the Scheme. The utility of various farmer oriented activities has revealed that exposure visits and demonstrations need to be given more priority in allocations.
- About 52 per cent of the respondent farmers revealed that they gained knowledge of new practices/ technologies under the scheme. A substantial section of the farmers confirmed that they disseminated the learning among fellow farmers (Farmer-to-Farmer Extension).
- The availability of technical advice to farmers on new practices and technologies under ATMA has led to higher/ rational use of new practices and technologies. About 25 per cent of the farmers felt that there was increase in agricultural production due to ATMA.
- The increase in income from all sources was reported by 27.4 per cent of the sample farmers.
- **ATMA programme has made discernible impact in yield increase of up to 20 per cent, diversified production system, adoption of new technologies.**
- **Farmers using more than 50 per cent of certified seeds were above 16 per cent after ATMA interventions as compared to just less than 1 per cent before.**
- **The percentage of farmers not using certified seeds at all is about 18 per cent after ATMA intervention which was as high as 35 per cent before ATMA interventions.**
- Utility of exposure visits was found to be maximum (95 per cent); followed by demonstration (93 per cent) & trainings (69 per cent).
- **Savings in total cost of production was up to 10 per cent in over 95 per cent of farmers and between 10 to 25 per cent for the rest.**

- About 25 per cent farmers admitted some increase in agricultural production due to ATMA. **79 per cent farmers reported an increase of Rs.1000 per acre**; 9 per cent Rs.2000-5000.
- Need for strengthening ATMAs with a dedicated staff at State, District and Block Level.
- Private sector extension providers are slowly and gradually assuming role in rendering need based extension services at the grass-root level along with the official agencies.

### **Major initiatives during 11<sup>th</sup> Plan:**

The following major initiatives have been taken during the 11<sup>th</sup> Plan:-

- Provision of dedicated Specialist & Functionary support at various levels viz. State level (8 to 16 functionaries depending on the size of the State), District level (5 functionaries per district) & Block level (3 functionaries per Block). Out of about 21000 posts eligible under the Scheme, about 6000 posts have already been filled up and the rest are being filled up during 2011-12.
- Improving extension outreach by way of providing innovative support through a Farmer Friend (FF) at village level;
- Providing essential infrastructure support to State Agriculture Management & Extension Training Institutes (SAMETIs);
- Enhanced support for mobility and connectivity at district and block level;
- Ensuring convergence with other Centrally Sponsored/ State funded schemes through approval of State Extension Work Plans by State Level Sanctioning Committees (SLSCs);
- Strengthening the farmers participation in planning and implementation through restructuring of Block Farmer Advisory Committee (BFAC) and constitution of District Farmer Advisory Committees (DFAC) & State Farmer Advisory Committees (SFAC);
- Effective convergence with research system/ research agencies at different levels of implementation through issuance of a Joint Circular by Secretary (A&C) and Secretary, DARE.

### **Areas of concern where significant results could not be achieved:**

Even though the Modified ATMA Scheme has been operational in the field only for 1 year, i.e. 2010-11, the feedback received from the States through interaction in the 'Orientation Workshop' held on August 3-4, 2010; 'RKVY Conference' held on 15.1.2011 and 'Zonal Conferences' held in January & February, 2011 reveals that -

- The States are not in a position to engage the sanctioned manpower at Block level due to meager fixed emoluments for Subject Matter Specialist (SMS) who are paid Rs.8500/- per

month. Also, the financial support provided to Farmers Friends is very less (Rs.4000/ FF/ Year).

- The States are reluctant to engage Farmer Friends (FFs) through sharing of expenditure between centre & state in the ratio of 50:50 as compared to 90:10 in all other activities. The North-Eastern States are finding difficult to release their State share of 10 per cent in all activities and 50 per cent in case of FF.
- Active involvement of farmers in planning and implementation of Extension Reforms is limited due to no financial support for meeting the expenditure of FACs.
- Organization of Farm Schools is a potential tool to promote farmer-to-farmer extension, but its operationalization at the field level still lacks clarity.

## **2. Mass Media Support to Agricultural Extension**

The “Mass Media Support to Agricultural Extension” scheme was initially launched on 21<sup>st</sup> January, 2004 and the revised scheme was approved by the CCEA on 24.02.2005. The objective of the scheme is to disseminate information and knowledge to the farming community in local language/dialect for strengthening the agricultural extension system. Under this scheme existing infrastructure of Doordarshan and All India Radio is being utilized to make the farmers aware about modern farm technologies. Farm related programmes of 30 minute duration are being telecast 6 days a week through 1 National, 18 Regional Kendras and 180 High Power/Low Power Transmitters of Doordarshan. Similarly, 96 Rural FM Radio Stations of All India Radio are being utilized to broadcast 30 minutes of programme for farmers 6 days a week.

The Free Commercial Time (FCT) available under Krishi Darshan and Kisanvani programme is being utilized for dissemination of Advisories during Rabi / Kharif and popularizing the central scheme like contingency plan developed by State Governments, emergent issues like drought, flood, credit and insurance and popularization of schemes like Kisan Call Centre, Kisan Credit Card, National Food Security Mission (NFSM) and Minimum Support Price (MSP).

### **New Initiatives XI Plan**

- To ensure that the programmes being telecast are relevant for the particular season/crop and timely telecast of messages/advisories, besides the State Level and District Level Committees the following mechanisms are being put in place:-

- Constitution of "Technical Support Group" by the States under the Chairmanship of Director (Agriculture) to meet on a monthly basis
- Constitution of Agriculture Programme Advisory Committee in the Doordarshan Kendras under the Chairmanship of Station Director/ District Collectors.
- A Content Scheduling and Monitoring Portal was developed with the help of NIC to provide advance information to public at large on the schedule of programmes to be broadcast by DD/AIR during the month. The Portal is also being utilized for analyzing the programmes being broadcast for necessary corrective action.
- Increase in telecast of interactive programmes viz. phone in programme, reply to letters of farmers, quiz programmes on agriculture/veterinary, coverage of Kisan Rath Yatra etc. Doordarshan has made an innovative effort of organizing a series of 'Live Crop Seminars' involving farmers, officials of the State Department of Agriculture and experts of all major crops for addressing the problems of the farmers. These programmes are covered live through the concerned Regional/Narrowcasting Kendras for extending benefit of this programme to other farmers. Scrolling /broadcast of queries and answers of Kisan Call Centres (KCCs) also being done to provide real time information on concern of the farmers.
- With the view to provide service oriented information to the farming community, Doordarshan has outsourced the production of programme on 'Agriculture News' and 'Mandi Bhav' to a private producer. This programme which was earlier telecast through National and 18 Regional Kendras five days a week has been extended. Now the programme is also being telecast through 180 HPTs/LPTs transmitters, benefiting the farming community of remote areas.
- With a view to increase viewership and provide enhanced content to the farmers, the transmission timings of 'Krishi Darshan' programme telecast from 25 out of 27 Narrowcasting Kendras where Regional Kendras are also functioning have been changed. Farmers can view the programmes telecast by both Regional and NC Kendras. This has benefited the farmers located in the range of 170 High Power / Low Power (HPT/LPT) transmitters who are now able to view 1 hour Agricultural programmes against the ½ hour programme which was earlier available.

### **Role of Mass Media in emergent situations like Floods, Droughts etc.**

- APCs/Principal Secretary of States were requested to utilize all media sources especially Doordarshan and AIR network to disseminate advisories on various measures identified

under the contingency plan to handle emergent issues such as drought, floods, etc. The Action Taken Report (ATR) from DD/AIR on all the above issues was closely monitored.

- 'Weather Based Agricultural Plan' uploaded on the ICAR website was utilized by the States for developing contingency plan and telecast the same through DD/AIR.
- Periodical advisories were communicated to DD/AIR for wider disseminating through their network, and also provide the feedback of the telecast/broadcast regularly.
- DD/ AIR are utilizing the Agro-meteorological Advisories from the IMD website for production of suitable programmes.
- **Focused Ad Campaigns** The Publicity Campaign of National Food Security Mission (NFSM) was launched during 2007-08. A number of Audio and Video spots have been produced for disseminating information on package of practices of Wheat, Pulse and Paddy and assistance available under the Scheme. The audio and video spots were telecast/broadcast under the Mass Media Scheme through Doordarshan during DD News, Regional news and DD Urdu, AIR during National news, Regional news and Rural Women's Programme (76 primary channels) and through 42 private channels operating at the National and Regional level during National News and 76 entertainment programmes. The following three tier strategy has been successfully implemented during 11<sup>th</sup> plan:**National Level:** Focuses on publicity through electronic media.
- **State Level:** Focus through print media, mainly advertisement in newspapers
- **District Level:** Focus on handouts, pamphlets, leaflets etc. in vernacular.

At the National Level, a number of audio/video spots were produced and broadcast/telecast through 96 FM Stations of AIR under 'Kisanvani' programmes through National, 18 Regional & 180 High Power/ Low Power Transmitters (HPTs/LPTs) of Doordarshan during 'Krishidarshan', National & Regional News and during entertainment programmes, films, etc. The spots were also telecast through Private Channels operating at National & Regional Level during News, entertainment programmes, serials etc telecast during 12.00-7.00 p.m., 7.00 – 8.00 p.m. and 8.00-11.00 p.m. In view of the life style of the farmers, all the channels have been requested to telecast the spots before 9.30.p.m.

Besides audio and video spots of 30-60 seconds duration, advisories and success stories are also being telecast and broadcast.

## Community Radio Stations (CRS)

CRS would make a major contribution to agricultural extension by utilizing the reach of radio transmitter for disseminating information & knowledge produced locally or having relevance for a specific area. In order to give further boost to this initiative it is essential to consider funding of private institutions along with Government and Quasi-government organizations for setting up CRS. Accordingly, the guidelines for funding of private institutions under Scheme "Support to State Extension Programmes for Extension Reforms" have been revised. Eight Community Radio Stations (CRS) have been established. 18 more CRS are in the process of establishment.

**Topical and seasonal newspaper advertisements are being brought out periodically to give further information** to farmers whose curiosity is expected to have got whetted by publicity on TV and other information received by him from time to time.

**To create awareness about support available to farmers under different agriculture related Schemes of Government of India, a Farmer Friendly Handbook has been brought out by the Department consisting of ten thematic areas cutting across boundaries of schemes and programmes.** All the States have also been asked to bring out similar publications by incorporating State specific details in their regional language. Quite a few States have responded positively and brought out the publication.

### Number of programmes broadcast/telecast during 11<sup>th</sup> Plan

Mass Media Programmes	2007-08	2008-09	2009-10	2010-11	2011-12
TV National Level	312	312	312	312	312
TV Regional Kendra	4680	4680	4680	4680	4680
TV Narrowcast Kendra	46800	46800	46800	46800	46800
AIR FM Kisanvani	28704	28704	29952	29952	29952
<b>Total</b>	<b>80496</b>	<b>80496</b>	<b>81744</b>	<b>81744</b>	<b>81744</b>

### Financial Status 2007-08 to 2011-12

(Rs. in lakh)

Financial details	2007-08	2008-09	2009-10	2010-11	2011-12	Total
BE	8400.00	8700.00	8700.00	10000.00	15000.00	50800.00
RE	7851.00	10565.00	9708.00	2209.40	17707.00	48040.4
Actual exp	7973.01	9215.43	9707.81	21490.00	17701.00	66087.25

### **3. Establishment of Agri-Clinics & Agri-Business Centres (ACABC)**

The Central Sector Scheme “Establishment of the Agri-clinics and Agri-business Centres (ACABC)” is under implementation since 2002. The scheme promotes the involvement of agripreneurs to supplement the efforts of public extension system by way of setting - up of agri-ventures in agriculture and allied areas. These agripreneurs are actively involved in providing advisory, extension services including know-how to the farmers at grass root level besides input infrastructure, processing and machinery support.

#### **New Initiatives:**

The Standing Finance Committee (SFC) in its meeting held on 23.7.2010 under the chairmanship of Secretary (A&C) has approved the Revised ACABC Scheme for its implementation during XI Plan. Following are the approved modifications:

#### **Objectives of the Scheme:**

- a) To create gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and science graduates with PG in agri related courses.
- b) To support agriculture development; and
- c) To supplement efforts of public extension by necessarily providing extension and other services to farmers on payment basis or free of cost as per business model of agripreneur, local needs and affordability of target group of farmers.

#### **Revised eligibility criteria:**

- i Graduates in agriculture and allied subjects from SAUs/ Central Agricultural Universities/ Universities recognized by ICAR/ UGC. Degree in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture & Cooperation, Government of India on recommendation of the State Government.
- ii Diploma (with at least 50 per cent marks)/Post Graduate Diploma holders in Agriculture and allied subjects from State Agricultural Universities, State Agriculture and Allied Departments and State Department of Technical Education. Diploma in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture & Cooperation, Government of India on recommendation of the State Government.

- iii Biological Science Graduates with Post Graduation in Agriculture & allied subjects.
- iv Degree courses recognized by UGC having more than 60 percent of the course content in Agriculture and allied subjects.
- v Diploma/Post-graduate Diploma courses with more than 60 percent of course content in Agriculture and allied subjects, after B.Sc. with Biological Sciences, from recognized colleges and universities.
- vi Agriculture related courses at Intermediate (i.e. plus two) level, with at least 55 per cent marks.

The scheme covers full financial support for training and handholding, provision of loan and credit linked back ended composite subsidy as per the details given in the following section.

**Revised Financial Norms of Training:** Training cost has been enhanced to Rs.35000 per trainee for two month duration programme. Besides, an additional 10 per cent amount on food, accommodation, honorarium, training expenditure and handholding cost has been provided in NE and Hill States.

**Change from capital & interest subsidy to composite subsidy:** Subsidy pattern has been revised from existing "capital and interest subsidy" to "composite subsidy", which will be 44 per cent of project cost for women, SC/ST & all categories of candidates from NE and Hill States and 36 per cent of project cost for others.

**Ceiling cost of the projects:** Cost ceiling of projects is enhanced to Rs.20 lakh for individual's project and to Rs.100 lakh for a group project (minimum of five individuals).

### **Physical and financial achievements**

Since inception of the said scheme (April 2002), a total number of 28244 candidates have been trained and 10743 ventures have been established in 32 categories of activities in the country till March 2012.

### **Major Issues that needs to be addressed**

- Progress under the Scheme is not uniform in all the States across the country. The success is largely limited to Uttar Pradesh (2461 ventures set up till March 2012), followed by Maharashtra (2388), Tamil Nadu (1075), Karnataka (928), Bihar (874) and Rajasthan (824). Some of the potential states like Madhya Pradesh, Gujarat, Andhra

Pradesh, Jharkhand, Chhattisgarh, West Bengal, Orissa and Uttarakhand have not been able to make much progress largely because lack of active Nodal Training Institutes. Special attention is needed in these States to popularize the Scheme for attracting NTIs. Involvement of State Governments of these States will also be ensured.

- Slow progress in credit and subsidy flow: During nine years of scheme implementation, out of 26017 candidates trained, as per NABARD data, only 421 Agripreneurs have obtained subsidy. Exact data on number of agripreneurs who have availed loans sanctioned is not fully available.
- Revised ATMA Scheme Guidelines provides for mainstreaming of Agri-Clinic and Agri-Business Centres by stipulating specific budget for implementation of ATMA activities through Agri Preneurs. Field level observations indicate that not much progress has happened in this regard. Each State may identify a nodal officer at State level to monitor the progress of the scheme regularly in terms of Publicity, Selection of candidates, NTIs, Training, handholding through ATMA, Liaison with Banker Committees, NABARD and banks.

#### **Mid Term Evaluation of ACABC Scheme**

- On an average, each ACABC has been able to serve about 30 villages and 19 farmers per village, thus benefiting more than one lakh farmers in more than 7000 villages across the country. The scheme has been successfully implemented in 25 states across the country and has been serving as a backbone of the state extension services.
- In most states, the ACABCs had been able to support & strengthen the State Governments extension efforts. Farmers found that the most important derived from Agripreneurs was increased productivity and in turn increase in their income. Agri-clinics equipped with new / advanced knowledge have better problem solving abilities, whereas ventures involved with input supplies had improved the access of farmers to better inputs.
- Besides generating self-employment to 4152 graduates (number of ventures set up at the time of study), each agri-clinic had provided employment to 6 persons in the rural areas (totally more that 25000 jobs across segments).
- Most (70 per cent) of the ventures were set up with the help of own source of finance and only 30 per cent ventures were set up using loan from the banks. One of the main problems in getting bank loan is the arrangement of collateral security.
- Among the Non starters, 25 per cent went for further studies and 22 per cent got an alternate job. Rest of the non-starters attributed lack of finance, lack of bank support, non-

marketability of their project concept and inadequate training as reasons for not starting the venture.

- **72 per cent farmers confirmed increased crop productivity due to advice given by Agri-clinics.**
- **Projects have generated profit margin of up to 18 per cent in case of input trading. For other projects, this margin is 30 to 50 per cent depending on their nature.** In case of horticulture consultancy, operational costs being low, the profit margin has shown an increase of more than 60 per cent.
- Extension services provided by agripreneurs have empowered the farmers to adopt advanced technologies, know-how and practices resulting in increased productivity of the crops (20 per cent in Maharashtra, 30 per cent in Andhra Pradesh and 10 per cent in Rajasthan).
- Access to knowledge and inputs have considerably increased due to the functioning of agri-clinics in rural areas.

#### **4. Kisan Call Centres (KCC)**

To harness the potential of ICT in agriculture, Ministry of Agriculture took the initiative of launching an innovative scheme “Kisan Call Centers” on 21<sup>st</sup> January, 2004 aimed at offering solutions to farmers’ queries on a telephone call. These Kisan Call Centres (KCCs) are presently operating in 25 locations covering all the States & UTs with 144 Call Center Agents engaged therein answering farmers’ queries in their language. Farmers from any part of the country can access KCC by dialing toll free number 1800-180-1551 from 6.00 A.M to 10.00 P.M. on all 7 days a week. This number is accessible through mobile/landline numbers of all telecom networks, even private service providers.

At each KCC location the Kisan Call Centre Agents are first level respondents answering farmers’ KCC agents are B.Sc. (Ag)/ Postgraduate in Agriculture and work at first level queries instantly. Majority of the questions are answered by the KCC agents at their own level. Only a small percentage (2 per cent) of questions is escalated to higher-level experts (L-II experts) for answering the queries, which are not answered by KCC Agents. Higher-level experts are from States Development Departments/SAUs and Scientists/Subject matter experts from Central Institutions of DAC. In each of the 25 KCC locations, a Nodal Office was been identified for keeping liaison between KCCs and related departments & Institutions for providing technical support for running the Kisan Call Centres.

DAC has also put in place a web based portal “*Kisan Knowledge Management System (KKMS)*”, a database of state wise agricultural package of practices. Presently the database is available for most of the states for agriculture, horticulture, animal husbandry and fisheries, duly updated and validated by the State Agricultural Universities of the respective state/region. The KKMS also has links to various schemes of the DAC, Ministry of Agriculture as well as weather related databases. The CCAs shall access KKMS over the Internet, to find instant answer to queries from farmers. Every call would be entered with details of farmers, query asked by the farmer and answer provided to him. Besides KKMS, Call Centre Agents are required to go through standard books/publications of SAUs/ State Governments, browse Farmers’ Portal & various Scheme Guidelines of DAC and material provided by the DAC for answering farmers’ queries. The Service provider would ensure regular training/orientation of the CCAs in use of KKMS application and availability of latest information/ literature on agriculture related issues pertaining to the State.

Year wise status of calls received at the KCC indicates that so far about 77.89 lakh calls have been received by the KCCs. The call trend would also indicate that during the last three years the calls have increased almost three fold driven by intensive awareness campaign launched by the Ministry through the Mass media and other means. As there was a change in service provider of the call centres during 2011, the transition led to slight decline in calls received during 2011-12. Year-wise total calls received since inception is given below.

