

PRELIMINARY DISCUSSION PAPER
For Discussion at 6th NFC of Consortium of Indian Farmers Associations (CIFA), New Delhi

Sponsored by:
National Rain-fed Area Authority (NRAA), New Delhi

THE NATIONAL RAIN-FED AREA AUTHORITY (NRAA)

NRAA was established on 3rd November 2006 to give focused attention to the problems of rainfed area of the country. With as much as 85 million hectares of arable land being almost wholly rain-dependent for crop production, the vulnerability of the Indian agriculture to the vagaries of the monsoon remains significantly high. Nearly half of the total acreage of over 90 million hectares under rice, and the bulk of the area under coarse cereals, pulses and oilseeds are unirrigated and hence rain-reliant. NRAA could play a major role in advising various Ministries/Departments for implementing of their programmes for more effective way and takes steps in convergence of their programmes for holistic development of natural resources in rainfed areas.

We are thankful for The National Rain-fed Area Authority (NRAA) for sponsoring this session in the 6th National Farmers Convention of the CIFA. The role and authority of NRAA for different Central Ministries/departments are very important for delivery of advisory services, monitoring and evaluation of their programmes, convergence of activities of different programmes being implemented by Central and State concerned Department/organizations.

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CONSORTIUM OF INDIAN FARMERS ASSOCIATIONS
(CIFA)



Rainwater harvesting

Before

After



INTEGRATED MANAGEMENT OF RAINFED FARMING

CONSORTIUM OF INDIAN FARMERS ASSOCIATIONS (CIFA)

AIMS & OBJECTIVES

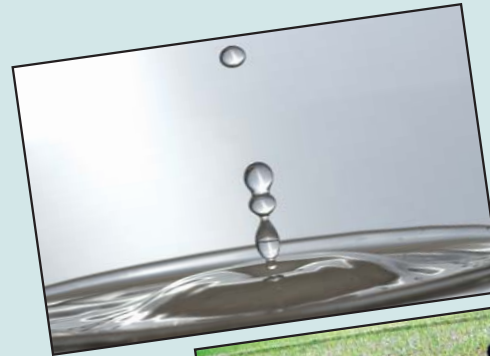
- ❖ To bring unity amongst all farmers associations, women groups, Panchayat Raj Institutions, Water User Associations (WUA), Commodity Associations, and act as a cohesive and functional organization.
- ❖ To act as representative to all categories of Farmers and assist them in articulating their views with Central and State Governments, Financial Institutions, Research, CACP, CII, IFAP, World Bank, FAO & others.
- ❖ To create awareness amongst intellectuals, Media & Industrialists on role of agriculture and small farmers as a key sector for National Economic and Social Development.
- ❖ Establish Forums of MPs, MLAs to support the cause of farmers.

PROGRAMS

- Networking Farmers as commodity wise vertical and area wise parallel organizations.
- Build global competitiveness through technologies upgradation, organic farming, research, Mechanisation and other means.
- To assist in establishing Processing, Market Yards, Retail Chains, Contract Farming & Commodity Trading.
- To facilitate domestic and International Farmers Exchange.
- Sensitization on social issues of women rights, child marriage, dowry, alcoholism, suicide prevention etc.,

ASSOCIATE INSTITUTIONS

- Parliament Members Farmers Forum (PMFF)
- International Federation of Agriculture Producers (IFAP) & BCI
- CII - BARC - ICRISAT



Preliminary Discussion Paper**For Discussion at 6th NFC of Consortium of
Indian Farmers Associations (CIFA), New Delhi***Sponsored by:***National Rain-fed Area Authority (NRAA), New Delhi****INDEX**

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Note 6:**NREGA: Can help rainfed farming**

Nearly 65 per cent of the national unutilized irrigation potential is in the eastern parts of the country, comprising the medium to high rainfall regions of West Bengal, Bihar, Jharkhand, Orissa, Chhattisgarh, eastern Uttar Pradesh and northern AP.

