The Climate Conundrum: Tackling Higher Adaptation Workloads on Women Farmers

AN INPUT FOR THE NATIONAL MISSION ON SUSTAINABLE AGRICULTURE (NMSA)

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Introduction

With climate change already affecting the Indian farmer (Goswami, 2012; Venkateshwarlu, et al 2013), India's National Mission for Sustainable Agriculture (NMSA) needs to revisit its operational guidelines (released in February 2012) to help farmers overcome some of the structural anomalies that hamper them from adopting climate-resilient agricultural practices. This includes setting goals that promote equity among farmers, across gender and caste, and do justice to their resource base.

The NMSA, created as one of the eight Missions under India's National Action Plan on Climate Change (NAPCC), focuses on rainfed areas which comprise 60% of the net sown area, are home to most of India's poor farmers and account for 40% of our total food production. The operational guidelines rightly promote integrated farming, water-use efficiency, soil health management and synergised resource conservation. However, higher farm productivity as the overall objective may yet encourage a 'business-as-usual' approach whereby short-term economic gains over-ride long-term ecological gains and where larger farmers gain more than disadvantaged farmers, especially women farmers.

Indeed, climate change is adding to the vulnerability of the Indian farmer even as he/she grapples with the ongoing economic and ecological crisis in the agriculture sector. The worst affected are small and marginal farmers, with less than 2 ha of land, who comprise 85% (XIth Plan) of India's farmers and practice subsistence farming, combining farm-based production with livestock rearing and even fishing. Bulk of this work is done by women, especially in the dairy and forestry sectors, but all this remains unpaid work because it is done on family farms and village commons (Planning Commission, 2011). Again, only a tenth (10.36%) of the total farming area is owned by women farmers (Ministry of Agriculture, 2012) but

79% of the women workforce is engaged in agriculture (NSSO, 2011). Women are also not part of the decision-making structures.

The average size of all operational holdings has been steadily declining since 1970-71, shrinking from 1.23 ha in 2005-06 to 1.16 ha in 2010-11, leaving poor farmers and landless labourers with little wherewithal to cope with local climate vagaries. Localised variations, especially in rainfall, are making matters worse by affecting specific activities like pest incidence and weeding, the latter traditionally done by women.

The NMSA operational guidelines, released in February 2014, do not address gender and are ambivalent on environment-friendly farm practices. The guidelines also do not seek active involvement of local people and local organisations though adaptation is all about local capacities and local responses.

Key Issues to Address

The relationship between climate change and agriculture is threefold. First, climate change has a direct bearing on the biology of plant and animal growth. Second, there are changes in the farm ecology – such as, for example soil conditions, soil moisture, pests and diseases etc. Third, the ability of individual farmers and existing social and economic institutions to deal with the challenges posed by global warming is variable.

However, research is still at an early stage as to how climate change projections can be transformed into tools for adaptive management. Centralised weather monitoring, for instance, is not able to give enough understanding of local variations to our farmers; and the agriculture extension department is not able to act in good time to help farmers, especially smallholders and women, adapt quickly to local seasonal vagaries.

This primary action research explored the links between gender, local seasonal changes and different farm practices (see Box 1) in three different agro-climatic zones across three States to come up with some critical actions that can empower smallholders and marginalised women farmers adapt to climate change. **The research reveals five critical areas that NMSA operational guidelines must address.** These are:

a. **Mainstream women farmers,** because they form the bulk of rural women workers, shoulder a higher proportion of the adaptive farm work (Figures 1 and 2) but do not have the resources or the authority to adapt to climate vagaries (Kapoor, 2011);

b. **Bring village-level weather variations centre-stage,** because these critically impact agricultural cycles, farmers' incomes and their welfare but are not part of the agro-meteorological computations;

c. **Prioritise ecologically beneficial farm practices to short-term productivity gains,** because agricultural productivity can be sustained only when

Box 1: Gender and Farm-based Adaptation Research Framework

The action research scientifically measured daily variations in rainfall, temperature and relative humidity in a cluster of five villages in the following three agro-climatic zones across 3 States:

- Anantapur, India's 2nd most drought-prone district in Andhra Pradesh;
- North and South 24 Paraganas, two of the most dense districts in West Bengal, both highly prone to cyclones, salinity ingress and floods; and
- Gorakhpur, a chronically flood-prone district in the Indo-Gangetic Plains of Eastern Uttar Pradesh.