<b>Year</b>	<b>Total calls received</b>
2003-04	221184
2004-05	647743
2005-06	591669
2006-07	602249
2007-08	589781
2008-09	623293
2009-10	928354
2010-11	2043636
2011-12	1541138
<b>Total:</b>	<b>7789047</b>

**(i) Evaluation of the Past Performance**

Evaluation of Impact of KCCs study was conducted by Administrative Staff College of India (ASCI), Hyderabad. The findings of the study (report received in July, 2007) revealed that:

- **84 percent of the farmers who called the KCCs expressed overall satisfaction from the advice provided** through the helpline and implement the advice received from the KCCs in their first call.
- Evidence of farmers' satisfaction is growing with repeat calls made by farmers to the KCCs.
- The advice enabled the farmers to take timely decisions in control of pests, weeds and diseases and judicious use of fertilizer.
- **The highest value of the benefit reported by one of the farmers in Maharashtra was Rs.1,50,000** while the farmer in Madhya Pradesh reported a benefit of Rs.50,000 from their first call to the KCC.
- About 34 per cent of the sample farmers were willing to make a token fee payment for advice from KCCs.

## 5. Extension Education Institutes (EIs)

Training and capacity building of extension functionaries was always given a priority status in the national extension system. Establishment of Extension Education Institutes (EIs) is aimed at imparting higher training in extension education. EIs were specifically established to meet the training requirement in the field of Communication Technology, Extension Methodology, Training Management, Participatory Rural Appraisal (PRA), Management of Agricultural Information System, etc. extension functionaries of State Development Departments on a continuing basis.

Four Extension Education Institutes (EIs) have been established on regional basis as detailed below:

- EI, Nilokheri (Northern Region) started in 1959
- EI, Hyderabad (Southern Region) started in 1962
- EI, Anand (Western Region) started in 1962
- EI, Jorhat (East & North East Region) started in 1987

### Specific Objectives:

- i. To provide in-service training to the staff of the State/Regional Training Centers in extension and communication methodology.
- ii. To organize workshops on training methods / communication techniques for master trainers.
- iii. To conduct training programmes in specialized fields like monitoring and evaluation supervision and extension management for middle level extension functionaries.
- iv. To conduct subject matter and extension education training programmes.

- v. To demonstrate most effective education teaching procedures.

#### Financial & Physical Progress Report:

Year	Financial Progress (Rs. in lakh)		Physical Progress	
	BE	Expenditure	No. of Courses	No. Trained
2007-08	409.00	290.03	83	1515
2008-09	409.00	364.81	107	2038
2009-10	435.00	539.13	145	3082
2010-11	680.50	815.41	156	3484
2011-12	870.00	613.00	168	2649
<b>TOTAL</b>	<b>2803.50</b>	<b>2622.38</b>	<b>659</b>	<b>12768</b>

#### Evaluation Study of EEs

A study on restructuring of EEs was got conducted in 2005 through an agency Centre for Organizational Research and Development in Management (CORD-M), Hyderabad. The study recommended for restructuring of EEs functional and financial autonomy.

## 6. Model Training Courses (MTCs)

Model Training Courses are being implemented since 1996 and emphasizes demand driven capacity building of extension functionaries of the State Development Departments.

ICAR Institutes and State Agricultural Universities of repute will be sanctioned with MTCs for the benefit of extension functionaries in the State Developmental Departments. MTCs are of national character and offer training courses in specialized areas in all agriculture and allied activities. MTCs are very cost effective as the training infrastructure and specialists of SAUs and ICAR institutes are used for imparting training. This Model Training Course of 8 days duration offers interface between host institutes and extension field functionaries.

#### The main objectives of "Model Training Courses (MTCs) are:

- To improve the professional competence, upgrade the knowledge and technical skills of extension functionaries; and
- To provide an opportunity of experience sharing, problem solving and interaction between experts and extension functionaries.

**Operational Modalities:**

- MTCs are exclusively for the field functionaries of State Development Departments.
- Each course is of 8 days duration, organized by selected State Agricultural Universities, ICAR Institutes and Central Institutes.
- Annual Training Calendar is prepared by involving State Development Departments, State Agricultural Universities (SAUs), ICAR Institutes & other central institutes. The calendar is then circulated to all the States & UTs for nominating their officers.
- Besides funds for organizing the course, the participants are given free boarding and lodging as well as to and fro travel cost.

Review of performance of extension schemes during the 11<sup>th</sup> plan brings out the achievements and the reasons for shortfall. The 12<sup>th</sup> Plan Approach Paper has succinctly put the achievements as “somewhat mixed, the model working well where the rest of the system is working well and vice versa”. This establishes the basic soundness of the system and its workability. Extension reforms and programmes which have been initiated during and prior to 11<sup>th</sup> plan need to be carried forward by further strengthening through proposed changes/additionalities and with zero slippage during 12<sup>th</sup> Plan.

## **Section III. Farm Sector Challenges in the 12<sup>th</sup> Plan and the role of Agricultural Extension**

The 12<sup>th</sup> Plan Approach Paper has articulated that the challenges faced by the agricultural sector are as follows:

- Increasing agricultural production and achieving 4 per cent growth in the context of depleting soil and water resources and increasing climate variability
- Feeding India's growing population, meeting diversified food basket and needs of food security
- Public sector technology generation often fails to take into account farmer's needs, perceptions and location –specific conditions for each crop leading to significant gaps between varieties released by public sector institutions and those actually used by farmers.
- Productivity of rainfed agriculture has lagged, causing widespread distress, most visible aspects of which are farmer suicides on one hand and rising tide of left wing extremism on the other
- Lack of support to knowledge intensive alternatives for rainfed farming.
- Inadequate efforts at linking small producers to markets through aggregation of produce through groups
- Low seed replacement rate
- Poor access to cattle health centres, inadequate fodder availability and inadequate progeny standards
- Insufficient planning at district level and below
- Lack of integration of KVKs with ATMA and lack of role clarity among different agencies of the government.
- Understaffed extension that relies on transfer of technology with almost no feed back into research and policy
- Underfunding of SAUs by states leading to both shortage of skilled human resources at SAUs and lack of location specific problem solving skills

The paper suggests several approaches to deal with these challenges. Some of these include, vastly superior water management as perhaps the most important component(including a wide and diverse range of problems objectives and means of resolution); fully extend green revolution to areas of eastern region with ample ground water; raising fertilizer use efficiency and soil health through

balanced nutrition management; promotion of IPM/NPM practices, SRI and farming systems approach: promote coping/adaptive strategies including community level seed banks to deal with increased stress from climate change; link small farmers to markets; promote decentralized participatory research as well as knowledge intensive alternatives in rainfed regions; shift from mere technology generation to greater understanding of contexts with enhanced research on seasonality, location- specific soil-crop-water interactions; promote package of locally relevant components to revitalize rainfed agriculture: ensure convergence between livelihoods, availability & access to food; better integration of KVKs problem solving skills and the feed-back loop these offer to SAUs and NARS with ATMA and strengthen district level planning; raising capability of rural poor to conserve and manage their livestock and fisheries resources and derive sustainable incomes, policy and program for revitalizing the commons and strengthening the production system of rainfed farming. The approach paper has also indicated expected outputs including higher farm productivity and incomes, greatly improved health and nutritional outcome due to higher incomes and more locally produced nutrition.

The approach paper has also outlined a detailed and specific plan of action for good governance and program delivery as also good governance in general. Chapter 16 of the Approach Paper deals exhaustively with innovation, which shall be the driving force for inclusive growth. Emerging innovation approaches like (i) finding affordable solutions for needs of people without compromising on quality, (ii) innovations in organizational and process models that deliver to people benefits of technologies developed in scientific laboratories, and (iii) innovations in the process of innovation itself to reduce the cost of developing innovations. Process of innovations will need to be internalized in functioning capturing, adopting and scaling up successes and innovations elsewhere within and outside the country.

Hon'ble Prime Minister also inter alia drew the attention to the following challenges during the full Planning Commission Meeting in the context of agriculture and good governance.

- Faster Sustainable and Inclusive Growth
- Livelihood, Nutritional and Environmental Security
- Maximizing Resource Use Efficiency
- Harnessing Private Investment
- Attention to Capacity Building
- Monitoring and Accountability
- Mechanism to understand needs of vulnerable sections of society

- Horizontal linkages for exchange of information on best practices
- Mechanism for conflict resolution

**During his address at the ICAR Foundation Day, Hon'ble Prime Minister highlighted significance of a rejuvenating agricultural extension when he said:**

*"I also suggest that we re-examine the architecture of Agricultural Extension Services so that our Scientists, Administrators and the Private Entrepreneurs can together better help farmers to bridge the gap between yields that are possible and those which are actually achieved. I continue to hear that our agricultural services are not up to the mark in many of our States".* The Prime Minister also mentioned that *"...the National Agricultural Research System must never lose sight of the fact that its main client is the Indian farmer. It should get its research questions primarily from the farmers. This is perhaps the most difficult of the challenges..."*

But, how do we meet these challenges? Can Extension support the achievement of XII Plan objective by overcoming the above challenges? The answer could be yes, and it is possible by launching National Mission on Agricultural Extension. The Working Group on Agriculture Extension constituted by the Planning Commission has overwhelmingly supported the idea of the National Mission on Agricultural Extension to carry forward, deepen, widen and implement the reforms agenda of the 11<sup>th</sup> Plan.

## Section IV. National Mission on Agricultural Extension

The working group suggests some of the broad contours of the proposed mission. Same shall be firmed up and mission detailing done to operationalize the same, after consultations scheduled with other working groups, suggestions during discussions with steering committee and further consultations with select stakeholders so that the same could be launched without delay.

### Mission statement

**“National Mission on Agricultural Extension shall support the state governments, local bodies & institutions for enhancing their capacity and institutionalizing structures & mechanisms for a knowledge-driven, accountable, decentralized, broad-based & participatory programme planning & implementation to facilitate farmers, farmwomen & youth to achieve economic, food, nutritional & environmental security and thus achieve Plan objective of faster, sustainable and more inclusive agricultural growth”**

Mission shall, on priority, develop the capacity of ATMA and other local institutions in formulating CDAP, preparation of competitive projects based on local needs and constraints, selection of best projects and their implementation. The systems and processes shall promote flow of ideas and innovations to incentivize & empower the institutions and enforce their accountability for the outcomes. Mission shall challenge the states, SAUs, SAMETIs, ATMA, KVKs, BTT and other institutions to realize their full potential and support and incentivize them for the same. ATMA, KVK & BTT shall be the fulcrum of activities. Mission shall be headed by Joint Secretary (Extension) and supported by MANAGE at the National level, EEs at the Regional level, SAMETI at the state level. No separate mission staff is proposed at any level. **Some Salient features, innovations, new approaches proposed for the Mission are summarized below:**

1. During 12<sup>th</sup> Plan, the Mission shall focus on sustainable small farm agriculture, especially in rainfed areas, through integrated farming systems approach incorporating components of natural resource management, minimizing external costs and maximizing realization through value addition in crops, horticulture, livestock, fisheries etc.

2. Programme implementation, convergence, service delivery and good governance which are the central focus of 12<sup>th</sup> Plan, shall be the core strategy of the Mission. Convergence shall be achieved through (a) convergence of technologies by following the Integrated Farming Systems approach to technology solutions and extension. Farmers' portal shall be developed as a single window access to farming situation wise technologies; (b) convergence of schemes and programmes through project approach to extension, preparing and enforcing a convergence matrix of schemes and components indicating schemes for each component; (c) institutional convergence at national and state level through cabinet sub-committees; and (d) convergence at District level through representation of various institutions on ATMA Governing Board & Management Committee, and at Block level in Block Technology Teams.

3. Knowledge driven growth to be facilitated by (a) providing quality extension resources at cutting-edge level along with critical mass of extension personnel (one extension worker for about 1200 farmers) by supplementing public extension system with agripreneurs, trained input dealers etc.; (b) enhancing the extension efficiency and effectiveness by institutionalizing Farmers Friends at village level; (c) capacity building of farmers, extension functionaries, institutions and other stakeholders on lifetime basis through a network of Knowledge Centres like KVKs, Agriculture Research Stations etc.; (d) partnering with knowledge generators (public & private, formal & informal systems) to develop knowledge portals for capturing, collating and disseminating knowledge through all channels including print & electronic media, farm journals, regular meets etc.; (e) reaching out to and connecting farmers and stakeholders so that they communicate with each other; and (f) test all indigenous technical know-how (ITKs), identify farmer innovators, recognize their skills and leverage for field extension as farmer consultants.

4. Precision, quantification and benchmarking, which facilitated growth of modern economy, shall be incorporated in the Mission in various areas like (a) delineating, coding and mapping farming situations, yield gaps, yield variability; (b) technology availability, adoption and impact directories and indices; (c) indices of resource use efficiency; (d) defining quantifiable capacity levels, testing and certifying capacity of farmers, extension functionaries, trainers, institutions; and (e) monetization of agriculture wealth of the district.

5. Inclusive growth shall be achieved through (a) comprehensive framework of development of difficult areas and disadvantaged groups of farmers on the highest priority by every sector since the low yield in these areas (which otherwise have huge potential) keeps the macro yields low; (b)

assessing gaps in infrastructure and development on each parameter and bridging the gaps as per fixed time schedule; (c) computing index of variance\standard deviation of growth along with average growth to measure inclusion and prescribing inclusion as a target along with average growth; (d) constructing disadvantaged index and matrix to capture various disadvantages for prioritizing resource allocation by every sector; (e) prescribing allocation of mission resources to these groups eg proportionate allocation to those belonging to SC, ST, small & marginal farmers and women.

6. Full potential of KVKs shall be harnessed for location, farmer and field constraint specific best technology solutions independent of source of technology generation through technology solutions and innovations project. The human resource and infrastructure of SAU/ICAR/KVK and other institutions shall be utilized to organize large scale frontline demonstrations of technology under field conditions which serve as training arena for farmers & extension functionaries. Concept of Challenge Approach should be developed and implemented to realize the full potential of decentralized approach and the zeal and capacity of various stakeholders to extend the frontiers of possibilities of achievement for others to follow.

7. The Mission shall fully leverage power of ICT for linking every component of the Mission from national to field level, provide accountability and empower farmers to demand & access service. Continuous contact with farmers shall be established to provide knowledge & information; redress their concerns & grievances; and capture ground reality for use in policy making & improving delivery through (a) farmers portal (b) Kissan Call Centres (c) Common Service Centres (d) short message services (e) community radio stations etc.

8. MANAGE, EEs and SAMETIs have to be strengthened for aligning and linking all their activities with the mission. These institutions shall develop linkages with institutions in respective sectors eg NIRD for rural development, NAARM for research management, National Police Academy for issues of LWE affected areas etc. An INSTA Response Centre can also be established in MANAGE for foreseeing the foreseeable events and situations, preparing plans, building capacity for tackling the same, capturing them online and effecting instant response.

9. Leveraging youth for agriculture and generating employment in providing on and off farm services through various interventions and programs; pilot testing program of 'full employment for youth in agriculture'; developing concepts of employment budgeting and employment mapping and

designing technology models and extension approach for attracting, stimulating and retaining youth in agriculture. Launch “Jai Kisan” movement to mobilize every societal unit and generate a national movement to support agriculture and give prestige to farming through creating proper atmosphere.

10. Promote frugal household food and nutrition security through counseling farmwomen and youth on scientific storage, processing & value addition, food & water quality, better eating habits, maintain personal & kitchen hygiene etc. to leverage the preventive healthcare properties of food for frugal health care. Similarly promote urban agriculture for tackling food inflation, and promoting nutrition, livelihood and environmental security. Shift from concept of greening to edible greening and landscaping to edible landscaping to converge environment and food concerns.

11. Centre for agrarian distress and conflicts to track, study and provide policy support to tackle distresses, such as suicides by farmers and their indebtedness, farmers’ agitations, violence and conflicts and other concerns through action research projects, challenge projects and linkages with other institutions. Promote national outreach through long term extension projects in developing countries as per policy at the field level.

### **Mission Structure**

The suggested implementation structure for the mission is as follows:

1. Joint Secretary (Extension) & Extension Commissioner as mission leader
2. Mission will have appropriately constituted General Council and Executive Council at the national level and supporting structures at the state and the district levels
3. MANAGE to support mission implementation and monitoring at National Level and EEIs & Zonal Project Directorates at regional level.
4. Mini Missions to be located in MANAGE or with relevant partner institutions
5. SAMETIs and the Directorate of Extension of SAUs, ATMAs / KVKs to support mission implementation at State and District levels respectively

### **Components of the Mission**

The working group has proposed the following components for implementing the NMAE

- ❖ Technology Solutions and Innovations
- ❖ Extension Policy and Systems
- ❖ Convergence, Programme Delivery, Governance and innovations

- ❖ Manpower Planning, HRD and Accreditation
- ❖ Leveraging E-governance, ICTs and Mass Media Support
- ❖ Partnerships and Agripreneurship Development
- ❖ National and International Collaboration
- ❖ Jai Kisan-Mobilization for Farmers Empowerment
- ❖ Women Empowerment, Household Food & Nutritional Security
- ❖ Leveraging Youth in Agriculture
- ❖ More Inclusive Growth-Difficult Areas and Difficult Groups
- ❖ Agrarian distress and conflicts, INSTA response and Farm Studies
- ❖ Foreseeing the foreseeable for instant and effective response

### **Overall Impact**

The mission will result in a more efficient, effective and relevant extension system that supports producers to enhance productivity, income and quality of life on one hand and help achieve the plan objectives of faster, sustainable and more inclusive growth.

## Section V. Recommendations

The recommendations of the working group are grouped under various components and have been discussed below.

### 1. Technology Solutions and Innovations

The 12<sup>th</sup> Plan approach paper envisages increase in food production and expansion of farm income through higher land productivity and water use efficiency. Though the rainfed agriculture can potentially contribute much more to the national agricultural production and farm incomes, it remains largely unexploited due to various reasons. There is huge variation in the natural resource base, farming systems and socio-economic conditions of farmers in varied rainfed regions. This requires a highly disaggregated approach to technology solutions as broad technological recommendations make very little sense in these kinds of situations. Mapping of farming situations and farm level resource base has to form the basis of developing context specific, dis-aggregated and appropriate technological solutions and their promotion. While generic technological recommendations for specific problems exist in many cases, appropriate technological solutions relevant for the local situation often do not exist. Developing locally relevant technological recommendation would require a good understanding of the farming situation and the resource context of the farmer for which solutions are provided. District level organization such as KVKs are better equipped to support this task in partnership with ATMA as they have a much better grasp of the ground situation and also have qualified manpower. Developing technological solutions may not be a priority currently for many organizations involved in agricultural development, although some of the NRM institutes (for instance, CRIDA) are working toward resource management solutions.

Maximization of resource use efficiency in agriculture can lead to a much larger increase in productivity and income at the farm level. But to do this there should be a mechanism to map the bio-physical (soil, water, crop, livestock, fisheries etc), infrastructural, human, financial and institutional capital. Yields and practices vary across farming situations and among farmers even within same farming situation. Research and extension planning therefore shall need to be based upon technology and yield mapping in every farming situation. Farming situation wise potential and actual yields alone shall give assessment about the current production potential of various technologies in different regions. Without quantifying the current yields, potential yield and

agricultural wealth, proper planning and monitoring of programme couldn't be achieved. The Comprehensive District Agricultural Plan (CDAP) needs to be formulated based on such quantified parameters. Programmes to promote resource literacy also need to be initiated so that the scarce natural resources and external inputs are judiciously used. Promoting integrated nutrient management strategies with emphasis on building soil health on a long-term basis also needs priority attention. Agriculture resource base of the district needs to be monetized to calculate agriculture wealth of the district. Suitable indices need to be developed to monitor trends in resource use efficiency and agriculture wealth at the district, state and national level.