These areas also form the chunk of India's degraded lands. India needs to treat 125 million Ha of land under soil and water conservation to make this potential a reality. At the current level of outlay this will take 75 years to do so under the watershed development programmes. For the government to complete this by 2020, it has to allocate Rs 10,000 crore every year for the next 15 years. The NREGA being a scheme with focus on rejuvenation of ecology can bear 50 per cent of the cost to make the attempt feasible.

(Source: Report of the Technical Committee on Watershed Programmes in India, Department of Land Resource, Ministry of Rural Development, January 2006).

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1. Back Ground

Rainfed Farming-Profile, Problems and Pathways for Progress:

1.1. Profile of Rainfed Farming:

Rainfed agriculture accounts for 60% of total cropped area, 48% of the area under food crops and 68% under non-food crops. In terms of production, drylands account for nearly 80% of the output of coarse cereals, 50% of maize, 65% of chickpea and pigeonpea, 80% of groundnut and 88% of soyabean. Half the output of cotton in the country is from the dry districts. Nearly 50 per cent of the total rural workforce and 60 per cent of the livestock in the country are concentrated in the dry districts. It accounts for over six percent of GDP, just a little under a third of the contribution of Agriculture sector and nearly half of rural work force and over 400 million people are dependent on rainfed farming.

1.2. Area

13 states account for about 92 per cent of the total rainfed area. Out of 85 million ha rainfed areas, 80 million ha is under agriculture and 5 million ha under forest areas. These include the main states of Maharashtra (14.49 million ha), Madhya Pradesh (9.31 million ha), Rajasthan (12.15 million ha), Karnataka (7.46 million ha), Uttar Pradesh (4.42 million ha), Andhra Pradesh (6.48 million ha), Gujarat (6.58 million ha) and West Bengal (2.54 million ha). Annual rainfall in the drylands varies from less than 150 mm to 1600 mm. Soils vary from shallow skeletal soils of the deserts to medium to deep black soils.

1.3. Rainfall

Rainfed agriculture in about 85 million hectares of arable land is the manifest opposite of the prosperous irrigated cereal-based green revolution tracts. The green revolution has bypassed millions living in the drylands.

1.4. Complexities of Rainfed Farming

Relative characteristics of rainfed regions (NSSO)

Parameter	Rainfed regions	Irrigated regions
Poverty ratio,%	37	33
Proportion of Agri labour,%	30	28
Land productivity,Rs/ha	5716	8017
Proportion of irrigated area,%	15	48
Per capita consumption(kg/year)	of	
Cereals	240	459
Pulses	20	12
Total food grains	260	471
Coop credit,Rs/ha	816	1038
Bank credit,Rs/ha	1050	1650
Infrastructure Dev Index	0.30	0.40
Social Dev Index	0.43	0.44
No. of predominant crops	>34	1*, 2**

**Rice-Rice in South India **Rice-what or Cotton-wheat in North India, Source: Based on R.P.Singh(2001)*

Rainfed regions have limited irrigation of about 15% as compared to 48% in irrigated regions. Due to low employment opportunities and higher population of agricultural labourers as well as low productivity, poverty is more in rainfed regions. Seasonal out-migration to supplement income and livelihood is a normal phenomenon. Less development of rainfed regions is also evident from infrastructural development index.

Rainfed areas suffer from lack of adequate and timely credit, low capital formation, lack of infrastructure, market linkages and value addition. Uncertainty and risk of farming has led to under investments, low coping capacity and higher risks. Credit requirements of rainfed livelihood portfolio are different from the short term crop loans of irrigated areas and needs cyclical credit incorporating consumption requirements for one year.

Most of the developmental effort in agriculture has remained concentrated in irrigated areas. The average crop productivity in the rainfed areas has, consequently, remained woefully low at about 1 tonne a hectare, less than half of that in the irrigated areas. There are large inequalities in incomes of households in irrigated and rainfed zones. States with large rainfed areas have reported less agricultural growth in the last decade (See Note Nos 3& 4)

1.5. Comparing growth % in Net State Domestic Production more than 40% irrigated and more than 60% rainfed agriculture

The gap between growth of agriculture and non-agriculture sectors began to widen since 1981-82, and more particularly since 1996-07. Agri GDP growth declined from 3.62% during 1984-85 to 1995-96 to below 2% during the period 1995-96 to 2004-05.

