structures. Concerned officials of Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) should actively participate in DPR preparation and ensure that the activities identified are included in the shelf of the works of the concerned Gram Panchayat. Considering the commonality of the objectives, works, target areas and beneficiaries between IWMP & MGNREGS, it would be appropriate to take up MGNREGS works in villages under watershed projects. Activities on the ground would include construction of farm ponds, field bunding, water harvesting structures and plantations. Convergence would further ensure targeted planning on a wider canvas. What IWMP brings to the table is a more scientific approach to the planning of soil and water conservation works as a whole with specific activities apportioned to MGNREGS and IWMP. Such works can be taken up under MNREGA after exhausting IWMP funds.

Further, convergence with MGNREGS have been detailed in the recently issued MORD circulars No. 11017/17/2008/NREGA(UN), dated 11th August, 2014 (Watershed management works independently under MGNREGS or in convergence with IWMP) & 9th December, 2014 (Advisory on Water Harvesting Structures (WHS) & desilting/repair & renovation of existing structures). These may be referred appropriately by the field agencies for locally relevant convergence in the watersheds.

2.2 Aajeevika-National Rural Livelihood Mission (NRLM)

The National Rural Livelihoods Mission currently under implementation in selected blocks in the country was launched in June, 2011. The Mission aims at creating efficient and effective institutional platforms of the rural poor, enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services. NRLM is complementing rural poor groups with knowledge, information, skills, tools,
finances and collectivization. Wherever feasible, synergies should be explored with watershed projects. As NRLM expands to watershed areas, these groups including women SHGs already created could be involved in skill development initiatives of NRLM. Income generating and livelihood promotion activities of NRLM may be promoted in watersheds and joint training strategies could be taken up accordingly. Also, there is need for promoting more SHGs and Credit and Thrift Group linkages in the watersheds.

PANCHAYATI RAJ

2.3 Backward Region Grant Fund (BRGF)

This scheme provides for Panchayats as institutions for planning and implementation of need based programmes to address the intra district variations. 250 of the most backward districts are targeted for the purpose. The BRGF allows a high degree of flexibility to the community in the choice of activities. These could well include soil and water conservation and other activities that are typically considered under a watershed project. Further, there is scope for involvement of panchayats in local priority settings for watershed management programmes.

DRINKING WATER SUPPLY & SANITATION

2.4 National Rural Drinking Water Supply Programme

The scheme provides for taking up of conservation measures for sustained supply of water through rainwater harvesting and ground water recharge structures. The projects include taking up water conservation and recharge measures for source strengthening for drinking water. The scheme could be taken up in the selected watersheds. WDTs could facilitate in identification of such sites and aligning watershed plans to ensure adequate water availability.

2.5 Swachh Bharat Mission Campaigns may be aligned to the needs of the watershed communities and their involvement.
WATER RESOURCES

2.6 Repair, Renovation and Restoration (RRR) of Water Bodies

This Pilot Scheme for "National Project for Repair, Renovation & Restoration (RRR) of Water Bodies" is directly aligned to the watershed objectives of improving water availability and creating the potential for Agriculture. The objectives of the Scheme are to restore and augment storage capacities of water bodies, and also to recover and extend their lost irrigation potential. The Scheme, as a part of Accelerated Irrigation Benefit Programme (AIBP) has been approved for 26 district projects in 15 States. Water bodies having original irrigation culturable command area up to 2000 hectare or less are covered under the scheme. There is scope for convergence around such bodies if they fall in a given watershed. The WCDC/WDTs may interface with irrigation/minor irrigation department for the purpose. The RRR Scheme further envisages the convergence with IWMP in their guidelines and it is expected to take up those water bodies of which catchment area treatment is completed under IWMP.

2.7 Central Ground Water Board (CGWB)

CGWB monitors ground water levels four times in a year. In addition, there is a bimonthly water level monitoring of selected observation wells by the states too. These activities would need to be dovetailed in the rainfed areas so as to assess the surface and ground water availability in the watersheds. This analysis would facilitate crop diversification and promotion of other livelihood activities there.