Though technologies are developed by many organizations there has been a tendency of not promoting the technologies developed outside the public sector. If technologies are developed, tested and found relevant by following the authorized procedure, no authority should have right to veto such technologies. There is also a need to encourage varietal release by all agencies including public, private and cooperatives so that farmers have a wide menu of technologies to choose from. If new technologies have to reach large number of farmers quickly, extension needs to leverage the expertise, skills, and facilities available at the farm level. Documenting and testing ITKs is also important. Identifying farmers who have innovated new technologies and can support extension activities; recognizing their skills; evolving a testing and certification scheme for such farmers on a modular basis; and provision of travel support and honorarium can promote horizontal spread of technologies. Every farmer is an innovator as otherwise he won't survive. The concept needs to be extended to capture the enormous knowledge, experience, skills and innovations of every farmer, enhance the same and leverage it for agriculture growth. The knowledge of farmers needs to be monetized and promoted as a resource. This ought to be innovation number 1 of the plan. This is subsequently covered under submission 4 on HRD, capacity building and accreditation.

Maximizing incomes, livelihood and production in rainfed areas particularly for small farmers requires integrated farming systems approach. IFS models need to be developed for various farming situations. Research resources need to be allocated. Similarly urban farming is emerging as an important area for agricultural development. Suitable national institutional mechanization for IFS Development and Urban Farming may also have to be devised and operationalized.

While ICAR and SAUs together have about 25,000 scientists and have a wide range of infrastructure that can support extension activities, their expertise and capacity are not yet fully leveraged for extension activities. Faster dissemination requires large-scale demonstrations of technologies and

action research projects on wider technology application in varied contexts. Apart from ICAR and SAUs, other organizations (for instance, Corporates) engaged in technology development, dissemination and action research should also be funded to do these activities. Extension wings of SAUs and ICAR need to be strengthened to play the very important role in providing technology solutions.

Indian scientists have enormous capacity, capability and commitment to repeat the miracle of Green Revolution during 12<sup>th</sup> plan through ushering in Green Revolution 2. They need to be challenged to achieve the same and prove the skeptics wrong again. Concept of Challenged projects needs to be introduced wherein they shall demonstrate the potential to achieve significantly higher yields and incomes than considered traditionally possible. Challenge could be doubling yields and incomes under GOLD CHALLENGE or increasing them by 50 per cent under SILVER CHALLENGE over the plan period. This is indicated by way of illustration, Actual levels will need to be determined after due consultations.

Though several efforts have been made to improve research extension linkages over the past two decades, it remains as a matter of concern even today. Selection and approval of research programmes, technologies, and extension activities jointly by research and extension agencies can potentially improve interdependence and thereby linkages between research and extension agencies. The role of Zonal Co-ordination Units of ICAR should be broadened beyond managing the KVKs to support research planning, strengthen research extension linkages and lead development of technology solutions. Directorates need to be strengthened and their number increased to meet this challenge. Secretary DAC and Secretary DARE have issued joint circular regarding research and extension linkage which is a very welcome step. This needs to be replicated at all levels. An institutional mechanism needs to be designed for further deepening and widening this linkage, enforcing and monitoring the same. Various options suggested in this regard may be examined.

## **Recommendations**

**1.1** Initiate an All India Coordinated Research Project (AICRP) for Technology Mapping, Adoption and Innovation Mapping in Farm Sector should to develop methodologies and tools for their determination, their integration in CDAP and further development and monitoring of activities and impact. This should cover (a) mapping farming situations and farming situation-wise technology and yields to provide technology yield matrix, yield gaps (actual and potential in the local/similar context) and yield variability within and between

farming situations; (b) farm-wise resource mapping for farm-level planning; (c) construct technology availability, technology adoption and technology impact directories and indices at different locations for various farming situations; (d) determine agricultural wealth of the district through monetization of natural resources, bio-physical resources and human resources including farmers knowledge; (e) determine indices to assess the growth in agriculture wealth, and efficiency of each resource use.

**1.2** Initiate a National Technology Solutions Project (NTSP) to operationalize contextual research-extension-farmer linkage. It should develop detailed guidelines on how each technology could best be adopted for specific farming situations under varying resource base and risk bearing capacity of farmers, field constraints and ground realities relating to availability of production and market support. This should emerge from large-scale demonstrations which should provide details of effectiveness of various technological options, its scalability and economic viability. Technology solution for various areas, farmer groups shall bring out the need for providing support through subsidies and or free inputs which are considered necessary for adoption of technology. It shall be a package with technology at its core so that over the period subsidies could be minimized or tapered with greater input of knowledge. This should also ensure promotion of best technologies for the farmers independent of the source of technology. The project should be led by MANAGE and implemented through the Zonal Project Directorates of ICAR in collaboration with ICAR/SAU institutions and research wings of other agencies located in these zones and to be promoted through KVKs and ATMA at the district level.. Zonal Project Directorates which shall need to be the platform for extension research linkage. These may also be strengthened and their number increased to 12 from 8 at present to enable them to play this role. The extension wings of ICAR and SAUs also need to be strengthened to provide field level solutions. The project shall also function as a single window access to technology solutions for various farming situations and resource base and risk bearing capacity of farmers.

**1.3** Support to ICAR-SAUs extension initiatives for taking up large-scale frontline demonstrations over large areas and initiate action research projects (as competitive challenge grants) for scalable technology applications under field conditions and ground realities. Institutions outside the public sector with a track record of initiating such activities and are keen to play a larger role in this may be allowed to do so. While colleges (agriculture, veterinary, fisheries etc) may take up 5 villages for this purpose, other research institutions

may adopt larger areas. At the district level, these may be integrated into ATMA so that this should provide further linkage with its field extension activities. Challenged projects may be classified with respect to the challenge of bringing about increase in yields and incomes in the project areas. As an illustration, projects could be gold challenged for doubling yields and/or incomes, silver challenged for increasing them by 50 per cent or bronze challenge for bringing 25 per cent increase depending upon potential of different areas with much greater potential in low yield districts

**1.4** Priority needs to be provided to technology solutions for disadvantage areas, groups and farmers whose low productivity is majorly responsible for low productivity of rainfed areas. These should be built around crops suitable for these areas. Steep increase in yields in a short period is possible in areas and for farmers at lower level of yields even with the same technologies which shall be brought out by yield and technology mapping.

**1.5** Integrated Farming Systems (IFS) models may be developed for various farming situations by each research centre and adequate resources needs to be allocated for this. This is especially important for productivity and income enhancement in rainfed regions. A suitable institutional mechanism with requisite authority and mandate is needed for IFS development in rainfed areas to ensure adequate priority. Initiating this through the National Rain fed Area Authority is an option, which could be explored.

**1.6** Initiate mechanisms to promote urban agriculture through technology development and promotion While ICAR might take a lead in generating urban agriculture models and develop the concept of moving from greening to edible greening and from landscaping to edible to edible landscaping; they should support extension agencies in building capacity in this area. Suitable institutional mechanism may be devised to promote urban agriculture and enhance its contribution to agricultural growth.

**1.7** Establish a Farm Innovation Foundation and launch a National Mission for ITK in agriculture. It should test all ITKs, identify farmer innovators, recognize their skills and leverage these for field extension activities. It should further monetize farmers' knowledge and monitor its accretion over the period and further its leverage for farmers' incomes and farm growth.

## 2. Extension Policy and Systems

The nature of Indian agriculture has been changing rapidly as a result of direct and indirect influence of many factors. While a production led strategy was the sole focus of extension earlier, this needs to be expanded to include a market led strategy to deal with the new challenges. Increasing profitability from farming has to be achieved through increased productivity, reduction in cultivation costs and realizing increased share of the price paid by the final consumer. Extension therefore has to go beyond transferring new technologies. In order to achieve this, States need to integrate all the desired interventions in a given area in the form of end-to-end projects of a considerable size in each Block. These end-to-end projects must have all the desired interventions - technology dissemination, farmer's group formation, inputs produced or supplied in a decentralized manner, plant protection, post harvest management, storage and marketing. In order to achieve income security to farm families, the extension system must provide agri-business options to farmers (crops/livestock/horticulture/fish based) to facilitate adoption of technologies and link them to markets so that their incomes are doubled within a definite period of time.

To support producers effectively, extension officials at the State level have to perform policy formulation and macro level convergence roles. As agriculture development is dependent upon coordinated & timely delivery of all production inputs & services, both in public and private sector, they have to develop and operationalize strong and effective linkages with various Departments and other stake holders for convergence. And to help public extension to do this, a registry or an inventory of various extension service providers have to be developed. Extension officials at the District level might be currently doing the supervisory tasks but in the changing circumstances they are required to perform as Project Managers with capacity to convert all Schemes & Programmes (central/state) into end-to-end Projects, and getting them implemented by promoting partnerships (PPP) among all extension service providers. The extension system should commit itself to reach every farmer at least once a season initially and more later on for which multi-agency, multi-media and multi-pronged extension strategies have to be extensively adopted, particularly through Group Approach. Mobilizing farmers into groups and handholding these groups during the initial period would be the fundamental task of Block and below level officials.

Ideally, ATMA should be in charge of converting schemes and programmes into projects at the district level. Its capacity to do project formulation, management and evaluation needs strengthening. Some of these activities may be outsourced to suitable agency/agencies at the state

level. ATMA needs strengthening on several other aspects too. It should support convergence of all schemes of the agriculture and allied sectors. There is a need to create a cadre of agri-managers (officers with technical and management skills) at ATMA. The number of SMS/Assistant Block Technology Managers needs to be increased to at least 4 per block.

Extension support is weak or non-existent in the case of animal husbandry and fisheries. As separate extension machinery for animal husbandry and fisheries are not going to be feasible in many states, this has to be integrated with ATMA. In districts where livestock and fisheries play a major role, staffing structure within ATMA and KVKs should be modified to include more staff with specialization in these sectors.

Large number of vacant positions in the States' Agriculture Departments is a matter of grave concern. Majority of the States have their extension staff up to Block level. Only 6 States have their staff up to village level and 11 states have extension manpower up to Panchayat level. Vacancy position is particularly alarming in tribal and distant areas which are mostly in need of extension services. A national extension census to identify extension resources (manpower, infrastructure, expertise) available with the public and private sector should be an immediate priority as it can support planning for extension in the XII Plan. Extension personnel need to be supported with new extension manual that depicts the wide range of strategies, tools and functions that are relevant for their work in different settings. There is no formal mechanism to evaluate extension performance and to understand its impact. Suitable methodologies have to be developed and senior managers have to be trained in collecting and analyzing the needed data for doing evaluation and impact assessment.

Urban Agriculture needs to be promoted as part of national agriculture planning for livelihood, food, nutrition and environmental security and as an important instrument of mitigating inflation particularly fruits and vegetables. In the meeting held in Planning Commission on 29.9.2010 it was decided that 1) agriculture policy did not separate agriculture into urban and rural divisions and therefore restricting agriculture to rural areas is a mindset in interpretation rather than conscious omission. 2) Existing schemes such as RKVY could be utilized to promote agriculture in urban areas if CDAP reflects that way. 3) Various urban land issues needed to be resolved and integrated and authorities taken on board. 4) Centre on Urban Agriculture may be established in MANAGE which may start documenting the existing experience, models available across the country and world, identify the institutions and persons involved in urban agriculture, promote capacity building, help

initiative activities in state and help firm up a policy framework on urban agriculture. 5) ICAR may provide research support in developing model for urban agriculture. Urban horticulture has been recommended during 12<sup>th</sup> plan by the working group on horticulture. Government of Andhra Pradesh has also decided to develop Hyderabad as a horticulture city. Promotion of the concept of 'moving from greening to edible greening and landscaping to edible landscaping' shall meet greening, aesthetics and food concerns without extra investments and make urban greening viable .

## **Recommendations**

**2.1** Develop an extension policy at the national level that clearly reflects the changing role of extension in the current context. Besides technology dissemination, extension must organize user/producer groups, link farmers to markets, engage in research planning and technology selection, and link producers to a range of other support and service networks. Articulating this expanded mandate is critical for bringing about organizational and management reforms in extension and developing right kind of human resources.

**2.2** Extension should follow project approach through projects of suitable sizes to provide complete support to farmers including backward production linkages and forward marketing linkages.

**2.3** The project planning and management capability of ATMA and other institutions should be improved through a comprehensive approach including (a) engaging a project management agency at the district level to formulate projects, access funding, assist and monitor project implementation; and simultaneously (b) improve the project planning and management skills of ATMA, BTT and other institutions through induction and refresher courses with certification on a modular basis.

**2.4** A strong, vibrant and responsive extension with an expanded mandate can and should respond to meet the XII plan challenges. The extension personnel whose capacity building is done on a regular basis can respond to the evolving demands for support and services of farmers & other intermediaries. End-to-end project formulation, implementation, intermediation and facilitation need to be taken up on a mission mode to reach and benefit every farmer. It is possible if all the extension and IT related initiatives are brought under one overarching umbrella programme. The Group on Agricultural Extension therefore strongly argues for the establishment of a National Mission on Agricultural Extension (NMAE).

**2.5** ATMA Scheme must be further strengthened under National Mission on Agricultural Extension with core support provided as a central programme and subsequent additionalities from RKVY / other schemes and sources. The extension resources with ATMA may be strengthened, including enhanced remuneration to contractual posts to attract and retain quality manpower. The financial provision available for Farmers Friends also needs to be enhanced.

**2.6** The Modified ATMA Scheme, with 2 Subject Matter Specialists (SMS) per Block, has 11522 SMSs which implies that each SMS would be serving the needs of about 11,000 cultivators. This ratio definitely needs to be brought down to ensure provision of good quality extension services by actually reaching out to the farmers physically (coupled with other modes such as Mass Media, ICT, PPP etc.). Hence, the number of SMSs needs to be doubled to 4 per Block (total of 23044 SMSs).

**2.7** Even with this proposed doubling of SMS under ATMA, each SMS may still have to cover about 10 to 11 Panchayats. It is therefore necessary that, besides dedicated ATMA personnel, all available extension manpower at the Block level needs to be integrated. The State Governments must ensure at least 30 per cent (equivalent to about 30000 in the entire country) of the existing manpower will work exclusively for providing extension service. Private extension service providers like Agripreneurs promoted under ACABC Scheme (11000 already established agri-ventures till March 2012 plus a minimum of 2000 agri-ventures established every year during XII plan, there would be about 21000 agri-ventures by the end of XII plan) and input dealers possessing Diploma in Agricultural Extension Services (DAESI – about 12000 per year and 60000 by the end of XII plan) need to be utilized as para extension workers. Overall there should be at least one Extension Personnel for about 1200 cultivators (same as that under erstwhile T&V System). This ratio of Farmers to Extension Personnel needs to be further reduced in disadvantaged regions, by deploying more extension personnel or through increased participation of private sector, para extension workers, farmers organizations etc.

**2.8** Every village should have a Display Board indicating the name of the extension worker assigned to the Panchayat, contact numbers and broad details of important schemes applicable to that area.

**2.9** Agricultural experts/scientists of SAUs & ICAR Institutes must regularly visit and provide technical support to extension workers right in the farmers' fields. In the process,

they can generate valuable feedback on the performance of the technologies & advisories and use the feedback for formulating problem-solving and need based research projects. The extension system must extend financial & logistic support for frequent and regular field visits of scientists.

**2.10** Domain experts in major crops and enterprises in each State should be identified and utilized for providing specialized guidance to Extension Functionaries.

**2.11** Extension workers who achieve exemplary work must be honoured or recognized with awards on predetermined criteria like productivity achieved in demonstration plots, bridging yield gaps etc.

**2.12** MANAGE & EEs should develop Extension Manuals which are continuously reviewed and refined to meet emerging needs of extension workers. Train the extension functionaries to use these as field guides for facilitating farmers to access, adopt and benefit from various technological solutions, programmes and schemes.

**2.13** Methodology for assessing impact of extension efforts in various contexts must be developed in regional languages. A cadre of extension evaluators needs to be created for evaluating extension impact using these methodologies.

**2.14** Considering the critical role to be played by KVKs these should be strengthened with adequate resources so that KVKs will have strong linkages with ATMA and other institutions for supporting the implementation of the Mission.

**2.15** The governing structure of ATMA should be enlarged to provide representation for various organizations and stakeholders involved in CDAP including those from water resources, power, NREGA, rural livelihood mission etc. All committees implementing Ministry of Agriculture schemes shall be subsumed in ATMA Governing Board. ATMA Governing Board should suitably address the concerns of allied sectors.

**2.16** CDAP shall form basis of formulation of projects for funding under RKVY and other sources. It should also access funding from all other sources including investments from private sector through suitable partnerships. The projects should indicate the expected incremental yields as also risks for taking informed decisions on the projects. C-DAP linkages with ATMA and District Planning Committee shall be developed.

**2.17** Panchayati Raj Institutions command large resources under various schemes of ministry of rural development which are very closely linked to agricultural development. Resources of PRI institutions need to be fully leveraged in planning and implementation of extension programmes. Mechanism and guidelines for prominent role to PRIs need to be devised through wider consultations.

**2.18** Districts and blocks should be classified with reference to prominent sector such as livestock, fisheries, horticulture etc. Composition and leadership of the technical team at KVK and ATMA should reflect the needs of the respective dominant sectors.

**2.19** Organize extension programmes in the area of fodder development, feeding practices and health care to address the extension needs of the livestock sector. Similarly, extension programmes in areas of responsible fisheries and technology promotion in marine, brackish and freshwater fisheries technologies have to be designed and implemented in partnership the NFDB, fishermen co-operative federations, Department of fisheries and NGOs working in this sector.

**2.20** MANAGE may start a Centre for Urban Agriculture and take steps for promoting urban agriculture by covering vacant lands in institutions and industrial areas on priority. Concepts and practices and guidelines of urban farming may be developed and included in the proposed extension manual. Concept of moving from “greening to edible greening” and from “landscaping to edible landscaping” may be developed and operationalized.

**2.21** Filling up of all vacant posts (exceeding 70 per cent in some districts) is a prerequisite to the success of Mission. RKVY guidelines may be suitably amended to provide filling up of posts as a mandatory condition for release of funds under RKVY.

**2.22** Strategic Research Extension Plan (SREP) for each district should include a database of critical technologies along with targets for their adoption and possible reduction in yield gaps and variability. Each District Agricultural Action Plan (DAAP) prepared under ATMA, based on SREP, should identify key technologies. However, certain technical practices like seed replacement ratio, cropping intensity, adoption of IFS approach, soil testing based nutrient application, IPM, INM etc. should be mandated and achieved.

### **3. Convergence, Programme Delivery, Governance and Innovations**

The country currently has a rich diversity of extension service providers and extension related programmes. But, at the same time not all producers are getting adequate support in addressing their expanding and complex challenges and many remain untouched from many of these initiatives. Agriculture technologies are primarily promoted through the schemes/programmes taken up by the state Departments of agriculture and other allied departments at the state level. Development programmes taken up by other Ministries/Departments dealing with soil conservation, irrigation, power, fertilizers, agricultural marketing etc. have a tremendous bearing on the agriculture development. For best results, these programmes need to be designed and implemented in sync with agriculture development programmes. Convergence, improved programme delivery, good governance and innovations can make a striking difference to improving reach and quality of services. Through resultant cost efficiency of delivery of services and improved outcomes and impact it can help bridge the resource gap for plan objectives and budgetary deficits.

Problem of convergence has assumed urgency due to substantial increase in outlay on various programmes related to agriculture and rural development in recent years, which include, RKVY, NAREGA, Rural Livelihood Mission, Bharat Nirman etc. Convergence is an evolving process and while broad principles can be laid out at national level, the actual contours of convergence would be determined by resources at the state, district and grass-root level. A number of measures have already been taken at national level for convergence of programmes of Ministry of Agriculture and Ministry of Rural Development. The Department of Agriculture and Cooperation, MoA has also taken up measures to identify mechanisms for convergence of schemes such as ATMA, NFSM, NHM, TMNE, RKVY, National Project on Monitoring Soil Health and Fertility (NPMSF) etc, by way of providing pooling of funds and other resources of these schemes.