Period	In areas with more than 40% area under assured irrigation	In areas with more than 60% rainfed area
1986-96	2.96%	4.00%
1996-2005	2.07%	-0.14%

Where as in irrigated areas there was only a marginal decline in agri GDP from 2.96% to 2.07%, in rainfed areas which have shown good agri growth during 1986-96, there was steep fall in Agri GDP from 4% to minus -0.14% during the period 1996-2005. This could be due to liberal trade policies in vegetable oils, stagnating productivity and ineffective domestic support price of rainfed crops. Terms of trade turned against agriculture from 1999-2000 to 2004-05 and sharply reduced profitability of farming. This also influenced private and public investment in agriculture.

Analysts attribute this steep decline in rainfed agriculture due to frequent drought constrained by resource for farmers who could not afford the high cost of cultivation. The sub committee on agriculture also acknowledges soil erosion & inefficiency in use of rain water at 30% to 45% due to poor investment and infra structure and inappropriate policy support as the causes for poor growth. Consequently, a major portion of seasonal rainfall flowed away as surface run-off, taking with it precious top soil and thus depleting the soil of vital plant nutrients

1.6. The dryland farmers are forsaken because they lack an effective voice, because the balance of power in their relationships with the outside world is heavily tilted against them.

1.7. The farmers in rainfed regions need to be provided support for input for cultivation of their crops and basic infrastructure such as marketing need to be developed in rainfed regions.

Facing the challenge of the drylands is no longer a matter of choice. It is a must if we are to meet the goal of national food security in the coming years. Even in the most optimistic scenario of further irrigation

development in India, nearly 40% of national demand for food by 2020 will have to be met through increasing the productivity of rainfed dryland agriculture. And this demands that productivity of drylands be raised.

2. Problems and Issues

Failures in Conservation and Improvement of Rainfed Land

Watershed development is a major strategy to make sustainable use of natural resources in rain-fed areas. But projects are mostly planned and implemented by government departments in a piecemeal and fragmented manner without actively involving the beneficiary communities.

The existing guidelines for Watershed Development need strengthening to ensure (a) proper social mobilization and institution-building in the initial stages of the programme so as to ensure community participation on a sustained basis; (b) adequate attention to equity and livelihood concerns of the poor; and (c) convergence of the programmes undertaken by different Ministries at the watershed level with a view to raising agricultural productivity.

Rainfed Areas

The emphasis in production should be on farming system approach that integrates crop, livestock, agro-forestry, and horticulture. Wherever possible, agriculture development programmes in rain-fed areas should converge on watershed.

Soil health cards, giving regularly updated information on major and micronutrients should be issued to all the farmers by strengthening soil testing labs in all parts of the country. Production and sale of biofertilizers, e.g. compost, organic manure and micro nutrients should be encouraged on a large scale through informal as well as organized production systems by providing appropriate incentives.

The role and authority of NRAA for different Central Ministries/departments are much more important for delivery of advisory services, monitoring and evaluation of their programmes, convergence of activities of different programmes being implemented by Central and State concerned Department/organizations.

2.1. Uncertainty of weather conditions imposing multiple risks during the crop growing season.

- 2.2. Low water (surface or ground) potential.
- 2.3. Low levels of fertility of the soil and increasing desertification.
- 2.4. Low levels of private investment in land improvement and cultivation.
- 2.5. Labour employment in an uneven manner alternating between peak demand and least demand.
- 2.6. Poorest of our people live in the drylands of India, especially the tribal and hilly areas.
- 2.7. Over emphasis on irrigation resulted in over exploitation in two-thirds of India's landmass which is underlain by hard rock formations, totally unsuited to extraction of water by tubewells. This has led to a terrible self-engendered crisis of water in large parts of the country, with water tables plummeting everywhere.
- 2.8. Hybrid seeds reduced stalk size, diversity and quality of crop-residue, resulting in a fodder crisis in rural India.
- 2.9. The overall growth rate of crop production during 1990s was nearly half of what it was during the 1980s. The output of coarse cereals, pulses and oilseeds (covering about 45% of total cropped area and grown mostly in the drylands) fell during the 1990s and the rate of growth of their yields decelerated considerably.
- 2.10. Another crucial area of neglect is livestock. Small and marginal farmers and landless labourers constitute almost two-thirds of these livestock-keeping households in India. And about 18 million households derive their livelihood from livestock with over 70% of the labor force being women.
- 2.11. Drylands are poor in terms of their banking networks and credit dispensation.