AGRICULTURE

2.8 Rashtriya Krishi Vikas Yojana (RKVY)

RKVY is a multi-sectoral programme covering agriculture and allied sectors. This is an important scheme for convergence and many innovative programmes can be promoted in watersheds. It provides flexibility to the States in formulating their development priorities for the state, region and district. The programmes are designed broadly as per the priorities reflected in C-DAPs. SLNAs may develop a system of integration of agriculture, horticulture, animal husbandry, dairy, fisheries, agro-forestry and sericulture programmatic interventions for selected watersheds in districts/regions as per potential and approach the concerned line department for their promotion and implementation in IWMP areas. These interventions could be with or without funding support. Even special projects like land development, minor irrigation, productivity improvements and integrated farming systems that require separate funding not covered under IWMP could be formulated and posed under RKVY.
2.9 National Food Security Mission (NFSM)

Production support for Rice, Wheat, Pulses, Coarse Cereals and Commercial crops (Jute, Cotton and Sugarcane) is extended under this Mission. The scheme provides for field demonstrations on production technologies and inter-cropping, cluster demonstrations to be conducted by the States in collaboration with the ICAR institutes and State Agricultural Universities. The scheme also provides for cropping systems based training support and assistance on High Yielding Varieties (HYV) seed distribution of certified seeds of pulses (arhar, moong, urad, field pea, gram and moth). Pulses and coarse cereals are mostly cultivated in rainfed areas and NFSM would be useful in promoting course cereals and pulses in watersheds through training and demonstrations. It calls for linkage between Watershed Development Teams and NFSM District technical teams and joint actions in field programmes targeting specific watersheds having potential for these crops.
2.10 National Mission for Oilseeds and Oil Palms (NMOOP)

Diverse agro-climatic conditions are favourable for promoting cultivation of 7 edible oilseeds (groundnut, rapeseed & mustard, soybean, sunflower, sesame, safflower, niger) and 2 non-edible oils (castor and linseed). NMOOP provides assistance on distribution of certified seeds of major oilseed crops, supply of soil amendments, plant protection chemicals and field extension support. Oilseed cultivation covers about 27 million hectares mainly on marginal lands of which 70% are confined to rainfed farming. Oil Palm is highest vegetable oil yielding perennial crop. With quality planting material, irrigation and proper management there is potential to achieve higher yields. The NMOOP supports distribution of oil palm sprouts, drip irrigation system for oil palm, construction of farm ponds and water harvesting structures and bore well for oil palm cultivators. There is scope to expand oil palm cultivation in the coastal states and a few NE States like Assam, Mizoram and Tripura including rainfed areas where water conservation levels have enhanced. Further, common tree borne oilseeds like Karanj, Neem, etc. could be taken up in rainfed. Kharif oilseed crops like ground nut is predominantly grown in rainfed areas, the oil palms is a crop of coastal rainfeds and tree borne oilseed like karanj, neem etc are predominantly of rainfed areas. There is scope for promotion of these crops in watersheds having such potential. It requires joint strategies, linkages and interface between Watershed Development Teams and field functionaries of the State Department of Agriculture especially in planning and conducting training programmes, demonstrations and other soil & water conservation interventions under the scheme in watersheds areas.

2.11 Integrated Nutrient Management (INM) as a part of NMSA

INM is focused on promoting soil test based balanced and judicious and timely application of chemical fertilizers, bio-fertilizers and locally available organic manures such as farm yard manure, vermi-compost and green manure to maintain soil health and soil productivity. District Soil Testing Laboratories (STLs), Mobile Soil Testing Laboratories and Soil Testing Laboratories of Krishi Vigyan Kendras (KVKs) are available in the public domain. This facility is also provided by Private Input Support providers (mainly seeds, fertilizers and plant protection chemicals) in potential areas. Besides, private and co-operative sugar factories are also extending this support to the farmers in their catchments. Farmers are encouraged to go for Soil Health Cards indicating status of major and micro-nutrients. This is far more important for the farmers in rainfed ecologies for balanced and timely use of fertilizers and for making the best use of available moisture regime and scarce water resources. An assistance for soil improvement (in the form of soil ameliorants, micro-nutrients, vermi-compost, bio-fertilizers, organic inputs etc.) is extended through various Missions such as NFSM, NHM, NMOOP & NMSA. Farmers training and field demonstrations may be organized by the agriculture department and KVK scientists in the selected
watersheds. WDTs may indicate the sites and villages for this purpose as per the potential in a given watershed. KVKs and ATMAs may train farmers, Watershed Committee (WC) members and concerned WDT member for strengthening this activity.