Agricultural technologies are also being evolved in private laboratories in India and abroad and these are being promoted by private agricultural extension system. Convergence between public and private programmes for raising agriculture productivity is also quite necessary in this context. Joint guidelines for convergence between agricultural research and extension have been issued by Secretary (A&C) and Secretary (DARE). The guidelines provide mechanism for close involvement of agricultural research system represented by ICAR Institutes, SAUs and KVKs and State agriculture and allied departments by pooling funds, resources, programmes and manpower to enable the

farmers to draw full benefits of technological advancements as per local needs. Though these efforts are promoting convergence, a lot more needs to be done to institutionalize and strengthen convergence. Staff shortage, fear of loss of power and control on resources and lack of capacity in designing locally relevant programmes are constraining achievement of real convergence.

It is not enough to formulate a scheme or a program. There has to be a detailed plan for its implementation. Plan for implementation of the plan has to be an integral part of the plan. While a right based approach can potentially improve the delivery of services, all the agricultural services are currently not amenable to conventional "rights based approach". However, this is something that needs closer analysis and deliberation. However a "Farmers Charter" may be adopted by every agriculture organization in the Government.

## **Recommendations**

**3.1** Restructure schemes and programmes of agriculture and allied ministries and ministries having programs/linkage with farm sector growth and special missions funded by the Planning Commission for convergence at the national, state and district level in consultation with concerned stakeholders.

**3.2** An Agriculture Sub-Committee of the Cabinet, comprising of all ministries and departments, having mandate of promoting agriculture and rural development or building rural and agriculture infrastructure should be created at national and state level. Any agriculture and rural development programme, to be taken up by any of these ministries and departments should be cleared by this Agriculture Sub-Committee. The Sub-Committee should do so after examination of all over-lapping aspects, convergence arrangements and also after building provisions for joint implementation arrangements.

**3.3** Approval of the projects/ interventions under various schemes of DAC and other ministries should be delegated to an inter-departmental committee headed by the Chief Secretary to bring synergy within the programmes and also to ensure convergence.

**3.4** A convergence matrix may be prepared which will list out scheme and component wise allocations and activities. Every proposal for funding under existing schemes or new schemes should be accompanied by a convergence matrix relating to that department with a detailed explanation about to what extent convergence has been achieved. Every authority

scrutinizing and approving the programme must do convergence scrutiny to satisfy himself/herself that convergence has been brought about.

**3.5** Suitable institutional networking mechanism may be constituted and put into practice for convergence. Departments and institutions in the convergence matrix shall co-opt the departments in the related institutions in decision making to ensure all departments are in the loop. This should also be done while constituting the working groups and their sub-groups for preparing plan.

**3.6** Government must encourage and promote organizations of farmers as common interest groups, user groups or producer groups to collectively negotiate and buy/receive inputs, to avail of technologies and to process/market their produce collectively. Adequate resources should be provided for building their capacities related to consensus building, conflict resolution and access to technologies and markets.

**3.7** Plan for implementation of the plan, should be an integral part of every plan. Centre for e-governance may be established and ICT leveraged to design and adopt most-advanced project formulation, implementation and monitoring techniques. The centre must delineate mechanisms for fixing responsibility/accountability of each institution/functionary and introduce transparency and process driven transparent mechanisms. Innovations in programme delivery should be encouraged to improve performance and successful models should be widely promoted. To improve delivery and enforce accountability, every functionary, task, reports and other components shall be given a unique identity.

**3.8** All agriculture and related departments' staff at the block level and below should be made to function under a single organization through a suitable mechanism and all agriculture development programmes below this level should be implemented by this organization.

**3.9** A farmers' charter may be adopted and declared by every organization (public as well as private) providing services to farmers. Charter shall indicate the quantity, quality, price and timeliness of services to be provided. This should be uploaded in the proposed "Farmers Portal" and its implementation should be monitored. One officer in each organization should be designated for grievance redressal based on complaints relating to farmers charter. They should also file complaints with the Consumer Courts.

**3.10** Extension wing of agriculture ministry, agriculture department of state and ATMA should compile and publish schematic charter for single window access for farmers with links to the concerned agency so that the farmers are not required to approach different departments and agencies to understand all the services to which they are entitled.

**3.11** Services which are identified to be amenable for “rights based approach” should be subjected to it and its time bound delivery guaranteed through the general law on guarantee of services by way of notification.

**3.12** Suitable incentives for state/district/block level extension functionaries may be put into practice to improve delivery using innovative designs. This may include among others, social recognition, priority for infrastructure funding and faster career progression opportunities.

**3.13** Innovations must be prescribed as a key instrument of the Mission. Result Framework Documents (RFDs) and Key Result Areas (KRAs) may be modified to suitably reflect the needs of the Mission as part of Plan.

**3.14** Large investments have been made and increasingly large investments shall be made in improving land productivity under various programs including integrated watershed development program and MNREGS. Large investments have also been made in development of irrigation potential. These investments need to be leveraged for agricultural growth. Data base of land development and irrigation works may be created giving unique number to each work and the data base has to be used to plan for large scale demonstrations in these areas. Performance of these works in increasing productivity of crops and income of farmers should be evaluated by ATMA. With the hand held devices provided to the field level staff they may be asked to videograph all these areas and fields with their comments which could be cross checked with feedback from farmers.

## 4. Manpower Planning, HRD and Accreditation

The rapid changes in the nature of agriculture and rural sector during the last two decades have reiterated the need for expanding the mandate of extension services beyond disseminating technologies. However, ways of operationalizing this expanded vision and building the needed capacities haven't been very well articulated so far. There is a need to develop a sound Human Resource Development (HRD) policy for continuous development of capabilities of farmers, extension personnel and other stakeholders. Farmers' capacity building has to be central to the HRD policy so that over the period they should be able to manage their farming enterprise and decide & control his destiny.

To remain relevant, extension personnel would require competencies in technical, organizational, managerial, communication and business skills. Expertise of extension personnel needs to be strengthened in frontier areas of technology (for instance, biotechnology) and conventional areas like resource conservation and management. Market related skills must be the top priority of all HRD initiatives. There is a need to extend both the reach and coverage of training by evolving multiplier mechanisms like farm schools, Open and Distance Learning, Information & Communication Technologies (ICTs) and Augmented Training (web-based, on-line as well as through conventional farm school on air, television, etc.)

The training infrastructure, by and large, is very poor in terms of facilities like hostel, classrooms, laboratories, audio-visuals, farms etc. Training infrastructure for animal husbandry and fisheries is considerably weak. Appropriate financial and policy support can greatly improve training effectiveness. Lack of clear-cut demarcation of training roles and responsibilities (in terms of training areas and clients served) of training institutions at all levels in general and at district level in particular have complicated the situation further.

Training process also needs a re-look in most cases. The number and quality of trainers is inadequate to support the increasing training demands. Inadequate 'training of trainers' and lack of incentives to attract best talents to the training profession are areas of grave concern. Accreditation of training institutions and trainers is non-existent. This needs to be addressed by evolving appropriate institutional, structural and operational framework for a rigorous accreditation mechanism for institutions and trainers alike. Apart from this a data base on training infrastructure, funding and personnel do not exist and this is affecting planning for HRD.

## Recommendations

**4.1** Introduce a national farmer capacity development mission to develop the capacity of farmers and bridge their knowledge and skill gaps on a life time basis for managing their farm enterprises and to tap agri-entrepreneurship opportunities as extension resource, extension consultant, and service providers. Life time learning opportunities shall be provided through multimodal formats on a modular basis. Farmers' knowledge should be assessed on a regular basis and also monetized to understand their knowledge wealth and accretion of knowledge. To recognize the inherent knowledge of farmers, standards for certification on a modular basis may be developed and facilities for testing and certification must be provided. Such certification shall be carried out to the highest level. The standards shall also be suitably benchmarked to provide them the status and livelihood opportunities. These could include providing extension resource, farmer faculty and farmer researcher status. Farmer competency monetization shall also help in higher credit rating for loans.

**4.2** At the present rate, about 4.76 lakh farmers are trained every year under ATMA. At the rate of Rs.500 per farmer the tentative budget required would be around Rs. 23.8 crore per year (Rs.119 crore for Plan period) for farmers training under ATMA. An equal number of farmers may be trained by KVKs, SAUs, ICAR Research Institutes and other schemes of State Governments. Together, we may need about Rs.238 crore for the purpose.

**4.3** Launch "National Farmers' e-Literacy Campaign" (Rashtriya Kisan e-Saksharata Abhiyan) to train over 2 crore farmers about various channels of agricultural information delivery and also about value of their feedback to continuously monitor and improve the delivery mechanism and thus reach 90 per cent of farmers from current level of below 50 per cent.

**4.4** Establish e-Extension and Agricultural Knowledge Management Centre as an ICT-enabled research and capacity building initiative of ICAR. It shall act as a national knowledge resource centre in agriculture and allied sciences.

**4.5** Develop an HRD Policy for Extension in Agriculture and Allied Sectors. This should be based on a census of extension service providers and supported by a project called Agricultural Extension Human Resource Development Project to build capacities of all extension service providers in agriculture and allied sectors representing the public, private

and civil society sector. The extension functionaries training should be based on training gap analysis, should be diagnostic in nature and should be directed at 'being able to perform the task in the field'. Every extension functionary shall be required to undergo induction training, training for new technologies, and refresher training for a minimum period of 10 days during the year as per a pre-decided career progression plan using multimodal techniques. Annual competency assessment of every extension professional shall be carried out by professional consulting agency through suitably supported online system. Capacity of extension institutions shall be assessed to identify capacity gaps and needs at various levels such as block, district and state and further aggregated for the country. This shall help in training planning, manpower development and career progression besides providing a quantitative assessment of targets and achievement in building extension capacity to achieve the 12<sup>th</sup> plan goals and objectives, Extension functionaries shall be encouraged to improve their skills on a life time basis. Excellence in this regard shall be suitably rewarded. Manpower planning to meet long term futuristic needs should be an important component of the policy. The employees should be encouraged and facilitated to build their capacity and achieve excellence. Concept of Excellence Allowance may be introduced to reward employees on the basis of capacity assessment.

**4.6** Funds have already been provided for induction and in-service training of extension functionaries. Separate funds are needed to build capacity of SAU and ICAR Extension viz. researchers, teachers, etc. which will require an amount of Rs.100 crore.

**4.7** The changing roles of and expectations from KVKs necessitate regular capacity building of its professionals and also the extension professionals of the ICAR and Agricultural University Systems. Hence exclusive capacity building programmes shall be designed and conducted (like induction training, refresher courses, management and executive development programmes) for effective implementation of the mandated activities and image building/ branding of KVK system. NAARM, Agricultural Extension Division of ICAR and Zonal Project Directorates will jointly take up the responsibility for this.

**4.8** Strengthen MANAGE as national hub, EELs as regional hubs, SAMETIs and district training institutions as spokes. MANAGE's capacity needs to be build for it to support the Mission. Considering the key role accorded to MANAGE in the implementation of Mission, it

will need to be strengthened to fulfill the expected role without any delay and with the utmost urgency to ensure effective and timely implementation of the Mission.

**4.9** It is proposed to set up an International Centre of Excellence in MANAGE/ NAARM. The Centre will be supported with specialized manpower, state-of-the-art infrastructure and operational contingency. We may need Rs.40 crore for the purpose.

**4.10** One time catch up grant for training infrastructure, upgradation of KVKs and ATCs is proposed in addition to continuation of Support to Central Institutes (MANAGE, SAMETIs, EEs). Strengthening District Training Centres/ KVKs is proposed at the rate of Rs.20 lakh x 600 districts, i.e. Rs.120 crore.

4.11 Revenue generation by all HRD/training institutions (5 per cent of their annual budget) may be mandated by renting out facilities when not in use. The revenue so generated must be utilized for meeting recurrent repair and maintenance of training infrastructure.

**4.12** To infuse professionalism in 'HRD and Training' the existing and emerging training institutions need to be accredited by following standard accreditation procedures. The draft Training Policy 2010 of DoPT, MHRD, Government of India stipulates such accreditation to all the training institutions, trainers and consultants. Accreditation should be made mandatory to enhance the effectiveness and accountability of training institutions. Appropriate accreditation protocols, procedures and institutionalization in collaboration with other institutions will have to be evolved by MANAGE in consultation with other relevant institutions. To encourage compliance to mandatory accreditation, government funding and other incentives may be restricted to accredited HRD& Training Institutions only.

**4.13** Establish Agricultural Extension Human Resource Information System with data on personnel, vacancies, expertise, training history to guide HRD planning and implementation. Such an Information System must be developed based on census of extension resources and infrastructure of all extension service providers including public and private. This shall provide data base for training planning through demarcation of training domain target groups, thematic areas, training needs and training institutions.

**4.14** Collaborative and concerted efforts shall be initiated by NCERT, ICAR and Agricultural Universities to develop innovative and quality training resource material in local languages.

**4.15** Develop and organize programmes for sensitization and capacity building of peoples' representatives, senior policy makers, implementers and various community stakeholders. At the rate of Rs.10,000 per year per PRI for 2.8 lakh Panchayats would require an amount of Rs.280 crore. Another 20 crore is proposed for training of first time MPs & MLAs.

**4.16** Lack of knowledge, often being the reason for lack of transfer of knowledge, principle of *noblesse oblige* should be made applicable across the sector. The farms of research stations, agriculture colleges and institutions, KVKs, state farms should be developed as centres of excellence as role model for farmers. It needs to be ensured that every extension staff, including supervisory and administrative level officials, possesses superior competency, skills and knowledge.

## 5. Leveraging ICT, Mass Media and e-Governance

India has a long history of using radio and television for reaching rural communities with new information on agriculture and rural development. Besides radio, television & print media, new avenues in the form of ICT enabled portals, call centres, community radio, information kiosks, digital photography, digital videos etc. are being used for disseminating information on agriculture. Improved availability and access to new ICT technologies - especially personal computers, the internet and mobile telephones - in the last two decades has provided a much wider choice in collection, storage, processing, transmission and presentation of information in multiple formats. ICTs are also providing greater access to information and communication among the hitherto un-reached geographies and populations.

A number of important initiatives have been taken to provide ICT hardware and connectivity to all organizations involved in agricultural education, research, development and extension, Simultaneously, content development and content aggregation initiatives have also been taken up by Ministry of Agriculture, in collaboration with State Departments of Agriculture and National Informatics Centre (NIC) to provide agricultural information relating to crop production, protection, schemes and marketing information of various commodities to the farming community.

With rapid spread of internet facility in rural areas ICT now has the potential to solve two major national concerns namely inflation and increased income for the farmers through disintermediation in both procurement of inputs & services, minimizing the costs through e procurement and maximizing their share in consumer price through e marketing by bringing producers and sellers together.

### Recommendations

- 5.1** The National e-Governance Plan, currently under implementation in 7 States needs to be rolled out in the remaining States and Union Territories of the country. Budget provision needs to be provided for both capital expenditure and operating expenditure of NeGPA and other ongoing IT related activities of DAC.
- 5.2** Launch "National Farmers' e-Literacy Campaign" (Rashtriya Kisan e-Saksharata Abhiyan) to train farmers for empowering them to use various ICT means and method to realize their full potential. It is proposed to train 5 farmers per village in all the 6 lakh

villages. Taking the cost of training at Rs.300 per farmer per day, an amount of Rs. 90 crore is proposed.

**5.3** *Satat Kisan Vartalap* (Continuous Farmers' Interactions) shall be initiated to reach out to all categories of farmers, through customized information services. SMS, IVRS and Voice Recognition which are tailor made to the needs of a Commodity Interest Group or set of farmers living in same agro-climatic conditions, successfully attempted in Maharashtra, needs to be scaled up to the entire country. Such Short Message Services (SMS) may be initiated in a pilot scale by sending 1 SMS in broadcast or interactive mode every week to about 20 per cent of cultivators in the first year. Number of farmers covered could be progressively increased by 20 per cent every year so that at the end of 5th year, all the cultivators (12.73 crore cultivators) in the country will receive weekly messages & advisory services. A mechanism may be put in place to provide weekly/ daily personalized information (thru SMS/MMS) to the farmers by the Departments of Agriculture/ Horticulture/ Animal Husbandry/ KVKs/SAUs.

**5.4** The Farmers Portal being developed by DAC should emerge as a one-stop portal for all Agricultural Information (digital content) emanating from all public agencies and stakeholders. All other portals developed by ICAR/ SAUs and portals developed by NIC (e.g. AGMARKNET, SEEDNET, HortNET, agriclincs.net etc.) should preferably be linked to Farmers' Portal. Linking Subject/ Crop specific Portals (e.g. Rice Knowledge Management Portal, Agropedia, etc.) also needs to be explored. A stakeholder directory of institutions, agencies, experts, agricultural magazines, journals, newspapers and channels shall be prepared and linked on to Farmers Portal. The Farmers/Kisan Portal will include full implementation strategy and details about all schemes and programmes including C-DAPs, SREPs, related procurements, recruitments, list of beneficiaries and services provided and payments made for all development works carried out. The portal will also provide for farmers/ beneficiaries feedback for all programmes. The Farmers Portal will have a convergence matrix to indicate all farmer centric schemes/ programmes, interventions, resources and knowledge with their outcomes and components to be mandatorily used for all planning. Farmers' portal should provide separate page for each farmer. The various mission institutions should have their space on the portal so that they could provide complete information about programs and achievements.

**5.5** National Centre for e-Governance in Agriculture (NCeGA) may be set up by the DAC to leverage ICTs for promoting improved delivery and implementation, transparency, accountability and good governance. The centre must plan and support appropriate ICT interventions to ensure accountability through digital system for performance prescription and monitoring at all levels (through job-chart). It should also develop platforms for getting farmers' feedback and complaints on-line. It shall also promote good governance by promoting practices of e procurement, e bill payment, e recruitment and e distribution of grants and distribution of materials and subsidies.

**5.6** A comprehensive Agri-Knowledge Portal needs to be designed and developed by NCeGA. This portal will host all the latest information about the happenings in agricultural sector relevant for extension functioning in the country. All agricultural extension initiatives (including ICT enabled extension initiatives in the country, by public, private & NGO) will be scanned (for its objectives, operational area, current reach and impact), and hosted on the Portal. All national level seminars / workshop recommendations having any reference / relevance to extension / farmers will be documented and hosted on the Portal. Agricultural magazines, journals, directory of contents/ summaries with links to their full text / original web-site may also be made available in the Knowledge Portal. All farming situation-wise technology solutions generated by SAUs/ ICAR system should necessarily be available in the Portal. Further measures should be taken to capture, collate, disseminate and use the knowledge. MANAGE may use the 12<sup>th</sup> plan documents duly elaborated as zero draft. Suggestions in various workshops and seminars or on the web should make their suggestions as modifications to the base document.

**5.7** Work towards establishing a 24 X 7 National Farmers' Channel (Rashtriya Kisan Channel) on Television and one Community Radio in each District. The Channel will be managed on time-slot basis, wherein the state and district specific content will be telecast from various Low Power Transmitters during designated hours. Resources and infrastructure of ISRO/ IGNOU need to be used to enhance the outreach of agricultural programmes.

**5.8** Kisan Call Centre (KCC) in its present capacity of 144 Call Centre Agents is being utilized by about 5000 farmers a day. Information needs of majority of farmers could be easily met with by the Kisan Call Centres at no cost to farmers' right at their farms or homes. This needs massive expansion in terms of number of agents working in the call centres to

communicate with one million farmers per day (reaching out to all 120 million farmers, at least once in a season, thrice in a year). The services of KCC need to be made more complete and accurate with participation of the officers of agriculture & allied departments right from Block level and also other departments like Irrigation, Power, and Agricultural Marketing at appropriate level. Teleconferencing facility with experts in SAUs & ICAR Scientists should also be available if farmers need specialized advice. Possibility of KCC agents receiving farmers' complaints about performance of agricultural technologies and other production services in their farms needs to be considered. It should be backed-up by a provision for escalating/forwarding these complaints to state department/agency concerned for further action. Measures also need to be taken to protect identity of the cell and to further project the cell as a ministry initiative. Feedback from KCC needs to be further fed into the system to determine research and extension agenda through a generic approach of dealing with the problems.