The two-level analysis compared 25 organic and 25 non-organic farms per state as well as gender-differentiated coping and adaptation practices. The farmers were trained on measuring rainfall, temperature and relative humidity at the village-level.

the health of natural resources stands assured in time and space;

d. **Partner with local organisations,** because these groups can motivate and mobilise farmers, match capacity building measures with individual needs and catalyse quick responses to overcome local vagaries of weather and farming practices; and,

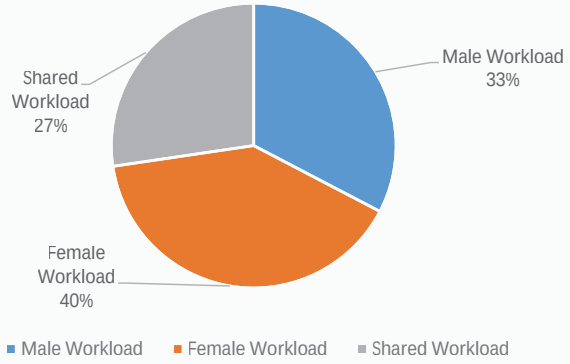
e. **Be inclusive of landless and tenant farmers,** who are increasingly women, dependent on farm owners for a living, negligible wherewithal for adaptation and often cannot avail agriculture extension or agriculture support programmes.

Research Findings

Agriculture and climate change mutually impact each other. While erratic rain and temperature patterns affect crop cycles, different farm practices also influence emission of greenhouse gasses from crops and livestock rearing. For instance, paddy fields emit methane which adds to the total quantum of greenhouse gasses in the atmosphere. However, changes in water management and fertiliser practices can reduce these emissions. Often the impact of climate change on agriculture is underestimated and the contributions of agriculture to climate change are ignored. As a result much of the discussion, debates on climate change and agriculture are around particular technologies which can help farming to adapt to climate change. In reality, if farmers have to adapt to the changing climate, we need to understand this in a broader context of ecological, economical and socio-political processes and build support systems to facilitate adaptation (Ramanjaneyulu, 2012). Some of our research findings elaborating this and resulting in the five critical areas mentioned above are:

1. **The need to mainstream women farmers at all levels** of implementation and decision-making is critical because women shoulder a larger share of farm activities but play a much smaller role in decision-making. Significantly, compared to conventional, chemical-input, mono-agriculture

Figure 1: Gender-based workload, 25 Activities, 75 organic farmers



practices, women shoulder a heavier burden with adaptive or integrated farming ('organic' agriculture in our study – see Box 2) which involves a variety of labour-intensive activities like rotational/relay cropping, agro-forestry, livestock management, fish farming, etc., (Fig. 1 and Fig. 2). However, women in adaptive agriculture gain in terms of decision-making (Fig. 3 and Fig. 4) at the household level but not necessarily at the community level or within governance structures.

Thus, operational guidelines for sustainable agriculture must keep women farmers centre-stage in all its interventions and make them part of the NMSA decision-making structure. Addressing women's workload and time investment in integrated farming is a missing area in the guidelines and this is yet to be addressed by any of the agricultural programmes.