2.12 Integrated Pest Management (IPM) as a part of National Mission on Agricultural Extension & Technology (NMAET)

IPM is an eco-friendly approach which aims at keeping the pest below Economic Threshold Level (ETL) by employing all available pest control methods and techniques such as cultural, mechanical and biological controls. Greater emphasis is laid on use of bio-pesticides and use of pesticides of plant origin such as neem formulations. The use of chemical pesticides is advised as a last resort when the pest population crosses the threshold limits. IPM activities are promoted through Farmers Field Schools (FFSs) wherein farmer to farmer learning is promoted through field observations and real farm situations. The Agriculture Department functionaries and KVK scientists may emphasize IPM approach in the watershed areas through trainings, demonstrations and exposure visits. Farmers Field Schools may also be encouraged in the watershed areas and their capacities built to undertake improved IPM practices. Sub-Mission on Agricultural Mechanization of NMAET provides for plant protection equipment like sprayers. NFSM/NHM has a component for providing plant protection chemicals, bio pesticides, IPM etc. These could be suitably extended to the watershed areas through their field programmes like trainings, demonstrations, fields schools and exposure visits.

HORTICULTURE

2.13 Mission for Integrated Development of Horticulture (MIDH)

National Horticulture Mission (NHM) was launched in 2005-06 as a Centrally Sponsored scheme to promote holistic growth of horticulture sector through area based regionally differentiated strategies. The Scheme has been subsumed as a part of Mission for Integrated Development of Horticulture (MIDH) from 2014-15. The MIDH continues to be Centrally Sponsored Scheme covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo. While Government of India (GOI) contribution is 85%, the State's contribution is 15% (except North Eastern States where GOI contribution is 100%). Major interventions operated under the scheme are: Research & Development (R&D) support, Production and productivity improvement, Production and distribution of planting material, Rejuvenation of Senile plantations, Creation of water resources, protected cultivation, Precision farming, Human Resource Development (HRD), Technology Dissemination, Post-Harvest Management, Processing & Value addition, etc. Most of these interventions are applicable to the watershed areas for promotion of horticulture related activities. WDTs may obtain quality planting material (as per potential /requirement) from MIDH credited outlets and seek technological back up from MIDH as per horticultural development needs of watersheds. The
convergence with this sector could be strengthened further by: (i) providing representation to WCDC/WDTs on the District Horticulture Mission, (ii) WDTs and KVKs may interact for development and distribution of quality planting material, (iii) IWMP and MGNREGA may develop farm ponds; conservation structures and polythene lining, and drip system required for horticulture development may come from other programmes such as NMSA. Activities like production of planting material for IWMP areas and pest and disease control of horticultural plantations in watersheds may be proposed for convergence with MIDH.

NATURAL RESOURCES MANAGEMENT AND CLIMATE CHANGE

2.14 National Mission on Sustainable Agriculture (NMSA)

Developed under the National Action Plan for Climate Change (NAPCC), the NMSA aims at bringing in a systems approach to rainfed farming. The major components are Rainfed Area Development Programme (RADP), Soil Health Management, On Farm Water Management and Climate Change pilots. Soil health issues could be addressed jointly by RADP and IWMP in a given watershed. Intensive activities like soil resource mapping, promoting soil testing in the given watershed through static and mobile laboratories, distribution of portable soil testing kits, making the soil fertility maps available at field level, conducting soil health awareness campaigns at the village/Panchayat levels etc., could be undertaken in the watersheds combining the efforts of both public and private facilities. The WDTs and the PIAs would need to orient farmers and field functionaries about soil health concerns. Capacities of field agencies would need to be enhanced through systematically developed training modules.

2.15 Micro Irrigation (MI) as a part of NMSA

NMSA has a component of On Farm Management that focuses on enhancing water use efficiency by promoting efficient on farm water management technologies and equipment. Emphasis is being given on effective harvesting and management of rain water. Assistance is extended for adopting water conservation technologies, efficient delivery and distribution systems. This would include promotion of drip and sprinkler irrigation. These systems would need to be extended around water bodies created or renovated through watershed works with focus on judicious and timely use of available water. Training and MI technology support (installation, maintenance, etc.) may also be provided to the farmers adopting drip/sprinkler practices in watersheds.