**5.9** Over 96000 CSCs working at village level are the closest access points for the Farming Community. These CSCs will be re-christened as Kisan Seva Kendras, as majority of their clients are Farmers and Agricultural Workers. CSCs may be provided with basic training facilities like projection system and white boards to act as Farmers Training Centers or Agri-Service-cum-Training Hubs. These and the CSCs at the level of village panchayats need to be developed and evolved as village resource centres. The CSCs can facilitate updating of farmers records and visuals about their crops. They can aggregate farmers demand for inputs and assist in the procurement of inputs and services to get them the best rates and further help farmers in marketing of their produce. The CSCs can facilitate to lodge complaints in consumer courts on behalf of farmers.

**5.10** A monthly '*Kisan Patrika*' in local language may be brought at ATMA level/ state level (by SNO), to share farmers' success stories at grass-root level. All the state level documents may be registered at national level at NCeGA for national circulation (as and when required) and also for future reference.

**5.11** All the officers and staff involved in the Mission may be provided a state-of-the-art hand-held device to disseminate information on all technology solutions, input and marketing. All information on field implementation of Mission programmes including recruitment/ procurement, field services provided by the extension staff will be reported

and recorded through online updating by the functionaries. This will also help in checking leakages and provide for on-line monitoring and social audit by beneficiaries, peoples representatives and other authorities. Most importantly it will help in timely aggregating of the field data at District, State and National level. The data will include documentation, visuals about field status and audio/ videos about farmers' complaints. A Tablet / Low cost Laptop/a suitable hand held device with facility of video conferencing may be provided to all extension functionaries in the system.

**5.12** The concept of low cost film production and screening the same by using low cost Pico Projectors have been successful attempted by Digital Green. The Digital Green is practicing the concept of participatory approach where in farmers and Community Resource Persons play major role in film production as well as screening. However it has very limited reach so far covering about few thousands of farmers in 5 to 6 States. We need to widen its scope and reach. Pico projectors are particularly appropriate to rural areas as these do not need electricity (run on rechargeable battery) and easy to operate. All the field level functionaries must be provided with Pico Projectors for disseminating best agricultural practices through locally produced films. Every Block should have at least 4 Pico Projectors, which will be used by ATMA BTMs & SMSs during their visits to villages. The films would be focused on specific themes and preferably directed by farmers themselves so as to have greater acceptability among the audience. Video quality need not be of broadcast quality but should have to be in High Definition Video formats such as .mp4 which can be easily played on laptops. These films will have to be made available on the internet for display through e-Panchayats and Common Service Centres and also for direct use. Existing films in the DAC, ICAR, SAUs, States and non-government entities will have to be used after dubbing in regional language till new films are produced by using participatory approaches. Farmers shall also be encouraged to provide field data and shall be actively involved in film production.

**5.13** Farmer-friendly agricultural publications with more of visuals and drawings have been found to be very effective in transferring best agricultural practices to farmers. Manpower and infrastructure available under National Literacy Mission could be gainfully utilized in reaching large number of villages, including remote villages, in an effort to educate & empower farmers about the scientific farming practices. At least 3 sets of publications on major topics/crops/enterprises may be made available in all the villages.

Number of publications could be gradually increased to cover all the crops and activities of the region and the number of sets of these publications could be increased up to 6 per village so that all the major extension outreach centres will have these publications besides Farmers Friends. These materials need to be mainly graphical in nature and written in simple vernacular language. Besides *Jan Shiksha Kendras*, prominent places in various villages (such as Fair Price Shops, Milk Cooperative Societies, PACs etc.) will also be covered.

**5.14** Path-breaking methods such as Kala Jathas, Extension Buses etc. have been tried successfully in some States to deliver the message effectively and informally in an interactive manner. In addition to the sum of Rs. 25 lakh per state provided for in the ATMA Cafeteria, a sum of Rs. 5 lakh per district is proposed for the purpose. All the districts in the country will be covered in a phased manner (100 districts in the first year to 600 districts in the 5th year). The ongoing Mass Media Scheme will continue to be implemented.

**5.15** The e-procurement of inputs and services required by the farmers may be promoted to give them negotiating power to get the inputs at the most competitive rates without transaction costs. Virtual markets may be promoted to bring farmers and consumers together through disintermediation for getting the best prices for farmers without taxing the consumers. E procurement and virtual markets together shall help tackle the two big national concerns namely; incomes for farmers and food inflation.

## 6. Partnership for Agri-preneurship and Business Development

There is now an increasing understanding that production support activities must be not only linked to market demand but also looked at within the context of the whole supply chain. This requires not just government extension agents, but the entire galaxy of actors in the agri-business value chain (producers, producer groups, input dealers, agri-business companies, traders, organized retailers, exporters, NGOs working with producers) possess the requisite skills to meet the entire spectrum of needs of the value chain. Partnerships among the wide range of actors in the public and private sector therefore is critical for supporting agri-preneurship and agri-business development.

While public policy in agriculture increasingly recognizes the importance of public-private partnerships (PPPs) in extension, the experience so far shows that PPPs have been mostly an exception rather than the rule. What is missing is a clearly articulated public policy stance and broader context of a larger vision of private sector involvement in agriculture in macro terms, of which extension is only a sub-set. If a more vigorous and pluralistic model of public-private partnership in agriculture has not evolved so far, including in extension services, the blame must lie with the lack of a context-defining policy statement and strategy on such collaboration.

Howsoever well-intentioned its conception, the experience of ATMA supported PPP projects in the XI Plan period repeats the familiar story of deficient planning and implementation capacity at the district level, lack of training support, weak links with ICAR and SAU supported institutions and lack of innovation in selecting interventions. To this must be added the issue of lack of trust and mutual respect and gradual erosion of quality levels in the skill sets of government extension agents. This in turn adversely impacted the quality of private extension, as private extension agents could no longer rely on the government extension worker for referencing and advice. Extension initiatives of agribusiness companies in select crops and commodities expanded during the last few years, but in isolation with no links to the government extension machinery. Challenge of addressing livelihood security for millions of small and marginal farmers remains outside the ambit of these private efforts.

However, can such interventions be scaled up using public funds? If so, what can be the criteria for selecting the “winning strategy”? Who benchmarks their standards and performance over the long term? While many of these models are based on the “user pays” principle, what happens when they are converted to free access public goods? Will their targeting go askew and the desired goal of

addressing a mass clientele missed again amid “efficiency vs. equity” arguments? There are no clear answers to these questions as yet.

Lack of adequate number of producer collectives makes the delivery of any extension strategy a challenge, as the economies of scale in transacting individual versus group message delivery, the anchoring of knowledge within a cohort that exchanges and spreads information within the wider farming community and the opportunity of reverse knowledge flows remain unexplored. Future collaboration between public and private players have to focus more on the public sector’s ability to set standards and enforce them, provide institutional training support and monitor progress.

## **Recommendations**

- 6.1** Develop an overarching policy framework that defines the role of the private sector in the agriculture sector at a macro level. This is the first and foremost requirement for a conducive environment to be created for developing public-private partnerships in extension.
- 6.2** Include this policy framework in the 12<sup>th</sup> Plan document and this should propose the development of state-specific partnership strategies based on local priorities and needs.
- 6.3** The States must take the lead to create standards and regulatory framework for certifying and validating extension activities by all players, including public extension agents.
- 6.4** Identify innovative and effective extension strategies developed by the private / NGO sector for further up-scaling by putting public funds behind them.
- 6.5** Open-up public and private infrastructure for use in extension.
- 6.6** Launch challenge programmes, competitive grant funds and incentives to promote PPP in Extension.
- 6.7** Initiate special efforts to bring corporate social responsibilities under PPP.

## 7. National and International Linkages and Partnerships

Extension is no longer seen as an agency for technology dissemination, though this role continues to remain important, but as only one among the wide range of functions it has to perform. The role of extension is increasingly viewed as more of facilitation and brokering among the different actors in the wider system of which it is only a part. The quality and type of linkages and partnership required by extension vary widely depending on the level at which the activities are implemented. For instance, organizations engaged in extension planning, management and HRD at the national level such as DAC/MANAGE would need national & international linkages and partnerships with organizations developing/promoting new concepts and approaches in extension. Some of these include: FAO, Rome (Office of the Knowledge Exchange, Research and Extension); Wageningen University, The Netherlands, (Communication and Innovation Studies Group); University of Illinois, USA (Modernizing Extension and Advisory Services Programme); and the Global Forum for Rural Advisory Services, Switzerland. Such links will help MANAGE faculty to organize programmes for other trainers such as those in EEs and SAMETIs. Moreover, this would build MANAGE's capacity to play an increasingly important role in building extension capacity in South Asia and in several other developing countries. As part of larger Indian role and global profile in developing world in future, there is need to develop people to people contacts for mutual benefit. Extension projects may be taken up for farm development in Africa and other countries in Latin America and Asia.

MANAGE/SAMETIs should also have linkages and partnerships with national level organizations such as National Institute of Rural Development (Social mobilization, Links to Rural Development programmes); Central Research Institute on Dryland Agriculture, Hyderabad (Rainfed agriculture, technology mapping); National Institute of Nutrition, Hyderabad (Food and Nutrition Security); Administrative Staff College, Hyderabad (Governance, Programme Management) and Directorate of Research on Women in Agriculture, Bhubaneswar (Women empowerment). They should also have collaborative programme with other research and policy relevant organizations in the country such as National Academy of Agricultural Research Management (NAARM), Hyderabad, Institute of Rural Management, (IRMA), Indian Institute of Foreign Trade (IIFT), IIMs, IITs etc. Similarly the regional and state level extension management institutions should have links to other research and staff training organizations (under other ministries and departments), civil society organizations working on specific sectors/themes to implement joint, training, research and policy engagement.

District and Block level extension machinery such as ATMA, BTTs and Farmers Advisory Committees should have linkages and partnership with a number of other extension and support providers such as agencies dealing with credit, input and output markets, researchers, private extension agents, value chain actors, other line departments etc. The XII Plan should aim at more joint activities among the different agencies, through MoUs and partnership agreements. Partnership is a skill that could be perfected only through practice and therefore one should pro-actively look for opportunities to work with a wide range of organizations.

### **Recommendations**

**7.1** MANAGE must host and coordinate the Mission components related to HRD, partnerships and international linkages.

**7.2** MANAGE should be supported to evolve as an international centre for excellence on extension management through appropriate links and partnerships with national and international linkages and partnerships.

**7.3** MANAGE with the support of SAMETIs and EEIs should develop an inventory of potential partners who can support extension in various ways at different levels and should also seek additional resources to develop linkages, relationships, partnerships and joint initiatives. This information should be shared widely among the different organizations and through web pages.

**7.4** Incentivize joint collaborative initiatives by giving preference in fund allocation.

**7.5** MANAGE should promote extension projects in developing countries of Africa, Asia and Latin America as part of larger plan of promoting people to people contacts as per the policy framework.

## 8. Jai Kisan - Mobilization for Farmers Empowerment

Farming and farm growth is responsible for survival of every citizen, social group and institution and affects them variously. Farm growth sustains every other sector. Every institution, social group and citizen accordingly needs to be grateful to farmers and should express the gratitude suitably to make the farmers believe that their hard work and contribution is recognized. The spirit of Jai Kisan needs to be recreated.

### Recommendations:

**8.1** As per practice followed by various kings in the olden days, the kharif and rabi campaigns may be launched by Hon'ble Prime Minister at national level and Chief Minister at state level. Campaigns at regional, district, block and sub block levels may similarly be launched by other VIPs ceremonially. Functions may be organized in every institution on a specified day which may be fixed nationally or by each state. Institutions may review the work done by them to support agriculture and to release their farm agenda for the next year. All these farm agendas should be posted on a special website created for this purpose.

**8.2** All organizations and social groups should be facilitated to support farm growth and farmer empowerment, which shall supplement and complement the efforts of public sector. All such groups should be mobilized and capacity of these groups should be developed. A policy framework, mechanism and systems may be formulated and designed for mobilization of every group in the society so that every group in turn supports the National Mission on Agriculture Extension. Forums should be established for regular consultations, getting feedback and identifying better performing groups for recognizing and rewarding their good performance. Those organizations may also be allowed to partner for development of extension projects and may be considered as project partners to be selected as per transparent guidelines under the concept of best partner for regionally differentiated projects. A web site may be established to provide information to all these organizations about the support which could be provided. The work done by various social units should be aggregated to reflect the total work done by various groups at national, state and district level. Voluntary work done should be monetized and should be shown in the plan. Currently only work done under a specific scheme is indicated in the plan or budget. Suitable Gold/Silver/Bronze Challenge standards should be designed and operationalized for them.

### **Panchayati Raj Institution and Extension Services:**

**8.3** Institutional mechanisms may be developed to achieve harmonization, rationalization, and integration of ATMA with PRI institutions. PRI functionaries may be given a prominent role and suitably integrated in the ATMA hierarchy. Separate budgetary provision has to be made for capacity building of PRI functionaries to enable them to support implementation of extension initiatives in their jurisdiction.

**8.4** *Rashtriya Gaurav Krishi* Awards may be instituted to recognize the best performing PRIs in agricultural development at various levels. Three best performing PRIs may be honored every year at the District level. The award may carry sufficiently large amount which can be utilized by the award winning panchayats for agricultural development of the villages in their area.

**8.5** Panchayats may promote public/private partnerships for agricultural development using resources from Backward Regions Grant Fund (BRGF) and NREGA Schemes of Ministry of Rural Development. Additional funds for such projects may be made available under ATMA or RKVY or any other sources. Panchayati Raj Institutions should be involved in preparation of village and Block Annual Action Plans. Panchayats shall make use of Farmer Friends, CIGs, and Agri-preneurs in their area for this purpose.

**8.6** Suitable mechanism may be evolved for continuous on line communication with PRIs on all extension activities, progress achieved under various schemes and programs and getting their feedback regarding the functioning of various schemes and programs.

### **Mobilizing private and corporate sector for agriculture:**

**8.7** Corporate sector should be engaged to promote agriculture particularly in agricultural extension activities. Agricultural Responsibility Component may be incorporated in Corporate Social Responsibility (CSR). Besides funding under CSR, corporates can also support through their extended family including employees, suppliers and vendors as also their vast distribution and promotion network.

**8.8** Corporates can support through a range of interventions including adopting villages, providing research, design and consultancy support. Suitable forum and mechanism may be

established and put into operation for regular interaction & networking to ensure that interventions of corporates as also the public sector undertakings are demand driven. Such an interface will also help to achieve synergy, avoid duplication of efforts and fit with the needs of agricultural development.

### **Mobilization of Educational Institutions for Agriculture:**

**8.9** Forums, networks and mechanisms may be designed to reach out to and mobilize educational institutions at all levels and of all categories including schools, institutions of higher education and vocational education. Institutions involved in curriculum development such as NCERT and state level institutions should be engaged on a regular basis for updating the curriculum on a continuous basis and for giving them feedback about the same.

**8.10** More space can be created in the school curriculum to involve students in agriculture related project activities.

**8.11** Institutions of higher education may be approached to use their academic and student resources for the entire range of activities including field projects and studies in farm issues such as farmer's suicides, farm indebtedness, farm investments, media support, extension etc. Capacity building and orientation training programmes on agriculture may be organized for school teachers.

**8.12** Agriculture related information could be distributed to the farmers through school students.

**8.13** Suitable collaborative mechanism may be designed to support and utilize the resources infrastructure and programs of IGNOU and National Institute of Open Schooling (NIOS). ***Mobilizing cooperatives and other rural groups***

**8.14** Mechanism may be put in place for regular interaction with farmers' federations, groups and cooperatives including water user groups, credit, marketing and processing groups to keep them informed about schemes, programs and extension services provided.

**8.15** Organize *krishi abhiyan/mahotsava/mela/campaign* well before each season by involving the farmers groups, scientists and other stakeholders.

**8.16** There have been various success stories of very high incomes per acre for small farmers in rainfed areas following integrated farming approach. Concept of challenge approach needs to be promoted with diamond, gold, silver and bronze clubs. For instance, diamond club for farmers in rainfed area earning more than say Rs 5 lakh per acre. Similar standards could be set for gold, silver and bronze awards. Annual meet of such farmers may be organized to felicitate such farmers.

**8.17** Farmers' incomes depend upon their getting a higher share of consumer price which requires disintermediation allowing farmers to sell directly to consumers through various methods including e-marketing. This shall help farmers to get reasonable return without taxing the consumers and checking inflation in the process.

## 9. Women Empowerment and Household Food and Nutritional Security

Rural women play a very important role in agriculture. They are mostly employed as labourers, as farmers and co-farmers in crop production or are involved in smallholder livestock farming, backyard poultry and collection of non-timber forest produce. Though they participate in all activities related to agriculture, they often lack capital, information, access to markets & technologies and knowledge/skills to transform or transcend subsistence level activities to earn enough to overcome poverty.

It is also becoming increasingly clear that, programmes and projects for women are neither formulated after extensive consultation with the stakeholders nor based on diverse needs of women groups. Most of the programmes are only supply led. With water tight compartmentalisation, schemes and programmes for empowerment of women address the issues in a piece meal manner. Due to lack of adequate convergence among these schemes implemented by various Ministries, particularly, Ministry of Agriculture, Ministry of Rural Development and Ministry of Women and Child Development, economic empowerment of women in agriculture, at best, remains scattered and isolated.

Food has always been considered as preventive medicine. However, there is huge loss of nutrients due to inappropriate eating preferences, cooking methods and eating habits. Household counseling is therefore a key instrument for food and nutritional security. Women today are suffering from malnutrition and other related disorders. The food and nutritional security was never considered as a matter of priority in agriculture though agriculture can make a lot of difference to household food and nutrition security.

### Recommendations

**9.1** Each ATMA should have a special programme for rural women and the details of this programme need to be worked out through a demand-led programme development strategy. ATMA should develop operational guidelines on how to design locally relevant programmes for women.

**9.2** Promote food and nutritional security at the household level through promotion of kitchen gardens/nutritional gardens in urban, peri-urban and rural areas. One group in all 6 lakh villages will be supported with training, kitchen garden seed kit (Rs.8500 per group x 6 lakh group = Rs.510 crore).

**9.3** Form kitchen garden/ nutritional garden associations and support them through training, publication and input support. These organizations shall also provide house hold extension support for women, including value addition.

**9.4** Provide massive awareness generation on household level nutritional security (nutrient profiles, nutrient consumption, cooking methods, safe storage, kitchen and personal hygiene and water and food quality etc.) through mass media and training of extension staff and members of PRIs.

**9.5** Set up a National Household Nutritional Security Centre/Cell at the Centre and in every State. These cells should be linked to the Community Food and Nutrition Units of Food and Nutrition Boards located in States/UTs and also to the National Institute of Nutrition & Departments of Nutrition under Home Science Colleges in Agricultural Universities.

**9.6** Training, testing and certification of women's skills in agriculture needs to be done on a modular basis. Women's capacity should be developed on a life time basis as part of the National Farmers Capacity Building Project. To the extent of availability and feasibility, all training institutes must ensure that 50 per cent of trainees are women. To provide recognition to the high degree of farm skills possessed by women who continue to be treated as unskilled in the absence of a certificate and to thus correct an historic injustice, testing and certification of skills of farm women needs to be done on priority.

**9.7** All existing and new assets distributed through various schemes should be registered in the name of both husband and wife.

**9.8** Priority should be accorded to women while leasing out Common Property Resources such as wastelands, village ponds/water resources, etc.

**9.9** To the extent of availability, 50 per cent of resources in all missions and programs relating to agriculture being implemented by all Ministries should be allocated to women. This should include National Dairy Plan of NDDDB for women livestock keepers.

**9.10** Collection of gender dis-aggregated data on all programmes must be made mandatory. Specific formats of data collection should be formulated and prescribed. Responsibility of monitoring the status of mainstreaming of women's empowerment should be specifically provided at all levels. Work needs to be initiated by NGRCA to determine contribution of unpaid work of women to national income.

**9.11** *Mahila Kisan Sashaktikaran Pariyojna* which is being implemented under the National Rural Livelihood Mission may be implemented through the National Gender Resource Centre in Agriculture (NGRCA) of DAC. The NGRCA has to be strengthened with additional manpower to accomplish the given tasks.