The guidelines must also ensure that women are in management roles, able to take decisions over matters that affect their lives and livelihoods. For instance, to roll out and benefit from the 'On-farm Water Management (OFWM) Assistance' farm women groups must be promoted and capacitated under the Primary Agricultural Cooperative Societies (PACS) and Agricultural technology Management Agency (ATMA). These groups must then manage interventions such as the 'Soil Health Management' package at least in equal measure

Figure 2: Gender-based workload, 25 Activities, 75 chemical-input farmers

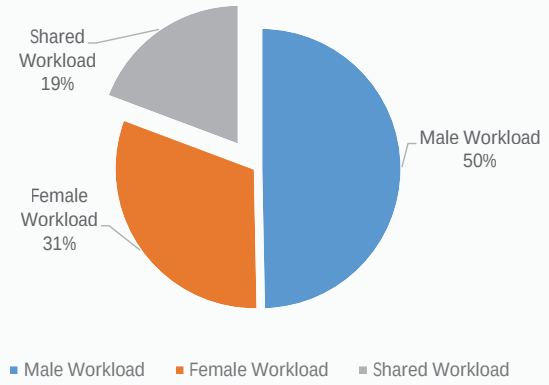
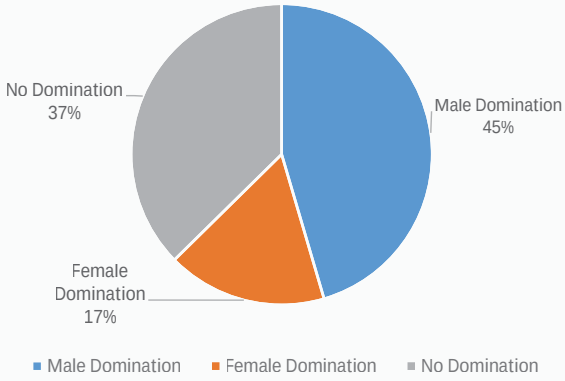


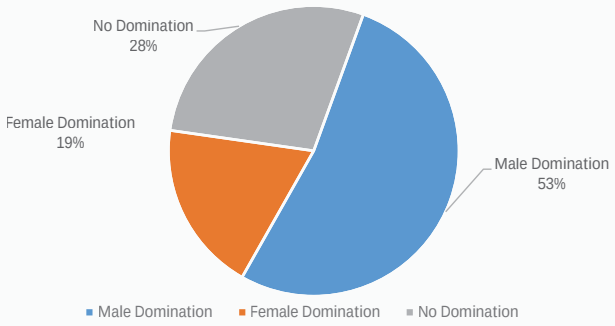
Figure 3: Gender-based decision-making roles, 75 organic farmers



as the men. In all the three agro-climatic zones of this research, women bear the primarily responsibility for fetching water for growing vegetables and other food crops, for livestock and household chores. Yet, they are often not members of water users associations because they do not own farmland in their name. Women also miss out on MGNREGA opportunities.

The three-tier architecture for implementing the operational guidelines must strengthen the gender component in decision-making. This may be done by ensuring appropriate representation of the Ministry of Women and Child Development and the Planning Commission as well as gender-sensitive civil society groups working on agriculture-related livelihoods and professional gender experts in each of the management tiers. Currently, the gender dimension does not inform the three-tier structure for implementing the NMSA at the national, state or district level for planning, implementing and monitoring the various components.

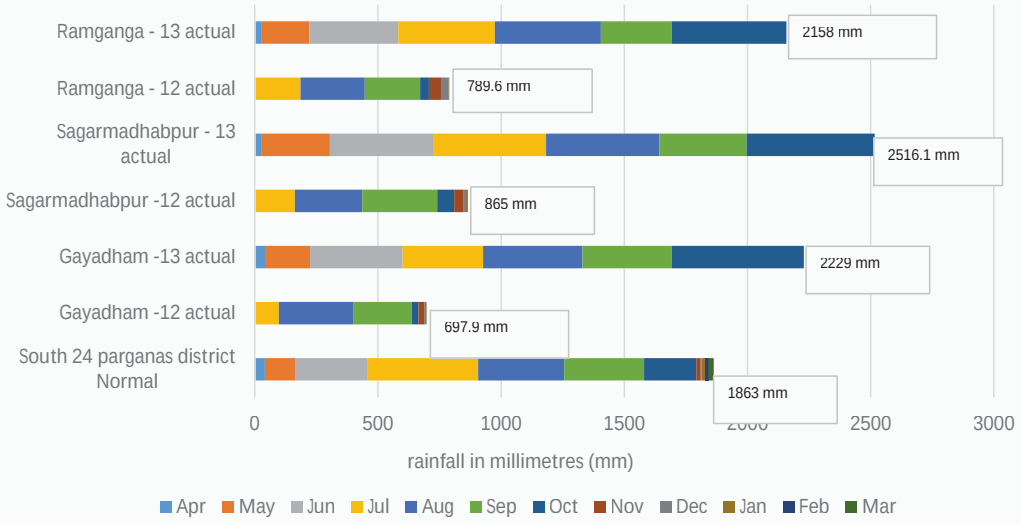
Figure 4: Gender-based decision-making roles, 75 chemical-input farmers