3. Pathways-Measures Needed to Improve Rain fed Farming:

3.1. The dryland farming is caught in a vicious circle of high risk, low investment and low yields. Less than 10% of public spending in developing countries goes to agriculture even though this sector

commonly accounts for about half of their Gross Domestic Product. And less than 1% of public spending goes to agricultural research, which is vital to the innovation that opens new livelihood opportunities. Of that 1%, only a small proportion is invested in dryland agriculture.

While maintaining the commitment to irrigated agriculture, investments in dry land agriculture have to be hiked. As of now, it is only the rich farmer who has benefited from the developments in irrigated farming. The focus should be more on the smallholder farmer". Icrisat Aug 08

Substantial Public investments for long periods are required to enable them to break out of this trap. There is a perceptible decline in public investment in agriculture since the mid-1980s.

- 3.2. Location-specific public investments in water infrastructure (check dams, percolation tanks & farm ponds). Studies have shown that the elasticity of output with respect to irrigation in semi-arid regions is as high as 0.70, as against coastal areas of 0.36 (Output per a given investment in rainfed lands is double that of output in coastal areas).
- 3.3. Improve rural livelihoods through participatory watershed development projects. (For details see Note 1)
- 3.4. Transfer of surplus run-off from perennially water-rich basins to water scarce areas- Principal solution.
- 3.5. The hard rock aquifers, which cover two-thirds of India's geographical area, have very poor storage potential, and that these regions have too little surface water in their basins in bad years for storing in aquifers. In years of good monsoon, these poor aquifers get fully replenished and do not offer any space for extra storage.

But, we do not get any surplus run-off from catchments of these basins for storing in the empty aquifers during the drought years.

Major way to "operationalise" the idea of groundwater banking is to transfer surplus run-off from perennially water-rich basins to water scarce areas with depleted aquifers in years of droughts.

- 3.6. Supply of drought resistant and improved yield potential seeds at subsidized rates.
- 3.7. **Integrated nutrient management:** to provide the labour subsidy/support (in terms of wages for the required person-days) for

generation and application of plant nutrients instead of product/input subsidy or support in a situation where the farmer feels it is a 'burden' (in terms of own labour or hired labour) and therefore opts for chemicals. Example: Tank silt application in lieu of chemical fertilizers for soil nutrient management. A typical tank (22,500 cum. of tank silt) can generate 6250 person-days of employment.

- 3.8. Attention to soil healthcare needs to be given high priority:** Soil health cards, giving regularly updated information on major and micronutrients should be issued to all the farmers. This would require strengthening of soil testing labs in all parts of the country. Provision of micronutrients like zinc and boron and sulphur can help to increase yield by over 50% in dry land farming areas. Encouraging use of organic nutrients and enhance soil organic matter.
- 3.9. Providing water conservation subsidy to farmers in rainfed areas under NREGA.
- 3.10 Integrating dryland food grains into the Public Distribution System so that dryland agriculture products get a market
- 3.11. Strengthening livelihood options based on livestock, agro-processing and forests.
- 3.12. Integrate land based activities of agriculture, animal husbandry, forests and rural development for holistic development of fringe forests and adjoining non forestlands.
- 3.13. Development of mechanisms for convergence of resources, activities and programmes to demonstrate win-win situation for upstream forest and downstream agricultural areas for ecological, water, food and livelihood security.
- 3.14. Ensure better ecology and conservation of native biodiversity for adaptation to climate change response and carbon sequestration.
- 3.15. Enable village institutions to develop and promote micro and medium enterprises for enhanced livelihoods of marginal and medium farmers, asset less, women and venerable sections of the society through development, promotion, value addition and processing of locally available natural resources.