## 10. Leveraging Youth for Agriculture

India's decisive advantage of demographic dividend in the global economic sweepstakes also needs to be leveraged for agricultural development. Considering the large unemployment in rural areas, it is of even more relevance for rural areas than other sectors. It is essential to stimulate the interest, encourage the participation of youth in agriculture and provide them suitable opportunities to generate employment. This has become critical considering serious shortage of farm labour and the need for skilled manpower for knowledge driven intensive farming for the increasingly shrinking holding sizes and need for the farmers to be able to negotiate with the input suppliers and marketers for value addition to increase their incomes. In view of increased education and skill levels of youth due to rapid increase in educational opportunities and emphasis on vocationalization in education, there is huge scope for training rural youth on employable skills under skill development programs particularly under National Skill Development Mission.

Aptitude of youth for IT skills and the relevance of ICT in agriculture and rural sector provide a great opportunity for training youth on these skills, retain them in rural areas with enough earning for leading a respectable living. Through development-supportive employment generation has assumed priority and a large number of programs have been launched, the huge potential for employment generation in the agriculture and allied sectors needs to be fully exploited. Efforts need to be made to create/provide opportunities in the villages thereby obviating the need for rural youth to migrate to urban areas. Youth in agriculture require a two pronged approach namely (i) supporting & empowering them for farming for earning a satisfying life, and (ii) generating employment opportunities through equipping & supporting them for providing on & off farm services which are needed in rural areas.

### **Recommendations:**

**10.1** A comprehensive policy on farm youth may be framed after detailed consultations including suitable institutional arrangements.

**10.2** In order to give recognition and status to the farm youth, their farm related skills should be trained, tested and certified to enable them to engage in agri-preneur activities and to take up employment in various farm related services. The certification should be on a life time capacity building basis and modular basis. These certificates shall carry social prestige and employability. As an extension of Right to Education, every youth should have Right to Vocational Training, free of cost.

**10.3** Employment generation has to be the responsibility of every sector and organization. Employment budget therefore should accompany every plan and financial budget. Detailed employment mapping covering both formal and informal employment should be a pre-requisite for employment budgeting and employment generation. CDAP should include a separate section on employment generation.

**10.4** Full Employment for Rural Youth should be a major objective of 12<sup>th</sup> Plan. Pilot projects may be taken up to determine the strategy, program and methodology for generating full employment. The pilot projects should have backward linkage with education and forward linkage with field extension. Every agricultural college, research institution and KVK should formulate and implement Challenge Programs that generate full employment for rural youth in the 12<sup>th</sup> Plan which may be funded through RKVY. Specific on-farm and off-farm services required for agriculture growth must be identified and training programs on these services should be designed and organized to build capacities of rural youth. A target for training at least 15 youth in each Block every year for a minimum of 10 days may be achieved so that about 4.5 lakh youth are trained by the end of 12<sup>th</sup> Plan. Besides training, they should be assisted under various employment generation programs so that initial teething problems are overcome.

**10.5** Youth can be identified and mobilized through youth clubs (at present more than three lakh youth clubs are existing) and through Nehru Yuvak Kendras (at present there are 501 NYKs existing in the country). Budgetary Support may be provided in Extension Reforms for mobilizing and involving youth clubs, NYKs and NSS volunteers in extension activity.

**10.6** "*Yuva Kissan Sadbhavana Divas*" may be organized at Village, Block, District, State and National level by involving local institutions. Youth with exemplary contribution to agricultural prosperity may be honoured on this day.

**10.7** Establish a National Center for Youth in Agriculture for research, policy and advocacy support on farm youth with networking across different agro-climatic zones in the country.

**10.8** Existing Rural Self Employment Training Institutes (RSETIs), presently around 200 are existing and 300 more being established, may be utilized to train the higher secondary students who have taken agriculture as one of the subjects in their academic programme.

Separate programmes of about two months duration at RSETIs will empower students to become agripreneurs.

**10.9** Issues of youth in agriculture should be mainstreamed in the agriculture development process and reflected in the functioning across sectors. Farmers concerns as reflected in the media and as experienced by the field staff should be captured, compiled, analyzed and incorporated in the functioning.

**10.10** The Agri Clinics and Agri Business Centres Scheme should be upscaled to a flagship scheme of 12<sup>th</sup> Plan. The scheme currently suffers from disadvantage of not getting finance from financial institutions in a large number of cases. Problems related to collateral security have been hampering flow of credit to agri ventures to be set up potential agripreneurs in rural areas. A special fund may be created to provide equity which could be leveraged for taking loans from the banks. Another option is to create a fund jointly by the government and financial institutions, similar to the Credit Guarantee Trust Fund (CGTF).

**10.11** A special package of support may be designed for intensive high tech farming on a limited area of say 1 acre for those who are trained and certified for possessing those skills. To attract and retain youth in farming, the farming itself needs to be redefined to meet their needs and expectations and leverage their strengths. Extensive field studies and consultations shall be required to work out the strategy instead of expecting them to carry on with traditional farming that does not excite or stimulate them.

## 11. Extension Strategies for Difficult Areas and Disadvantaged Groups

Difficult areas and disadvantaged groups constitute a large part of farm holdings and farmers in totality. There are many regions in the country that are disadvantaged due to geographical, climatic and security reasons and these include coastal regions, high altitude mountainous regions, border areas, flood-prone areas, drought affected regions, islands and insurgency affected regions. Disadvantages also occur due to social reasons (minorities/backward classes, tribal habitations etc.).

Backward regions have been classified by several government agencies on various parameters. For instance, Planning Commission has identified 250 districts as “backward” based on some select criteria. These districts are entitled to funding under the district component of the Backward Regions Grant Fund (BRGF). Similarly the Inter-ministerial task force has identified 170 districts based on 17 parameters of backwardness. 120 districts are common to these two lists. There may be backward blocks within districts not classified as backward and hence Block is a better unit to measure backwardness than District.

Disadvantaged groups are due to social disadvantages as well eg. Schedule Caste, Scheduled Tribe, nomadic tribes etc. A major disadvantaged group is of small and marginal farmers particularly in the rainfed areas, who constitute major portion of the poor. Tenants and farm labour are at greater disadvantage too. However the real problem is of farmers suffering from multiple disadvantages. Although there are special programs for these disadvantaged areas and groups these are mere in the nature of gap filling and cannot help bridge the gap due to long neglect. There is need for a convergent intervention of programs and schemes of all agencies which needs to be stated upfront. Mainstreaming of inclusion in the general agricultural program requires defining processes and ratios of inequity and integrating them in the functioning.

Present level of yields in respect of these areas and groups are so low that the aggregate yields (national and state averages) have been significantly affected. Currently only average yields are being computed and published due to which the inequity is not reflected clearly. Yield variability therefore needs to be determined and included in agricultural statistics to bring out this inequality. The inequality between regions, districts, sub district levels as also between various disadvantaged groups needs to be specifically addressed. Along with average yields, variance or standard deviation

of yields also needs to be determined to assess both the speed and equity of growth. Targets need to be fixed both for enhancing the growth rate as well as reduction in variance.

As identified by the approach paper, agrarian distress and LWE are due to stagnant agriculture growth in rainfed areas. Programs for employment generation and livelihood have to be framed with agriculture as the core as these areas are predominantly rural. Increasing farm productivity and farm incomes in these areas should therefore be the core of the strategy. Special problems of these areas and long neglect have resulted in organizational gaps in all areas of agriculture development including extension, research, marketing, credit and education. These gaps need to be identified and bridged in a time bound manner relaxing norms wherever possible. These areas suffer from a major disadvantage of vacancies which are as high as 70 per cent in some areas due to which no meaningful development has been possible. This problem particularly in LWE affected areas needs to be dealt with decidedly. Delivery has been the weakest element of development in these areas and special efforts need to be made to enforce delivery and improve governance.

Technology solutions need to be devised specific to the resource base and risk bearing capacity of the farmers and within context of field constraints and ground realities. Research resources need to be allocated for this purpose as prescribed as detailed in para on agrarian distress.

There is a need to formulate and put into operation a mechanism to ensure that resource allocation relates to the extent of disadvantage suffered by these areas and groups. Suitable disadvantage indexing needs to be done. Research and Extension organizations should use this classification to allocate resources. The technology delivery system needs to gear up their capacity in terms of manpower, expertise, finance, structure, institutional linkages and the kinds of methods, approaches and delivery system they employ.

The issues to be taken up for strengthening the delivery system and Extension Strategies for Difficult Areas (J&K, NE and Hill Areas, sensitive coastal areas, Bundelkhand, naxal affected, Rain fed/ drought prone) disadvantaged farmers (tribal, small and marginal and tenant) and farm workers are; (i) Farmers empowerment and farmers organizations development; (ii) Institutional linkages, convergence and partnership issues; (iii) Technology backstopping, application, integration, ICT use and management; (iv) Frontier areas of extension, HRD and skill development; and (v) Policy issues.

## Recommendations

- 11.1** Disadvantaged regions and groups need to be supported in every sector including credit, market development, insurance etc on priority. This priority needs to be stated upfront. Each sector should have a separate chapter detailing policy, proposals and outlays for the sector. The norms also need to be suitably modified and more flexibility has to be built in to ensure that these regions and groups make full use of the allocated resources.
- 11.2** There is a need for a comprehensive approach of constructing a “Disadvantaged Index and Matrix” and mainstreaming it in all schemes and programmes during the 12<sup>th</sup> Plan. It may be advisable to adopt “Block” rather than “District” as a unit and then provide for a prescribed allocation of resources to these areas and its various component units.
- 11.3** Mainstream the concerns of disadvantaged areas and groups in various development programmes to ensure that adequate development resources are devoted to these areas and regions. Towards this end, the mission must provide for proportionate resources to SCs and STs and at least 50 per cent of mission resources to small and marginal farmers. Technology solutions to meet the special needs of these farmers and areas should be developed and resources must be provided for the purpose. Considering the criticality of supporting small and marginal farmers under rainfed conditions, at least 50 per cent of testing should be done on the fields of small and marginal farmers.
- 11.4** Achieve convergence of agriculture development programmes particularly the Mission with the various special programmes for disadvantaged areas and groups. More creative mechanisms have to be used for the participation of disadvantaged groups in programme planning, monitoring and evaluation.
- 11.5** Considering the criticality of supporting small and marginal farmers under rainfed conditions, a special policy framework needs to be provided so that adequate research and extension resources are allocated and every research and extension agency takes necessary measures for their development. This policy may be supported and managed by National Rainfed Area Authority (NRAA).
- 11.6** Mainstreaming of inclusion in agricultural development requires defining processes and ratios of inequity and integrating them in the functioning. Currently only average yields are being computed and published due to which the inequity is not reflected upfront. Yield variability therefore needs to be determined and included in agricultural statistics to bring out

this inequality. The inequality has to be between regions, districts, sub-districts and between various disadvantaged groups. Along with average yields, variance or standard deviation of yields also needs to be determined to assess both the speed and equity of growth.

**11.7** Establish four Agriculture Technology Information and Training Centres for promoting secondary agriculture. In order to control the cross border disease threats in livestock & poultry, disease surveillance extension programmes need to be organized in collaboration with State Animal Husbandry Departments of Tripura, Manipur, Mizoram, Arunachal and Assam. Conducting intensive swine fever and avian influenza vaccination extension campaign programme in the border districts need to be taken up. Establish piggery demonstration centres, piglets production farms, state-of-art pork processing and product preparation training centre, community piggeries and mobilize FIGs through identified KVKs in collaboration with AH Departments of NE States.

**11.8** Food, Nutritional, and Livelihood Security in Left Wing Extremists (LWE) affected regions need to be taken up through strengthening the extension system. Technologies related to agricultural production of the LWE affected districts must be demonstrated in an integrated mode through establishing functional linkages among Development Departments, KVKs NABARD and district level marketing agencies.

Following extension Programmes need to be operationalized in the LWE areas:

- i Mobile Extension and technology advisory services
- ii Vocational training centres at SAUs located in these regions to function as poly techniques for training the local youths in various skills
- iii Seed production centres at the SAUs and selected KVKs to multiply the seeds for meeting the seed requirements of these districts
- iv Agri met centre in all the KVKs and SAUs for providing timely weather forecasting based farm advisory services
- v Establishment of production units of bio control agents
- vi Introduce hybrid quality protein maize to meet their food and nutritional requirements, through large scale demonstrations and seed production programmes.
- vii Farm women located in the LWE affected districts need to be targeted to empower them with right knowledge, skill and technologies to improve their occupational environment, health, nutritional status and confidence.

**11.9** Soil salinity and degradation of mangrove ecology, over-exploitation of ground water and blockage of natural drainage are some of the important factors faced by the coastal farmers. Weather-based agro advisory services, disaster management strategies, financial support for land reclamation and water management, prevention of conversion of farm lands into resorts and housing sites and strengthening of extension services are the major issues in coastal areas. Following programmes have been suggested for implementation during 12<sup>th</sup> Plan for coastal areas:

- Disaster management cells in SAUs and KVKs in coastal districts
- Weather-based agro-advisory centres at Agriculture Research Stations
- Special coastal area disaster management fund for agriculture
- Mobile soil testing and extension advisory units
- Village knowledge centres and community radio stations at coastal villages
- Coastal Kisan clubs and training centres with a special focus on coastal farming and disaster management through kisan clubs
- Programme for reclamation of degraded coastal Ag. Land through community participation
- Fisheries and Aqua-cultural Innovation support programme
- Establish national aqua parks at Central Marine Fisheries Research Institute, Cochin and Central Institute for Brackish water Aquaculture, Chennai
- Fishing intelligence and precision fishing programme
- Capacity building programme for fisher women and youths in value addition of fish and preparation of various value added products

**11.10** Realizing the importance of farming system approach it is proposed to give due emphasis on farming system. Decision support system tools must be operationalized to facilitate farmers in deciding the profitable components for farming system. This must be part of the development programme for complex, diverse & risk-prone area development (Bundelkhand, rainfed/ drought prone/ disadvantaged farmers and farm workers).

## 12. Agrarian Distress and Conflicts, INSTA Response and Farm Studies

Extension is not merely about changing farm practices but it is more about changing farmers. Extension personnel therefore must not only understand the nuances of new knowledge and ways of promoting it, but also on how the changing socio-economic and political environment is influencing farming and farmers. Farmers' contentment is a key determinant of interest taken by farmers and their families in farming and is a key input in the production process. Approach paper to the 12<sup>th</sup> Plan has brought out the problem of slackening productivity in rainfed agriculture causing widespread distress (visible in the form of farmers' suicides, rising tide of left wing violence etc). Farm journals and mainstream media continue to write about farming being un-remunerative as also about faulty agrarian policies. Conflicts over land and water are reported from several places. Knowledge about farming systems, farmer's risk taking capacity and resource base is also important while designing and promoting technological options.

Farmers are emerging as an influential social group articulating anger, grievances and demands particularly against un-remunerative prices and indebtedness. In order to pacify them, the government needs to be continuously in communication with farmers and civil society to understand their concerns and perceptions and internalizing the same in the functioning. As specified in the Approach Paper to 12<sup>th</sup> plan, the system must have an institutionalized (rather than current somewhat 'ad-hoc') approach that would help mitigate conflicts before they reach a point of no-return. The system must work with stakeholders to resolve grievances using a flexible problem-solving approach and creating win-win scenario for all stakeholders concerned. This requires specialists trained in dispute resolution through conflict assessment, management, mediation and facilitation. Conflicts and distress being rooted in the policy and process of farm growth, answers are also rooted therein.

As a frontline interface with farmers, the extension system must focus on technology solutions for small and marginal farmers in rainfed areas, specifically devised and recommended for various farming situations. Integrate Farming System (IFS) approach is the only approach to provide security to resource poor farmers. Developing IFS models appropriate to different situations requires a very strong research support and allocation of substantial research resources and suitable institutional mechanisms. There have been

repeated suggestions for institutional mechanisms for effective coordination of extension efforts of various agencies for a coordinated and effective delivery. This needs to be brainstormed to bring about wide acceptance in the matter.

Farmers face a large number of problems in getting the requisite services from both public and private sector service providers. Farmers' concerns as reflected in the media and as experienced by the field level staff need to be captured, compiled and analyzed.

## **Recommendations**

**12.1** Establish a Centre for Farm Studies and agrarian distress and conflicts at MANAGE, which will commission research on areas that can support extension performance and networks with other institutions involved in research on agrarian issues (rural distress, conflicts, and livelihood issues). This centre should focus on the problems of disadvantaged areas and farmers particularly in rainfed areas. It should arrange discussions and consultations for a suitable mechanism for convergence and coordination between various agencies providing extension services.

**12.2** Initiate a new research fund on extension research (An All India Coordinated Research Project on Extension Research) managed by ICAR and DAC and implemented through the Extension Division of ICAR and MANAGE. This funding should be open to all organizations on competitive mode. The fund should also commission special studies in areas where extension might need immediate knowledge.

**12.3** Tackling farmers distress and conflict resolution should be internalized in the functioning of Extension Mission and accordingly in the formulation of CDAP. Training of extension staff in conflict resolution should be part of all training programmes. Priority should be given to problems of disadvantaged areas and farmers across sectors which should be internalized in the design of programs and guidelines.

**12.5** Farmers' suicides should be studied through structured inter disciplinary professional studies across regions and groups on a continuous basis to identify underlying causes and to roll-out requisite policy support and interventions. These studies must specifically compare areas which are different in farmers' suicides rates but are similar in all other aspects (cropping pattern, rainfall etc.).

**12.6** Separate studies and projects may be taken up in collaboration with relevant institutions for studying the issue of farmers' alienation of lands so that farmer does not lose both ownership and possession of land in the event of default in payment.

**12.7** Farming can be affected by a range of contingencies and calamities with disastrous consequences for the country and the farmers. There could be (i) sudden shortfall in availability of production; (ii) sudden crash in local and international market prices for agricultural produce; and (iii) natural disasters, epidemics or diseases. Extension should be in a position to rapidly respond to these situations. This requires simulating various scenarios, formulating and testing plans for dealing with those scenarios and building capacities for dealing with these situations. INSTA Response Centre may be established in MANAGE for foreseeing the future events and scenarios, preparing & operationalizing plans in shortest possible time to effectively and efficiently mitigate the negative fallout of any eventualities.