2. **Bringing village-level weather variations centre-stage,** because climate variations are highly localised. Data from all the locations showed that rainfall variation is seen from village to village even in adjoining areas. For instance, the temporal and spatial variations in district South 24 Paraganas, West Bengal (Fig. 5) and for five adjoining villages in district Anantapur (ATP), Andhra Pradesh (Fig. 6), were both in terms of distribution in the season and total rainfall received. The variation in temperature and relative humidity is comparatively lesser. These variations also influence the pest and disease incidence and farmers' decisions to deal with these.

Local variations affected women differently. In villages with very less rainfall, indebtedness increased more and women were almost as affected as men with about 45% women farmers under debt compared to about 55% male farmers. In Veerepallipeta, for instance, with almost failed rains in 2012, many male farmers migrated to Bangalore leaving behind resource-poor women headed households. In Palabavi too, 2012 brought very little rain during the agriculture cycle, forcing women to walk extra 3-4 km to agriculture borewells to fetch drinking water. Overall, the impacts on women

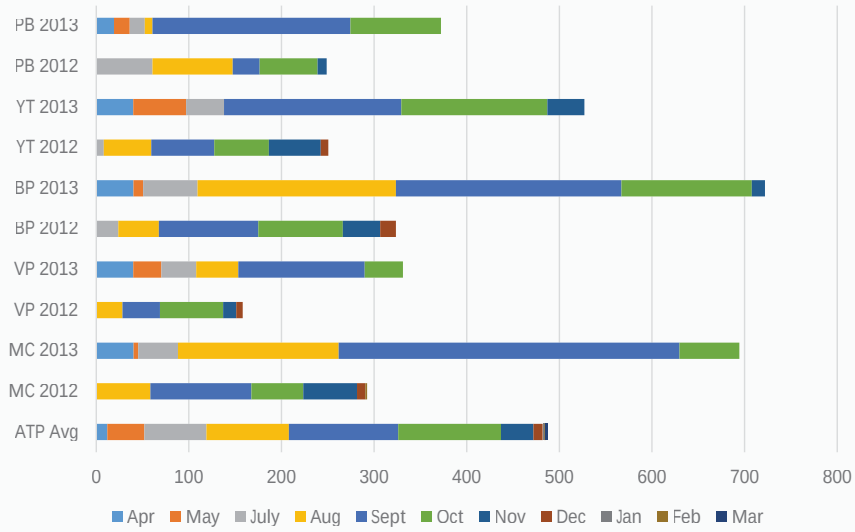
Figure 5: Rainfall distribution across 5 villages in West Bengal 2012-13



and men were different. At least twice more men than women farmers migrated to nearby towns during low rainfall periods. Women who stayed back carried heavier burdens of earning from unproductive farms, taking on works under MGNREA and discharging care responsibilities. Suicidal rates of male farmers increased, leaving behind widows, the young and the old. Domestic violence too increased during these critical periods.