3.16. National Rainfed Area Authority (NRAA) being an Inter-Ministerial body could play a Central Role in convergence of various programmes being implemented by various Ministries/Departments.

- 3.17. Better support systems through cyclical credit, Minimum support prices (See Note 5) and marketing arrangements for dry land crops, research and extension.

4. Research Support Needed

- 4.1. The ICAR has specific research organizations - the Agriculture (CRIDA), and parts of the Indian Grasslands and Fodder Research Institute Central Arid Zone Research Institute (CAZRI), the Central Research Institute for Dryland (IGFRI), Central Soil Salinity Research Institute (CSSRI) mandated to conduct research on specific crops and problems in the drylands. The International Crops Research Institute for the Semi Arid Tropics (ICRISAT) is located in India.
- 4.2. Agricultural research and extension should:
- 4.2.1. Concentrate on developing drought resistant and improved yield potential seeds.
- 4.2.2. Developing nutrition management practices from the locally available organic biomass and other soil enriching material. The shift of emphasis towards innovation requires a change in the attitude of researchers and research organizations towards local knowledge
- 4.2.3. All the cases of successful innovation and development evident in the drylands (drip irrigation systems, integrated pest management, watershed development, etc.) reveal several agencies working together, improvising their interventions with a deep respect for local knowledge - whether it is from input dealers, industry, extension staff/ departments yields results.
- 4.2.4. Extension agencies to demonstrate at field level the benefits from improved seeds and nutrition management practices from locally available material.

5. XI Plan Focus on Improving Rainfed Farming:

Growth of agricultural GDP decelerated from over 3.5% per year during 1981-82 and 1996-97 to less than 2.5% during 1997 and 2007. This deceleration, was most marked in rainfed areas, in almost all States.

Characteristics

Rainfed areas in the country, which account for 60% of the cultivated area and are home to majority of our rural poor and marginal farmers, have suffered neglect in the past in not having received differentiated technological, institutional, infrastructural, and investment support. These areas are characterized by:

- 5.1. High incidence of poverty,
- 5.2. Low education and health status,
- 5.3. Low employment opportunities, and vulnerability to a variety of high risks.
- 5.4. After a high growth in rainfed agriculture during 1985-96, the deceleration in its growth since 1996 was more than that of the irrigated sector partly due to liberalized trade policies in vegetable oils and ineffective domestic support prices of rainfed crops.
- 5.5 Poor attention by government departments & poor quality of service delivery. Repeated water scarcities leading to large-scale droughts have severely affected livelihoods of these rural poor.

6. Possible Solutions:

- 6.1. Integrated landscape based planning in the use of land resources specially continuous treatment of fringe forest and ad-joining non-forest land should be taken up for increasing productivity. Improve rural livelihoods through participatory watershed development projects. Merits of the watershed-based approach:
 - 6.1.1. Soil loss and surface runoff reduced by 52% and 58% respectively in completed watersheds. Special studies should be done by agencies like NRAA to assess the impact of land use changes like mining, hydro projects etc. on agriculture.
 - 6.1.2. Area under irrigation increased from 34% to 100% in different watersheds.