## BUDGET PROPOSED BY VARIOUS SUB GROUPS FOR XII PLAN

Major Activity/Scheme proposed	Total	Year-wise break-up (Rs.crore)				
		2012-13	2013-14	2014-15	2015-16	2016-17
<b>Component 1. Technology Solutions and Innovations</b>						
AICRP on Technology, mapping, adoption and innovations	25.00	3.00	7.00	5.00	5.00	5.00
National Technology Solutions Project	50.00	8.00	12.00	10.00	10.00	10.00
ICAR-SAU extension initiatives	250.00	30.00	70.00	50.00	50.00	50.00
National Farm Innovation Foundation	50.00	8.00	12.00	10.00	10.00	10.00
<b>TOTAL</b>	<b>375.00</b>	<b>49.00</b>	<b>101.00</b>	<b>75.00</b>	<b>75.00</b>	<b>75.00</b>
<b>Component 2. Extension Policy &amp; Systems</b>						
ATMA Cafeteria + O.E for BTM & SMS	2442.04	400.00	440.00	484.00	532.40	585.64
Display Boards	60.00	30.00	30.00	0.00	0.00	0.00
FAC Meeting Expenditure	90.50	18.10	18.10	18.10	18.10	18.10
Induction Training	57.83	39.88	2.57	5.13	5.13	5.13
Refresher Training	213.18	36.95	39.26	42.32	45.58	49.08
Scientists Visits	62.50	12.50	12.50	12.50	12.50	12.50
Domain Experts	34.20	3.60	5.40	7.20	9.00	9.00
SAMETI infrastructure strengthening	30.00	15.00	15.00	0.00	0.00	0.00
Incentives for Exemplary Extension work	160.00	32.00	32.00	32.00	32.00	32.00
Farmer Friend (50:50)	1187.46	118.75	213.74	249.37	284.99	320.61
ATMA dedicated Manpower Support	3208.75	407.41	589.60	688.71	721.76	801.28
Agri-preneurs under ACABC	370.20	38.06	53.79	71.33	93.64	113.38
Input dealers trained under DAESI	50.00	10.00	10.00	10.00	10.00	10.00
<b>TOTAL</b>	<b>7966.69</b>	<b>1162.25</b>	<b>1461.96</b>	<b>1620.66</b>	<b>1765.10</b>	<b>1956.72</b>

Major Activity/Scheme proposed	Total	Year-wise break-up (Rs.crore)				
		2012-13	2013-14	2014-15	2015-16	2016-17
<b>Component 4. Manpower Planning, HRD and Accreditation</b>						
National Farmers Capacity	238.00	47.60	47.60	47.60	47.60	91.20

Assessment & Certification						
Indian Agriculture e-Extension and Agricultural Knowledge Management Centre	50.00	10.00	10.00	10.00	10.00	10.00
Develop HRD & Training Policy for Extension Systems	100.00	20.00	20.00	20.00	20.00	20.00
Capacity Building of Professionals of KVK system	20.00	4.00	4.00	4.00	4.00	4.00
Strengthening MANAGE as International Center of Excellence	40.00	8.00	8.00	8.00	8.00	8.00
One-time Catch-up Grant for Training Infrastructure Up-gradation of KVKs & DTCs	120.00	24.00	24.00	24.00	24.00	24.00
Accreditation of HRD and Training Institutes	20.00	4.00	4.00	4.00	4.00	4.00
Agricultural Extension Human Resource Information System (AEHRIS)	20.00	4.00	4.00	4.00	4.00	4.00
Quality resource material development	50.00	10.00	10.00	10.00	10.00	10.00
Sensitization and Capacity Building of Peoples' Representatives	300.00	60.00	60.00	60.00	60.00	60.00
<b>TOTAL</b>	<b>958.00</b>	<b>191.60</b>	<b>191.60</b>	<b>191.60</b>	<b>191.60</b>	<b>235.20</b>
<b>Major Activity/Scheme proposed</b>	<b>Total</b>	<b>Year-wise break-up (Rs.crore)</b>				
		<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>

<b>Component 5. Leveraging ICT, Mass Media and e-Governance</b>						
NeGP-A & other ongoing Schemes of IT	<b>1083.00</b>	127.98	436.85	158.29	189.44	170.45
National Farmers' e-Literacy Mission" (Rashtriya Kisan e-Saksharata Abhiyan)	<b>90.00</b>	18.00	18.00	18.00	18.00	18.00
SMS service to farmers	<b>130.00</b>	26.00	26.00	26.00	26.00	26.00
National Centre for e-Governance in Agriculture, NCeGA	<b>20.00</b>	4.00	4.00	4.00	4.00	4.00
24 X 7 National Farmers' Channel (Rashtriya Kisan Channel)	<b>500.00</b>	100.00	100.00	100.00	100.00	100.00
Kisan Call Centre (KCC)	<b>400.00</b>	80.00	80.00	80.00	80.00	80.00
Mainstreaming of CSCs as Kisan Seva Kendras	<b>100.00</b>	20.00	20.00	20.00	20.00	20.00
'Kisan Patrika'	<b>80.00</b>	16.00	16.00	16.00	16.00	16.00
Hand-Held Devices for All Extension Functionaries	<b>205.00</b>	41.00	41.00	41.00	41.00	41.00
Pico Projectors and Low cost film production	<b>117.00</b>	23.40	23.40	23.40	23.40	23.40
Low cost publications	<b>270.00</b>	54.00	54.00	54.00	54.00	54.00
Kala Jathas	<b>154.75</b>	30.95	30.95	30.95	30.95	30.95
Mass Media Scheme	<b>1436.66</b>	260.00	273.00	286.65	300.98	316.03
<b>TOTAL</b>	<b>4586.41</b>	<b>801.33</b>	<b>1123.20</b>	<b>858.29</b>	<b>903.77</b>	<b>899.83</b>
<b>Component 8. Mobilization for Farmers Empowerment</b>						
	Total	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Mobilizing private and corporate sector for agriculture	350.00	70.00	70.00	70.00	70.00	70.00
Mobilization of	50.00	8.00	9.00	10.00	11.00	12.00

Educational Institutions for Agriculture						
Mobilizing cooperatives and other rural groups	50.00	8.00	9.00	10.00	11.00	12.00
Youth for Agriculture	25.00	4.00	5.00	5.00	5.00	6.00
<b>TOTAL</b>	<b>475.00</b>	<b>90.00</b>	<b>93.00</b>	<b>95.00</b>	<b>97.00</b>	<b>100.00</b>

Major Activity/Scheme proposed	Total	Year-wise break-up (Rs.crore)				
		2012-13	2013-14	2014-15	2015-16	2016-17
<b>Component 9. Women Empowerment, Household Food &amp; Nutritional Security</b>						
Promoting Kitchen Gardening Group/ Association	510.00	102.00	102.00	102.00	102.00	102.00
Strengthening of NGRCA as National Household Nutritional Security Centre (NHNSC)	25.00	5.00	5.00	5.00	5.00	5.00
<b>TOTAL</b>	<b>535.00</b>	<b>107.00</b>	<b>107.00</b>	<b>107.00</b>	<b>107.00</b>	<b>107.00</b>
<b>Component 10: Leveraging Youth for Agriculture</b>						
Training of rural youth under skill development	157.50	31.50	31.50	31.50	31.50	31.50
Yuva Kisan Sadbhavana Awards	42.50	8.50	8.50	8.50	8.50	8.50
<b>TOTAL</b>	<b>200.00</b>	<b>40.00</b>	<b>40.00</b>	<b>40.00</b>	<b>40.00</b>	<b>40.00</b>
<b>Component 11. Extension Strategy for Difficult Areas</b>						
	Total	2012-13	2013-14	2014-15	2015-16	2016-17
Quality life Mission through Food, Nutritional, and Livelihood Security in LWE areas	150.00	30.00	30.00	30.00	30.00	30.00
Infrastructure development Tech Parks in 70 North East KVKs	35.00	7.00	7.00	7.00	7.00	7.00

Mobile Field Advisory Units in 20 remote KVKs	4.00	0.80	0.80	0.80	0.80	0.80
Animal Surveillance, diagnostic & disease prevention cells in 10 border KVKs	10.00	2.00	2.00	2.00	2.00	2.00
Coastal Area Sustainable Agriculture Development Programme	100.00	20.00	20.00	20.00	20.00	20.00
<b>TOTAL</b>	<b>299.00</b>	<b>59.80</b>	<b>59.80</b>	<b>59.80</b>	<b>59.80</b>	<b>59.80</b>

## SUMMARY OF BUDGET PROPOSED FOR THE 12<sup>th</sup> PLAN

Components of National Mission on Agricultural Extension	TOTAL FOR XII PLAN	Year-wise break-up (Rs.crore)				
		2012-13	2013-14	2014-15	2015-16	2016-17
<b>Component 1:</b> Technology Solutions and Innovations	<b>375.00</b>	49.00	101.00	75.00	75.00	75.00
<b>Component 2:</b> Extension Policy & Systems	<b>7966.69</b>	1162.25	1461.96	1620.66	1765.10	1956.72
<b>Component 4:</b> Manpower Planning, HRD and Accreditation	<b>958.00</b>	191.60	191.60	191.60	191.60	191.60
<b>Component 5:</b> Leveraging ICT, Mass Media and e-Governance	<b>4586.43</b>	801.33	1123.20	858.29	903.77	899.83
<b>Component 8:</b> Mobilization for Farmers Empowerment	<b>475.00</b>	90.00	93.00	95.00	97.00	100.00
<b>Component 9:</b> Women Empowerment, Household Food & Nutritional Security	<b>535.00</b>	107.00	107.00	107.00	107.00	107.00
<b>Component 10:</b> Leveraging Youth for Agriculture	<b>200.00</b>	40.00	40.00	40.00	40.00	40.00
<b>Component 11:</b> Extension Strategy for Difficult Areas	<b>299.00</b>	59.80	59.80	59.80	59.80	59.80
<b>Total</b>	<b>15395.10</b>	2500.98	3177.56	3047.35	3239.27	3429.95

No.M-12034/05/2011-Agri.  
Government of India  
PLANNING COMMISSION  
(AGRICULTURE DIVISION)

Yojana Bhavan, Sansad Marg,  
NewDelhi-1, Dated: 7<sup>th</sup> March, 2011

OFFICE MEMORANDAM

**Subject: Constitution of the Working Group on “Agricultural Extension in Agriculture & Allied Sector”  
for the Twelfth Five Year Plan (2012-17)**

It has been decided with the approval of the competent to set up a Working Group as cited above in the context of formulation of XII Plan with following Composition and Term of Reference.

I. Composition

1	Shri Suresh Kumar Former DG, MANAGE & Ex. Addl. Chief Secretary, Government of Maharashtra 502, C Wing Amaltas Cooperative Housing Society, above HDFC Bank, Juhu Vansova link Road, Andheri ( West), Mumbai- 400053 E-mail: <a href="mailto:sureshkumar.goodgovern@gmail.com">sureshkumar.goodgovern@gmail.com</a> Mobile: 09819830067	Chairman
2	Dr. C. Prasad, Former DDG, ICAR EB – 106, Maya Enclave, New Delhi - 110064	Member
3	Sh. A. K. Sinha, APC, Govt of Bihar, Vikas Bhawan, New State Secrataria, Patna – 80015 Ph.: 0612-2215720, Fax: 0612-2224365	
4	Shri. S. V. Reddy, Executive Director, PRDIS, 230, Shivanagar, Hyderabad – 500048 E-mail: sarvareddy@yahoo.com Mobile: 09440057598	Member
5	Dr. R. K. Samantha, Former Vice – Chancellor, BCKVV 1-11-12, Bhawani Colony, Post - Rajendernagar, <b>Hyderabad - 500030</b> Tel: 040-24018062, Mob. -9492063279 Email <a href="mailto:samanta@naarm.carnet.in">samanta@naarm.carnet.in</a> <a href="mailto:Ranjitsamanta123@yahoo.com">Ranjitsamanta123@yahoo.com</a>	Member
6	Director (Agriculture), Government of Gujarat Sachivalaya, Gandhi Nagar - 382010 Ph: 079-23252365, Fax: 079-23252365	Member
7	Dr. B. S. Sidhu, Director(Agriculture) Directorate of Agriculture, Sector No. 34 – A, Chandigarh Ph.: 0172-2601560, Mobile: 09876055791	Member

8	Director ( Agriculture), Government of Chhattisgarh, DKS Bhawan, Mantralaya Raipur – 492001 Ph.: 0771-3321307, Fax: 0771-2221441	Member
9	Dr. S.L. Mehta, Ex-Vice-Chancellor, 71 Gokul Nagar, Near Bohra Ganeshji Temple, Udaipur – 313001, Rajasthan. Tel: (0294) 2470123/ Mobile No. 09460919188 Email. <a href="mailto:Slmehta43@gmail.com">Slmehta43@gmail.com</a>	Member
10	Dr. K.D. Kokate, Deputy Director General (Agricultural Extension), Krishi Anusandhan Bhawan, New Delhi-110012 Phone: 011-25843277,Fax:011-25842968 E-mail: <a href="mailto:kdkokate@icar.org.in">kdkokate@icar.org.in</a>	Member
11	Dr. K. Narayan Gowda, VC, UAS , GKVK Campus Bangalore – 560065 Ph.: 080-23332442, Mobile: 09449866900 E-mail: <a href="mailto:vc@uasbangalore.edu.in">vc@uasbangalore.edu.in</a>	Member
12	Shri S. Sivakumar, Chief (Agri-businesses), ITC- e- Chaupal, S.D. Road,Secunderabad-500003 Secunderabad 500 003 Office : 91-40-27800875, Fax : 91-40-27804476 Email : <a href="mailto:Sivakumar.S@itc.in">Sivakumar.S@itc.in</a>	Member
13	Dr. Krishna Kumar , Chief Operating Officer, IL & FS and Cluster Development Initiative Ltd., Niryat Bhawan, Raotula Ram Marg, New Delhi – 110057 E-mail: <a href="mailto:krishnakumar.ak@ilfsindia.com">krishnakumar.ak@ilfsindia.com</a>	Member
14	Dr. G. R. Desai , Director , National Institute of Agricultural Extension Management Rajendranagar, Hyderabad - 500 030, AP, India Phone : 040-24016702 to 706(O)Mobile : 98483-16129 E-mail : <a href="mailto:grdesai@manage.gov.in">grdesai@manage.gov.in</a> , <a href="mailto:grdesai@hotmail.com">grdesai@hotmail.com</a>	Member
15	Dr. M.N. Reddy , Former Director , MANAGE H.No. 16-11-511/C-54, Prakash Nagar, Dilsukh Nagar, Hyderabad - 36 (Andhra Pradesh), Mob.09848306587 <a href="mailto:E-mail.mnreddy2009@rediffmail.com">E-mail.mnreddy2009@rediffmail.com</a>	Member
16	Dr. B. S. Hansara , School of Agriculture, G Block, Zakir Hussain Bhawan, Academic Complex, IGNOU, Maidan Garhi, New Delhi -110068 Ph.: 29533166, 29572975, 29533167 E-mail: <a href="mailto:baljitsingh45@yahoo.co.in">baljitsingh45@yahoo.co.in</a>	Member
17	Dr. Subodh Sisodia, Head Farmer-Services, Kariyali Kissan Bazar, A-432, Sector46, Noida Tel-120 4148500, Mob.9810021580 <a href="mailto:E-mail.sshishodia@rediffmail.com">E-mail.sshishodia@rediffmail.com</a>	Member
18	Dr. Geetha Kutty, Professor ( Agricultural Extension)	Member

	Kerala Agricultural University, Vellanikkara, Thrissur-680 656, Kerala, Tel. 0487-2375611, Mob. 09447801236 E-mail: <a href="mailto:geethkutty@gmail.com">geethkutty@gmail.com</a>	
19	Prof. Deepak De, Professor (Agriculture Extension), Institute of Agriculture Sciences, Banaras Hindu University, <b>Varanasi-221005</b> Telephone 0542-2307114, Mob. 09415812323, Fax. 0542-2368993	Member
20	Shri T. Vijay Kumar, Joint Secretary, Rural Livelihood Mission , Ministry of Rural Development , Krishi Bhawan , New Delhi-1	Member
21	Shri. Changan Reddy , Chairman, Consortium of Indian Farmers Associations , 8/32 , South Patel Nagar, New Delhi -110008. Ph: 91-11-25842111 Fax: 91-11-25842123 <a href="mailto:chengal.p@gmail.com">chengal.p@gmail.com</a>	Member
22	Mr Amardeep Singh Cheema , Vice -President Nehru Yuvak Kendra Sangthan Ministry of Youth Affairs & Sports Core - IV, IInd Floor, Scope Minar, Laxmi Nagar District Centre, Delhi - 110 092.  <u>Residence:</u> Mr. Amardeep Singh Cheema, Gobind Nagar, Kalmuwan Road, BATALA -143505 IPunjab) Tel: 098142-20573, 0871-244573, 0871-246573 e.mail: amardeepsingh cheema @rediffmail.com	Member
23	Dr Rasheed Sulaman , Director, Centre for Research on Innovation and Science Policy, Karama Enclave Road No10, Banjara Hills, Hyderabad- 500 034 (Andhra Pradesh) Tel. 040 – 66108111, 23301976 040-23300844 (Fax) E-mail: <a href="mailto:crispindia@gmail.com">crispindia@gmail.com</a>	Member
25	Shri K.V. Satyanarayana Principal Secretary (Agriculture) Government of Tripura, Civil Secretariat, Agartala- 799001 Phone :0381-2413357, Fax- 0381-2412301 Mob- 09436453813 Email: ceo_tripura@eci.gov.in	Member
26	Adviser ( Agriculture), Planning Commission	Member
27	Shri Sanjeev Gupta Joint Secretary ( Extension), Department of Agriculture & Cooperation , Krishi Bhawan , New Delhi 110001 Phone -011-23382454 Fax 011-23382357 Email: <a href="mailto:gupta.sanjeev@nic.in">gupta.sanjeev@nic.in</a>	Member Secretary

## II. The Terms of Reference (Specific)

To review the effectiveness of the on-going extension services including the recent innovations in it, and to recommend a more responsive and accountable extension mechanism to the farmers.

### General

1. The Chairman of the Working Group may co-opt any other official /non-official expert / representative of any organization as a member (s), if required and may form sub-group (s) to address specific issues.
2. The Working Group may also examine and address any other issues which are important but not specifically spelt out in the TORs. The working group may devise its own producers for conducting its business /meetings, field visits/constitution of sub-groups etc.
3. The expenditure of the members on TA/DA in connection with the meetings, field visits and other necessary travels of the Working Group / Sub-Group will be borne by the parent Department/Ministry/Organization. The TA / DA expenditure in respect of non-official members will be borne by the Planning Commission as admissible to the Class –I officers to the Government of India.
4. The Working Group will submit its draft report by June , 2011 and the final report to the Planning Commission by September, 2011.
5. Dr. (Smt) Vandana Dwivedi, Joint Adviser (Agriculture), Planning Commission, Room No. 230 Yojana Bhawan , New Delhi 110001, Tel No. 011-23096730 E-mail: [dwivediv@nic.in](mailto:dwivediv@nic.in) and Fax No. 011-23327703 will be the nodal officer of this group and any further query / correspondence in this regards be made with her.

(G. Rajeev)  
Under Secretary to the Government of India

### Distribution

The Chairman & Members of the Working Group.

#### Copy to:

P.S to Deputy Chairman

P.S to Member (AS)

P.S to Member (KK)

Sr. PPS to Member Secretary

P.S to Adviser (PC)

Adviser (SS) / Joint Adviser (Agri/Directors (agri)

Account –I Section

(G. Rajeev)  
Under Secretary to the Government of India

No.M-12034/05/2011-Agri.  
 Planning Commission  
 Government of India  
 (Agriculture Division)

Yojana Bhawan, Parliament Street  
 New Delhi, the 10<sup>th</sup> May, 2011

### ADDENDUM

**Subject: Constitution of the Sub-Groups in the Working Group on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)- Regarding.**

In continuation of Planning Commission's earlier order of even No. dated 7<sup>th</sup> March, 2011 regarding **Constitution of the Working Group on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)**, it has been decided with the approval of the Chairman of Working Group on Agriculture Extension in Agriculture & Allied Sectors in the context of preparation of the Twelfth Five Year Plan. The theme area, Composition and Terms of Reference of the Sub-Groups will be as follows:-

**1. Sub-Group –I:** Technology Mapping, Adoption, Impact, Farm Innovations & Agricultural Education

#### **Composition:**

1. Dr. S.L. Mehta, Ex-Vice-Chancellor, Udaipur, Rajasthan	Chairman
2. K. V. Satyanarayana, Principal Secretary (Agri), Tripura	Member
3. Dr. K. Narayana Gowda, VC, UAS Bangalore	Member
4. Sh. R.K. Saxena, Ex-Director, SIAM, Udaipur	Member
5. Dr.R.Muralidhar Prasad, Professor, KAU, Kerala	Member
6. Dr. A.T. Patil, Director, DSR, Hyderabad	Member
7. Dr.N.K.Sanghi, Former Director, MANAGE, Hyderabad	Member
8. Sh.Krishna Murari Singh, Farmer, Bihar	Member
9. Dr.Srinath Dixit, Principal Scientist, CRIDA, Hyderabad	Member Secretary

#### **Terms and reference (Specific)**

- Recommend methodology for identifying and codifying farm enterprise systems specific to farmers' resource base / risk bearing capacity within the major farming systems.
- Recommend methodology for Mapping of variations in Yield Gap across regions and farmers, to assess reasons for wide variation in yields and recommend measures to bridge the gap.
- Recommend innovative approaches to promote technologies such as SRI etc., for augmenting food security.
- Recommend methodology for construction of a Technology Directory for assessing & evaluating availability of technologies for the identified farm enterprise systems, extent of adoption of

technologies and their impact through Technology Availability Index, Technology Adoption Index and Technology Impact Index.