For implementing Rainfed Area Development (RAD), the NMSA guidelines propose a cluster-based approach of taking 100 hectares or more. This can only be successful if local, village-wise variations are factored in and local panchayats and farmers groups, including women farmers' groups under ATMA, are trained to measure local rainfall and temperatures. Again, the Climate Change and Sustainable Agriculture: Monitoring, Modelling and Networking (CCSAMMN) consortium approach needs to be anchored locally, taking into account local village-level variations rather than rainfall trends at the block or district level. The

Figure 6: Rainfall (mm) distribution across 5 adjoining villages in Anantapur 2012-13



CCSAMMN must involve groups of farm women in the consortium, recognise their local knowledge on adaptation and build upon this with the identified knowledge partners like State Agricultural Universities (SAUs), Krishi Vigyan Kendras (KVKs) and the Indian Council of Agricultural Research (ICAR) Institutes. The proposed 'single window' service/knowledge provider system must benefit women and men farmers pro-actively and equally.

In other words, our research shows that climate monitoring at the village/cluster level and helping the farmer - women and men - to attain climate literacy is a must for sustainable agriculture.

3. **Prioritise ecologically beneficial farm practices,** because agro-ecological approaches reduce risk of crop failure. Our research shows that crops which were under organic farming and grown on soils which had higher organic matter could survive the dry spell longer than crops in farms under conventional farming. Multiple cropping and integrated farming systems performed better than the mono-cropping systems in the face of droughts and floods. The incidence of pests and diseases was lower when the Non Pesticidal Management (NPM) practices were followed in arid Anantapur. Significantly, organic farmers earned higher net incomes than conventional farmers in both arid Anantapur and in flooded and water-logged Gorakhpur (Box 2).

The higher incomes of organic farmers do not factor in women's higher and unpaid labour on these farms. However, our analysis across the three agro-climatic zones also showed that despite more workload, women prefer going organic/taking up adaptive integrated farming because the diversified livelihoods basket gives women higher incomes too (Fig. 7).

The NMSA guidelines, however, are ambivalent on adaptive farming. Although integrated farming is a focus area, the guidelines focus on and prioritize 'higher productivity' and 'more *crop* per drop (of water),' they do not adequately emphasise retention of *more soil moisture,* which is an important aspect that adaptive agriculture must ensure.

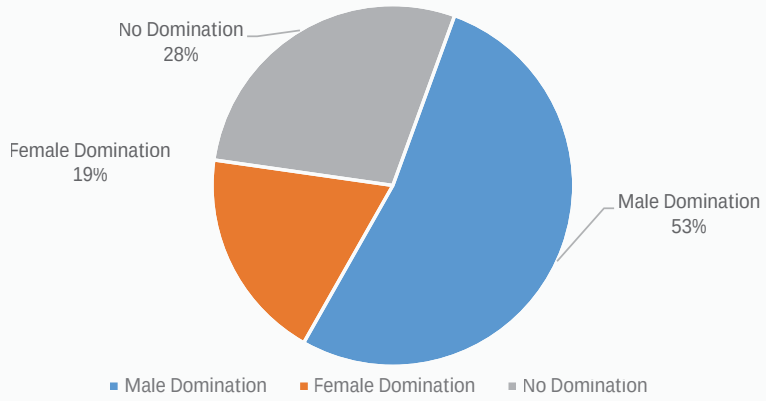
4. **Partnering with local organisations and groups,** because community institutions aid in better adaptation. Our research shows that in villages where farmers are organised into groups or cooperatives and production planning is done collectively, horizontal learning takes place through farmer-to-farmer, or farmer field schools and farmers find it easier to take up adaptive practices. Institutional systems also help farmers in building convergence with other ongoing government programmes. Farmers are also more motivated where they are helped by local non-governmental or civil society organisations to adopt different farming prac-

Box 2: Adaptive farms profit more than conventional farms

During 2012-13, in the study villages of Uttar Pradesh, the average yield of paddy per acre in case of organic production was 1,802 kg and under chemical farming system it was 1,739 kg. The average net income per acre for an organic farmer was Rs. 7,382 while a chemical farmer earned Rs. 6,890.50.