- 6.1.3. The area under sowing increased. The cropping intensity increased.
- 6.1.4. Productivity/yields of crops increased and the net returns also increased (up to 63%).
- 6.1.5. The Benefit Cost Ratio of watershed ranged from 1.10 to 15.72, depending on the above factors.
- 6.1.6. The availability of drinking water and groundwater situation improved in all project villages.
- 6.1.7. Other benefits such as fodder availability, employment opportunities (and also equal wages in limited number of cases), and income generation opportunities improved significantly in all villages where watershed projects were implemented.
- 6.1.8. Human and cattle migration reduced significantly. These findings suggest that there is a strong case for a massive expansion of the rainfed areas programme in the country.
- 6.1.9. Promote public private partnership on the implementation of watersheds and rural development programme under corporate social responsibility through NGOs and grants from Government on proportion basis. Joint MOU between farmers cooperatives (specially marginal farmers) and the corporate sector for investment and technology dissemination in agriculture and with buy back arrangement.
- 6.2. Water shed development programme should be reinforced by:
 - 6.2.1. Domestic support price.
 - 6.2.2. Promotion of pulses crops by providing improved seeds of pulses, availability of specific nutrients of sulphur and phosphorous, and better market linkages.
 - 6.2.3. Improving productivity of rainfed rice in eastern India. Sweet sorghum for ethanol production could be more competitive in the dry regions of southern and western States.
 - 6.2.4. Risk moderation through rain water conservation, rejuvenation of traditional water bodies.
 - 6.2.5. Livestock, agro-forestry, and dryland horticulture and value addition through processing, storage etc.,
 - 6.2.6. Diversification and expansion of predominantly rainfed crop of soybean by market linkage.

- 6.2.7. Credit requirement of rainfed regions, repayment should be planned to cover the risks; for example, total livelihood portfolio with extended repayment period would be more appropriate.
- 6.2.8. Convergence with employment guarantee schemes
- 6.2.9. Artificial Groundwater Recharge, as well as renovation of existing water bodies.
- 6.2.10. Upgradation of skills of the landless, asset less, artisans, and small and marginal farmers should be promoted keeping in view the new marketing demands.

7. The National Rain-fed Area Authority (NRAA)

- 7.1. NRAA was established on 3rd November 2006 to give focused attention to the problems of rainfed area of the country. With as much as 85 million hectares of arable land being almost wholly rain-dependent for crop production, the vulnerability of the Indian agriculture to the vagaries of the monsoon remains significantly high. Nearly half of the total acreage of over 90 million hectares under rice, and the bulk of the area under coarse cereals, pulses and oilseeds are unirrigated and hence rain-reliant. NRAA could play a major role in advising various Ministries/Departments for implementing of their programmes for more effective way and takes steps in convergence of their programmes for holistic development of natural resources in rainfed areas.
- 7.2. The potential of development of rainfed areas in the country is immense as rainfed area account for 60% of the total cultivated area but contribute only 45% of agricultural production.
- 7.3. NRAA need strengthening in the true spirit of its extension. Like DST/DARE, it should be treated as Independent Technical Department of MOA.

8. Rainfed Area Development Programme:

- 8.1. Food grain production in the country accrues from about 142 million hectares of cultivated land. Of this, 40% is irrigated and contribute 55% of production. The remaining 85 million hectares are rainfed and account for 45% of the total production. During 2007-08, Government proposed to introduce 'Rainfed Area Development Programme' (RADP) with initial allocation of Rs.100

crores. But, the scheme could not be launched due to poorly drafted documents by Department of Agriculture & Co-operation. This responsibility could be given to NRAA to launch Rainfed Area Development Programme (RADP) as this organization has technical capability to provide much needed knowledge and input for launching of such important programmes for food security.

- 8.2. By the end of X plan area of 9.40 million ha was developed in 6315 water sheds incurring an expenditure of Rs 3,033 crore. The Planning Commission has set an outlay of Rs.2500 crore for the XI Plan period. It is proposed to develop 2.30 million ha in the XI plan period. In the first two years of the XI plan, an area of 6.14 lakh ha has been developed at a cost of Rs 480 crore. Budget allocation of a meagre amount of Rs.138 crore is made for 2009-10.
- 8.3. It is because of neglect of rainfed areas of States like Jharkhand & Chattisgarh where only a single crop is grown there in spite of 1400mm of rainfall, and lakhs of people remain without work and means of livelihood.
- 8.4. The money being spent on importing pulses, oil, etc., at exorbitant rates can be saved if sufficient funds are allocated for developing rainfed areas including forest fringe and adjoining non-forest areas. It is necessary that fringe forest areas and adjoining non-forests lands are treated in a focused and integrated manner to harness complementarities of forests in maintaining the water, food, livelihood and environmental security.
- 8.5. The emphasis in production should be on farming system approach that integrates crop, livestock, forestry, agro-forestry, and horticulture. Wherever possible, agriculture development programmes in rain-fed areas should converge on watershed. (Standing Committee on Agriculture)