- Recommend methodology for incorporating returns and risks and production constraints in adoption of technology recommendations by the farmers.
- Recommend policy for Agri Education System to supplement Public and private extension for agricultural development; and suggest mechanisms to channelize academic resources to help bridge yield gaps and thus improve productivity.
- Recommend policy framework and methodology for capturing farm innovations, creating a National Farm Innovations Portal, validating, certifying and incentivising innovations and their delivery through extension system.
- Suggest a typology of support systems required for speedy adoption and up scaling of technologies in different agro ecologies and socio economic settings.

## 2. Sub-Group –II: Extension Planning and Management in Agriculture and Allied Sectors

### Composition:

1. Sh. S.K. Goel, Principal Secretary, Agriculture, Maharashtra	Chairman
2. Dr. B.S. Hansra, Director, IGNOU, New Delhi	Member
3. Dr. B.S. Sidhu, Director Agri, Punjab	Member
4. Dr. G.R. Desai, Former Director, MANAGE	Member
5. Dr. Shankar Subramaniam, Dy.PD, Vellore, TN	Member
6. Dr. Rasheed Suleiman, CRISP, Hyderabad	Member
7. Dr. Vasudevappa, CEO, National Fisheries Dev. Board, Hyderabad	Member
8. Dr. Ojha, Pr.Scientist, CIFE, Mumbai	Member
9. Sh. Virendra Sharma, Farmer, Madhya Pradesh	Member
10. Dr. M.J. Chandre Gowda, Addl. Commr., DAC	Member-Secretary

### Terms and reference (Specific)

- Recommend role of extension to meet contemporary and emerging challenges of farmers' empowerment, food security and economic growth
- Recommend methodology and procedures for extension functionaries to understand the farmers concerns, problems, production constraints and appropriate authority for redressal.
- Suggest modifications, if any, needed in ATMA Scheme during XII plan
- Assess gaps in the existing extension infrastructure and recommend measures to fill in the gaps
- Assess existing extension methodologies and methods and recommend location specific, customized participatory, market-driven, responsive and farmer centric extension methodology and methods.
- Recommend methodology for assessing the impact of extension practices, methods and services (including farmers' feedback on services provided) in increasing farm productivity and farm incomes.
- Review existing status of extension in allied sectors and recommend strategies and program for strengthening extension in these sectors.
- Recommend strategy for extension in animal husbandry sector after reviewing animal health based networks and dairy based networks and to further recommend measures for bringing synergy between the two.
- Recommend strategy for extension in horticulture sector for improving yields, quality, processing and marketing.

- Recommend strategy for extension in fisheries sector for increasing yield, catch, and marketing.
- Recommend innovative extension strategies to promote Precision Farming
- Suggest a framework for third party audit of receipt of extension services/education by farmers
- Recommend strategies for farmer empowerment and organizational development.
- Recommend extension delivery mechanisms for non-monetary extension and urban agriculture
- Indicate broad strategies and investments during XII Plan for strengthening extension infrastructure and mechanisms for agricultural development in the country.

### 3. Sub-Group –III: HRD, Training & Accreditation

#### Composition:

1. Dr. K.D. Kokate, Dy. Dir General (Agri Extn), ICAR	Chairman
2. Mr Amardeep Singh Cheema, Vice -President Nehru Yuvak Kendra Sangthan, Ministry of Youth Affairs & Sports, Delhi	Member
3. Dr. R.K. Sohane, Director SAMETI, Bihar	Member
4. Sh. G.P. Tripathi, IMAGE, Orissa	Member
5. Dr. K. Anand Reddy, Director (HRD), MANAGE	Member
6. Dr.Ratnakar, Director, EEI Hyderabad	Member
7.Sh.Ram Saran Verma, Farmer, U.P.	Member
8. Dr. Bharat Sontakki, Principal Scientist, NAARM, Hyderabad	Member-Secretary

#### Terms and reference (Specific)

- Recommend methodology for assessing capability of extension institutions and extension functionaries for improved and integrated delivery of services for achieving objectives of agricultural development.
- Recommend methodology for assessing the training needs and suggest methods, curriculum, norms of training, training logistics and the expected outcomes for each functionary.
- Assess capacity and capability of present training infrastructure and recommend its strengthening for meeting the training needs.
- Recommend measures for capacity enhancement of extension functionaries through higher studies and self-education.
- Recommend measures for testing and certifying farmer skills and building a road map for lifetime capacity building of farmers.
- Recommend strategies for farmer empowerment and organizational development.
- Recommend measures for Testing and Accreditation of Extension / Training Consultants.
- Recommend measures for interaction, horizontal & vertical linkages among all HRD Institutions to bring about synergy in extension human resource development.
- Indicate broad strategies and investments during XII Plan for creating dynamic and capable extension machinery to steer agricultural development in the country.

**4. Sub-Group –IV:** Involvement of Panchayati Raj institutions, Literacy Missions, Cooperatives, Urban local bodies, Schools & Colleges, farmer groups and other organisations for community Mobilization and Farmers Empowerment

### Composition:

1. Shri Changal Reddy, Chairman, CIFA, Hyderabad	Chairman
2. Dr. S.V. Reddy, Director, PRDIS, Hyderabad	Member
3. Dr. Krishan Kumar, IL&FS & Cluster Dev. Initiative	Member
4. Dr. M.P. Upadhyaya, Former Director SIMA, U.P.	Member
5. Shri Popatrao Pawar, Hiware Bazar, Maharashtra	Member
6. Sh.M.R.Ekantappa, Director, Panchayati Raj, Karnataka	Member
7. Registrar/Addl. Registrar of Cooperative Societies, Gujarat	Member
8. Director NCERT	Member
9. Dr.Mathew, Sr.Consultant National Literacy Mission Authority, New Delhi	Member
10. Dr.Senthil Vinayagam, Director, MANAGE	Member-Secretary

### Terms and reference (Specific)

- Recommend measures to strengthen the role of Panchayati Raj institutions in agricultural extension as per constitutional status of these bodies.
- Recommend role to be played by urban local bodies for promoting urban agriculture
- Recommend measures for involving schools in agricultural development & incorporating agriculture related subjects in school curriculum
- Recommend measures for involving national/state literacy missions, cooperatives, farmer groups and other rural groups for Agricultural Development
- Recommend measures for involving other community groups for Farmers empowerment including labour unions, employees of public and private sector and the corporate sector
- Recommend measures for involving panchayats, community groups, including local bodies, cooperatives, youth groups, Self Help Groups and educational institutions, for empowerment of farmers.

**5. Sub-Group –V:** Extension through Information & Communication Technology, Electronic Media, Print Media, Documentation and publications

### Composition:

1. Sh.Ajay Kumar, Joint Secretary IT, Dept. of IT, Gol	Chairman
2. Mr.M. Moni, DDG, NIC, New Delhi	Member
3. Prof. Deepak De, BHU Varanasi	Member
4. Sh.Thomas Varghese, Director IT, DAC	Member
5. Mrs. Rajeswari, Sr.Tech.Director, NIC	Member
6. Dr.P.N.Mathur, Former ADG, ICAR	Member
7. Sh.Ajay Kumar, (IIT Graduate), Consultant on e-governance.	Member
8. Dr.V.P.Sharma, Director, MANAGE	Member-Secretary

## Terms and reference (Specific)

- Recommend measures for providing multi-model farm and farmer-specific tele-agri services and obtaining concurrent feedback about quality of services provided to farmers.
- Recommend methodology for capturing and creating agri-knowledge data bases on the lines of agri-Wikipedia and its internalization in the agricultural development system.
- Recommend methodology for digital documentation of all formal & informal knowledge (including tacit knowledge available with farming community) related to agriculture and making it available in public domain for its easy access by all.
- Suggest mechanisms for improving & enlarging quality of agriculture based programmes in DD and AIR.
- Modalities to develop farmer friendly literature/publications and making them available to all categories of farmers.
- *Suggest a mechanism for Extension Census* to identify and inventorize various extension service providers & resources and to create National Database with unique identity for each extension resource.
- Recommend a methodology for Farming-Situation based digitised database and its use by extension system for formulation & implementation of agricultural development plans and monitoring implementation of plans & working of functionaries involved in implementation of these plans.
- Indicate broad strategies and investments during XII Plan for harnessing the potential of ICT, electronic media, print media and publications in agricultural development.

## 6. Sub-Group –VI : Public-Private Partnership for agricultural development

### Composition:

1. Shri Pravesh Sharma, MD, SFAC, New Delhi.	Chairman
2. Sh. S.Siva Kumar, Chief (Agri-Business), ITC, Hyderabad	Member
3. Adviser (Agriculture), Planning Commission, New Delhi	Member
4. Shri S.P. Singh, Director, Agri Clinic Institute, Varanasi	Member
5. Dr. Subodh Sishodia, Haryali Kisan Bazaar, New Delhi	Member
6. Mr.J.G.Menon, CGM NABARD, Mumbai	Member
7. Mrs. Nilima Dwivedi, Pioneer Group, New Delhi	Member
8. Mr. Bhaskar Reddy, FICCI	Member
9. Ms.Amita Sarkar, Sr. Director & Head, (Agri) CII	Member
10. Representative of IFFCO	Member
11. Dr .P. Chandrashekara, Director, MANAGE	Member-Secretary

## Terms and reference (Specific)

- Review the existing status of public private partnership in the field of extension and recommend suitable model and program for the industry joining the government for fulfilling the national objectives of agricultural development and farmer empowerment.
- To recommend measures for promoting agricultural development by corporate through a specific Agri component in CSR.

- Recommend measures for involving public sector farm organisations in extension and agricultural development.
- Suggest a framework within which public and private partnerships happen in a transparent & mutually beneficial manner.
- Recommend ways for incentivising private partnership in extension services.
- Suggest measures to update/upgrade the technical know-how/know-why of Input Dealers and mainstreaming them into existing extension system.
- Recommend strategies to promote & utilise Agri Clinics and Agri Business Centres for strengthening extension delivery and forward & backward linkages to farming community in rural areas

#### 7. Sub-Group –VII : Convergence and programme delivery for agricultural development

##### Composition:

1. Sh.Subhash Garg, JS (RKVY), DAC	Chairman
2. Sh. T. Vijay Kumar, JS, MORD	Member
3. Dr.B.R.Shah, Director (Agri) Gujarat	Member
4. Dr. M.N. Reddy, Former Director, MANAGE	Member
5. Sh.Shailendra Kumar, Director, NHM, DAC	Member
6. Dr.A.K.Singh, Zonal Project Director, Kolkata	Member
7. Mr. A.V. Singh, P.D., ATMA, Mungeer, Bihar	Member
8. Representative of NREGA	Member
9. Rep. of Water Resoruces	Member
10. Representative Dept. of Power	Member
11. Dr. R. K. Tripathi, Director (EM), DOE, MoA	Member-Secretary

##### Terms and reference (Specific)

- Recommend a legal frame work for Farmers Right to Services Legislation to internalise rights based approach for providing services to farmers as contained in the Farmers Charters to be published by individual agencies; penalties for the public functionaries and compensation to the farmer for deficit in services provided.
- Recommend a system for convergence of services at field level within agriculture sector and among all agriculture related sectors.
- Recommend measures for improving the functioning of ATMA, KVKs & other Institutions.
- Recommend measures for improving program planning & delivery to ensure what is planned is implemented and there is zero tolerance for lapses in implementation of schemes & programs.
- Recommend measures to incentivise extension functionaries, agricultural institutions, village panchayats and other community groups for promoting agricultural development and achieving agricultural goals in their respective areas.
- Recommend suitable methodology for suitable convergence between the KVK stream, ATMA stream and production support stream ensuring food security and farmers empowerment.

**8. Sub-Group –VIII:** Extension Strategies for difficult areas (J&K, NE & Hill Areas, Sensitive Coastal areas, Bundelkhand, Naxal affected, Rainfed/ drought prone) disadvantaged farmers (tribal, small & marginal and tenant) and farm workers

### Composition:

1. Dr. C. Prasad, Former DDG, ICAR	Chairman
2. Swamy Shashankananda, Ramakrishna Mission, Ranchi	Member
3. Director, Agriculture, Chhattisgarh	Member
4. Sh. J.C. Rana, Director (Agri), H.P.	Member
5. Smt.Afifa F Kamili, Director of Extn. Education, SKUAS&T, Srinagar, J&K	Member
6. Dr.R.Dympep MD, Meghalaya Small Farmers' Agri-Business Consortium, Shillong	Member
7. Dipankar Dey, NGO, Sundarbans	Member
8. Sh.Chetan Thakur, Anar De Foundation, Gujarat	Member
9. Shri Sudhip Pratap Singh, Farmer, Uttarakhand	Member
10. Dr. Venkata-subrmanian, ADG, ICAR, New Delhi	Member-Secretary

### Terms and reference (Specific)

- Review on-going programmes and schemes implemented specifically in difficult areas/ for disadvantaged farmers groups and farm workers.
- Document extension innovations that have been successful in J&K, NE & Hill Areas, Sensitive Coastal areas, Bundelkhand region, Naxal affected areas, and Arid, Rainfed & Drought prone areas.
- Recommend more responsive and accountable mechanisms for effective extension in difficult areas and to achieve better reach of the farmers in disadvantageous situations.
- Indicate broad strategies and investments for targeting extension delivery in difficult areas and for farmers in disadvantageous situations during XII Plan.

### 9. Sub-Group –IX : Empowering Women for Agricultural Development

#### Composition:

1. Dr.R.K.Samanta, Former VC, BCKV, Hyderabad	Chairman
2. Dr. Mrs. Geetha Kutty, Professor, KAU, Kerala	Member
3. Dr.Vandana Dwivedi, Jt.Adviser (Agri.), Planning Comm.	Member
4. Dr.Mrs. Krsihna Srinath, Director, NRCWA, Bhubaneshwar	Member
5. Dr. Mrs. Sudha Nair, MSSRF, Chennai	Member
6. Ms.S.P. Amersinghe, International Water Management Institute South-East Asia Regional Office, ICRISAT, Hyderabad	Member
7. Dr.Gaekwad, Prog. Coordinator, KVK, Ahmednagar.	Member
8. Smt.Sushila Gabel, Farmer, Chhattisgarh	Member
9. Mrs. Suneja, Joint Director (Extension Reforms)	Member-Secretary

### Terms and reference (Specific)

- Undertake a critical review of the existing approaches, strategies, priorities, policies, programmes and institutional arrangements focusing women's empowerment

- Identify needs, constraints, opportunities and strengths of women of different categories (women labourers, farm-based women entrepreneurs, women Interest Groups & Women Headed Households).
- Suggest gender specific interventions for enhancing productive participation of women in agriculture & allied sectors to ensure food & nutritional security at household/ community / national level;
- Suggest suitable strategies for gender integration in the Agricultural Development Programmes
- Suggest Policy reorientation to entitle women as Farmers.
- Suggest mechanisms for upgradation of women' s farming skills through life time capacity building, testing and certification of farm skills.
- Indicate broad strategies and investments during XII Plan for empowering women for agricultural development

### **Terms and reference (General)**

The terms and reference (General) of the Working Group and other contents of the above-mentioned Order would remain unchanged. TA/DA of the above co-opted member shall also be regulated as per Para-II.3 of the earlier Order of even No. dated 7<sup>th</sup> March, 2011.

(Vandana Dwivedi)  
Joint Adviser (Agri)

### **Distribution**

The Chairman and Members of the Working Group.

#### Copy also forwarded to:

1. P.S. to Deputy Chairman, Planning Commission
2. P.S. to Member (Agri.), Planning Commission
3. P.S. to Member (Science), Planning Commission
4. P.S. to Member Secretary, Planning Commission
5. Sr. consultant (Agri.), Planning Commission
6. Adviser (Plan Coordination & Management Division), Planning Commission
7. Adviser (Agri)/Adviser (SS) / Joint Adviser (Agri.)/ Director (Agri.)  
Dy. Advisers / SROs/ ROs in the Agriculture Division
8. Pr. Advisers / Advisers of all Divisions
9. Account – I Section

(Vandana Dwivedi)  
Joint Adviser (Agriculture)

No.M-12034/05/2011-Agri.  
Planning Commission  
Government of India  
(Agriculture Division)

Yojana Bhawan, Parliament Street  
New Delhi, the 13<sup>th</sup> July, 2011

### **ADDENDUM**

**Subject: Re-constitution of the Sub-Group-IX in the Working Group on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)- Regarding.**

In continuation of Planning Commission’s earlier order of even No. dated 10<sup>th</sup> May, 2011 regarding **Constitution of the Sub-Groups on “Agricultural Extension in Agriculture & Allied Sector” for the Twelfth Five Year Plan (2012-17)**, it has been decided with the approval of the Chairman of Working Group on Agriculture Extension in Agriculture & Allied Sectors to reconstitute the Sub-group *as the earlier chairman Dr.R.K. Samanta, Former VC, BCKV, Hyderabad has shown his inability to continue with the assigned responsibility.* The revised composition would be as follows:-

**Sub-Group –IX :** Empowering Women for Agricultural Development

#### **Composition:**

1. Dr. N. Vijayalakshmi, Secretary Agriculture, Govt. of Bihar	Chairman
2. Dr. Mrs. Geetha Kutty, Professor, KAU, Kerala	Member
3. Dr. Vandana Dwivedi, Jt. Adviser (Agri.), Planning Comm.	Member
4. Dr. Mrs. Krsihna Srinath, Director, NRCWA, Bhubaneshwar	Member
5. Dr. Mrs. Sudha Nair, MSSRF, Chennai	Member
6. Ms.S.P. Amersinghe, International Water Management Institute South-East Asia Regional Office, ICRISAT, Hyderabad	Member
7. Dr. Gaekwad, Prog. Coordinator, KVK, Ahmednagar.	Member
8. Smt. Sushila Gabel, Farmer, Chhattisgarh	Member
9. Mrs. Suneja, Joint Director (Extension Reforms)	Member-Secretary

#### **Terms and reference (Specific)**

- Undertake a critical review of the existing approaches, strategies, priorities, policies, programmes and institutional arrangements focusing women’s empowerment
- Identify needs, constraints, opportunities and strengths of women of different categories (women labourers, farm-based women entrepreneurs, women Interest Groups & Women Headed Households).

- Suggest gender specific interventions for enhancing productive participation of women in agriculture & allied sectors to ensure food & nutritional security at household/ community / national level;
- Suggest suitable strategies for gender integration in the Agricultural Development Programmes
- Suggest Policy reorientation to entitle women as Farmers.
- Suggest mechanisms for upgradation of women' s farming skills through life time capacity building, testing and certification of farm skills.
- Indicate broad strategies and investments during XII Plan for empowering women for agricultural development

#### **Terms and reference (General)**

The terms and reference (General) of the Working Group and other contents of the above-mentioned Order would remain unchanged. TA/DA of the above co-opted member shall also be regulated as per Para-II.3 of the earlier Order of even No. dated 7<sup>th</sup> March, 2011.

(Vandana Dwivedi)  
Joint Adviser (Agri)

#### **Distribution**

The Chairman and Members of the Working Group.

#### **Copy also forwarded to:**

1. P.S. to Deputy Chairman, Planning Commission
2. P.S. to Member (Agri.), Planning Commission
3. P.S. to Member (Science), Planning Commission
4. P.S. to Member Secretary, Planning Commission
5. Sr. consultant (Agri.), Planning Commission
6. Adviser (Plan Coordination & Management Division), Planning Commission
7. Adviser (Agri)/Adviser (SS) / Joint Adviser (Agri.)/ Director (Agri.)  
Dy. Advisers / SROs/ ROs in the Agriculture Division
8. Pr. Advisers / Advisers of all Divisions
9. Account – I Section

(Vandana Dwivedi)  
Joint Adviser (Agriculture)