In Andhra Pradesh, the average yield per acre of groundnut grown with chemical inputs was 245.15 kg against 224.75 kg per acre for organic growers. However, the average cost of cultivation for the conventional farmer was Rs. 9,336.54, compared to Rs. 7,957.38 for an organic grower. Average total crop incomes worked out to Rs. 11,873.08 for organic growers and Rs. 10,750.00 for chemical input growers. The net incomes were Rs. 3,427.31 for chemical-input farmers and Rs. 4,967.63 for organic farmers. This indicates that net incomes of organic farmers are higher and cost of production is also less.

Figure 7: Women doing organic farming earn more than conventional farm women (sample of 150 women)



tices. These local organisations act as catalysts and bridge the knowledge, technology and resource gap for farmers. Local organisations also involve women farmers extensively though they need to work more towards their empowerment and not treat them as just farm workers.

The NMSA guidelines must promote partnerships with local groups and organisations as part of the architecture for implementation of the Mission. This would benefit, for instance, the Rainfed Area Development (RAD) programme which seeks local participation and future replication of the model in larger areas. It is also essential for the success of the multi-stakeholder consortium approach adopted for monitoring, modelling and networking as part of Climate Change and Sustainable Agriculture: Monitoring, Modelling and Networking (CCSAMMN).

5. **Be inclusive of landless and tenant farmers,** because impacts of climate change are higher on landless and tenant farmers and they are usually unreached by government programmes. The vulnerability of landless and tenant farmers is higher because crop failures take away their only wage earning opportunities. With crop failure, there are no other agro-based employment opportunities and these families often get into deep crisis. In recent times, the proportion of women agricultural labourers has been growing faster than male agricultural workers, leading to 'feminisation of agricultural labour' (Census, 2011; Planning Commission, 2008 and 2011, pg. 6).

The NMSA guidelines, however, have little to offer for this growing workforce of already marginalised agricultural labour and tenant farmers. The guidelines must ensure these men and women are included in farmers' groups formed under various agricultural schemes. The guidelines must also include interventions and collaborations to promote the non-farm sector including local food processing, trading in organic or low-pesticide food and consumer products and exploring low-carbon energy options for agriculture-related activities. For the poor farmer, there are no divisions between farm and non-farm work. There are only livelihood options and the ability to earn from sustainable livelihoods. The NMSA guidelines must keep the farmer at the centre, especially the woman farmer who contributes more labour and time to grow food for Indian citizens but is more vulnerable and resource-poor than her counterpart, the male farmer.

References

Goswami, U., (2012), UN Climate Change Negotiations 2012: India faces risk of devastating droughts, The Economic Times, Dec 4, 2012. Available at: http://articles.economictimes. indiatimes.com/2012-12-04/news/35594551_1_climate-change-climate-impact-research-potsdam-institute

Kapoor, A., (2011), Engendering the Climate for Change: Policies and Practices for Gender-just Adaptation, A Report, Alternative Futures, New Delhi.

Ministry of Agriculture, (2012), Agriculture Census 2010-11 (Phase-I): All India Report on Number and Area of Operational Holdings (Provisional), Agriculture Census Division, Department of Agriculture & Co-Operation, Government of India, New Delhi.

National Mission on Sustainable Agriculture (NMSA) Operational guidelines of available at: http://agricoop.nic.in/imagedefault/whatsnew/nmsagidelines.pdf

National Sample Survey Office (NSSO), (2012), Household Consumption of Various Goods and Services in India, National Survey Scheme 66th Round July 2009-June 2010, released in February 2012, New Delhi: Ministry of Statistics and Programme Implementation with National Statistical Organisation, Government of India.

Planning Commission, (2008), Eleventh Five Year Plan (2007-2012) Vol III. Oxford University Press, Government of India, New Delhi.

Planning Commission, (2011), Report of the Working Group on Disadvantaged Farmers, Including Women for the Twelfth Five Year Plan (2012-2017), Final Report, November 2011, Government of India. New Delhi.

Ramanjaneyulu, G.V., (2012), Adapting Smallholder Agriculture to Climate Change. IDS Bulletin Volume 43 Number S1 July 2012 Institute of Development Studies, Malden, USA: Blackwell Publishing Ltd.