Note 3

Growth rate in rainfed regions

The rainfed regions did have their tryst with higher growth rates before the 1990s. Favourable growth rates extended to both the irrigated areas and the rainfed areas, with the latter experiencing growth rates of 3.62 per cent in Gujarat, Rajasthan and Madhya Pradesh.

In the decade after 1995 till 2004-05, the overall growth rate of agricultural productivity declined. The Irrigated states witnessed stagnation or very marginal growth as compared to the previous decade.

In contrast, the rainfed regions witnessed negative or zero growth. States like Kerala showed sharp deceleration of growth in agriculture during 2004-05 as compared to the period before 1995.

State	Growth rate in NSDP agriculture (per cent)		Per cent of rainfed area	Per cent of irrigated area
	1984-88 to 1995-96	1995-96 to 2004-05		
Punjab	4.00	2.16	3	97
Haryana	4.60	1.98	17	83
Uttar Pradesh	2.82	1.87	32	68
Tamil Nadu	4.95	-1.36	49	51
West Bengal	4.63	2.67	49	51
Bihar	-1.71	3.51	52	48
Andhra Pradesh	3.18	2.69	59	41
Jammu & Kashmir	2.18	3.27	59	41
Gujarat	5.09	0.48	64	36
Rajasthan	5.52	0.30	70	30
Orissa	-1.18	0.11	73	27
Madhya Pradesh	3.63	-0.23	74	26
Karnataka	3.92	0.03	75	25
Maharashtra	6.66	0.10	83	17
Kerala	3.60	-3.54	85	15
Assam	1.65	0.95	86	14
Himachal Pradesh	1.64	3.51	81	19
All India	3.62	1.85	60	40

NSDP : Net State Domestic : Product

Note 4

Farewell to farming

Environmental degradation, reducing land holdings size, decline in agricultural production - people are deserting farming. Dominantly rainfed states like Rajasthan have registered a dramatic increase in the shift from farm to non-farm employment from a mere 19.3 per cent in 1983 to 32.7 per cent in 2000 with a higher dependence on wage income. The table below shows the share of non-agricultural employment of male workers in rural areas of select rainfed dominant states.

State	1983	1993-94 (per cent)	1999-00 (per cent)
Andhra Pradesh	22.9	24.4	25.6
Karnataka	18.4	21.2	21.5
Rajasthan	19.3	30.4	32.7
Tamil Nadu	31.4	36	37.8
Gujarat	21.1	28.9	28.6
All India	22.2	25.9	33.6

Note 5

MSP not helping rainfed

A study by Ramesh Chand of the National Centre for Agricultural Economics and Policy Research shows rainfed farmers invariably suffer from price fluctuations and egress out of agriculture. The government with a view to ensure remunerative prices to the farmers announces the minimum support prices (MSP). Farmers perceive MSP as a guarantee price for their produce from the government.

These prices are announced by the Government at the commencement of the season to enable them to pursue their efforts with the assurance that the prices would not be allowed to fall below the level fixed by the government. However, "MSP is not implemented everywhere and is effective only in those places where the government has set a procurement price", says Ramesh Chand. The study further notes that the farm harvest price (FHP) has a higher risk of going below the MSP.

FHP is the actual price of the crop during three months after harvest. The study capturing the actual MSP and FHP in 12 states shows that Madhya Pradesh, Gujarat, Rajasthan, Karnataka, Maharashtra where 66-90 per cent of geographical area in each state are under rainfed conditions demonstrate fluctuations as high as Rs 300- 445 per quintal. States like Punjab and Haryana that have experienced the Green Revolution are stable with variations of Rs 5- 40 per quintal. The stability of prices in irrigated areas can be attributed to the presence of well developed markets.