Venkateswarlu, B., Maheswari, M., Srinivasa Rao, M., Rao, V.U.M., Srinivasa Rao, Ch.,Reddy, K.S., Ramana, D.B.V., Rama Rao, C.A., Vijay Kumar, P., Dixit, S. and Sikka, A.K., (2013), National Initiative on Climate Resilient Agriculture (NICRA), Research Highlights, (2012-13). Central Research Institute for Dryland Agriculture, Hyderabad. Also available at: http://www.nicra-icar.in/nicrarevised/images/Books/Research%20Highlights%20of%20NICRA%202012-13.pdf

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ckDl 1% fyx Hkn vkj df"k vuqdyu ij fjlp dk [kkdk

gekjh ,D'ku fjlp e xko Lrj ij oKkfud rjhdk l o"kk&ek=k] rkieku vkj vknrk e gk jg vUrjk dk ukik x;kA bl 'kk/k d fy, n'k d rhu jkT;k e ,d&,d tyok;&lonu'khy df"k {k= puk x;kA gjd {k= e ikp xkok dk ,d DyLVj r;kj fd;k x;kA pu g; {k= Fkk

- vuUrij ¼vkU/k in'k½ n'k dk nljk lcl T;knk l[kk&xLr ftykA
- mRrjh o nf{k.kh 24 ijxuk ¼if'pe cxky½ jkT; dh lcl vf/kd vkcknh oky fty tgk pØokr] ty&yo.k vkj ck< tlh leL;k; vke gA
- xkj[kij ¼mRrj in'k½ jkT; d ioh bykd dk ck<&lonu'khy ftykA

bu vkdMk d vk/kkj ij nk Lrjh; fo'y"k.k fd;k x;k ftle gj jkT; {k= e 25 ,l [krk dk puk x;k ftue ikdfrd [krh dh tkrh g vkj budh ryuk 25 vU; [krk l dh xb ftue ikjifjd rjhd bLreky fd; tkr gA lkFk&gh&lkFk ;g Hkh n[kk x;k fd efgyk vkj i#"k fdlku dl viu&viu rjhdk l Lo; dk tyok;&vudyu d fy; r;kj djr gA fjlp dk; d nkjku fdlkuk dk xko&Lrj ij o"kk&ek=k] rkieku o vknrk ekiu dh Vfux Hkh nh xbA

;g v/;;u fyx Hkn vkj tyok; ifjoru rFkk fofHkUu df'k i)fr;k d lEcU/kk dk fujh{k.k djrk gA mnn"; g v/;;u d fy; pu x; rhu jkT;k dk ,l rjhd l>kuk ftul fu/ku vkj gkf"k; ij #d efgyk fdlkuk vkj Jfedk dk l"kDr djd

mud dk; dk tyok;&vudy cuk;k tk ldA ;g v/;;u n"k d rhu tyok;&lonu"khy df'k {k=k e fd;k x;k Fkk ¼ckDl 1½A

viu fu'd'kk e ;g v/;;u uhp fn; x; ikp egRoi.k ennk dk fpfàr djrk g ftUg ,u-,e-,l-,- dk viu fn"kk&fun"kk e LFkku nuk pkfg;¼

v& efgyk fdlku½ ;g blfy; fd T;knkrj xkeh.k efgyk&Jfed fdlku gh e[;:i l df'k tyok;&vudyu dk; dh ftEenkjh fuHkkrh g ¼fp= 1 o 2½ yfdu mud ikl u rk i;kIr llk/ku g vkj u gh Lo; fu.k; yu d dkb vf/kdkj g ¼dij] 2011½A

c& xkso Lrj ij ekleh cnyko dk egRrk½ ;g blfy; fd ; cnyko df'k pØ dk rFkk fdlkuk dh vk; dk iHkkfor djr gA yfdu ; ekleh cnyko df'k&ekleh vkdMk e ugh eki tkrA

l& vYidkfyd df'k mRikndrk YkkHk dk LFkku ij tyok;&vudyu ifjr df'k rduhfd;k dk ikFkfedrk½ ;g blfy; fd df'k mRikndrk rHkh gkfly dh tk ldrh g tc ikdfrd llk/ku ijh rjg l LoLFk gkA

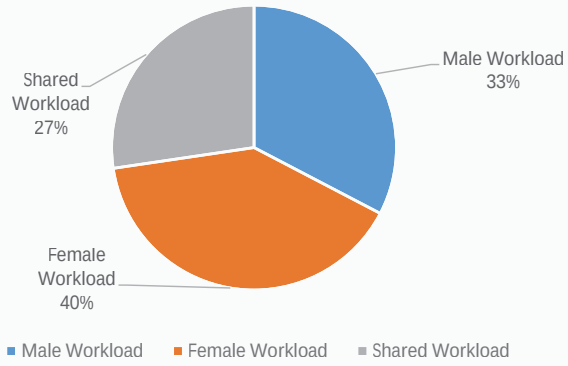
n& LFkkuh; lxBuk dk lkFk lk>hnkjh½ ;g blfy; t:jh g fd ; leg fdlkuk dk ifjr dj ldr g] 0;fDrxr t:jrk d eíutj {kerk fuek.k e lgk;d gk ldr g rFkk LFkkuh; ekleh vfu;ferrkvk dk rjUr lkeuk dju gr fdlkuk dk r;kj dj ldr gA

b& dk;dyki e Hkfeghu o dk'rdkj fdlkuk dk leko'k½ ; Jfed ftue e[;r½ efgyk; g xtkj d fy; cM fdlkuk vkj Hkifr;k ij fuHkj djr gA bud ikl tyok;&vudyu gr lk/ku ux.; g vkj lkFk&gh&lkFk o df'k mRikndrk lEcU/kh dk;Øek l ykHk ugh mBk ldr gA

"kk/k fu'd'k

tyok; ifjoru vkj df'k ,d nlj dk iHkkfor dj jg gA fofHkUu df'k xfrfof/k;k l cMh ek=k e

Figure 1: Gender-based workload, 25 Activities, 75 organic farmers



xhu gkml xlk dk Qyko c<rk tk jgk g rFkk o'kk o rkieku e gk jg cnyko df'k&pØ dk iHkkfor djr tk jg gA mnkgj.k gr vkb-ih-lh-lh- u viuh fjikVk e ;g fn[kk;k g fd /kku d [krk l ehFku xl dk mRltu gkrk g ij vk"p; dh ckr ;g g fd vU; Qlyk d edkcy /kku dh Qly feVVh e dkcu dh ek=k fLFkj dju e enn djrh gA vDlj df'k ij tyok;&ifjoru dk vlj de vkdk tkrk g rFkk tyok; cnyko dh cglk e df'k d 0;kid iHkkok dh ppk ugh gkrh gA ;gh dkj.k g fd ^tyok; ifjoru vkj df'k^ ij ppk; doy mu rduhfd;k ij gh dfUnr g tk df'k dk tyok; iHkkok l rkyey cBku e ennxkj gk ldrh gA gdhdr e ;fn gekj fdlku Hkkb;k dk tyok; d cnyr LoHkko l rkyey cBkuk g rk ge bl enn dk 0;kid i;koj.kh;] vkfFkd o lkekftd&jktuhfrd nf'Vdk.k l le>u dh t:jr gA lkFk&gh&lkFk ,d ,l ennxkj ic/ku dh vko";drk g tk tyok;&vudyu dk c<kok n ld ¼jkektuk,;y] 2012½A bl v/;;u d "kk/k fu'd'k bu lEHkkoukvk dk crkr g vkj uhp l>k; x; ikp egRoi.k {k=k e vko";d igyk dk vkoVu djr gA

1] ykx dju o fu.k; yu d lHkh Lrjk ij efgyk fdlkuk dk e[; /kkjk e ykuk½ ;g blfy; fd efgyk; ol rk [krhckMh e db lkjh xfrfof/k;k e ;kxnku nrh g ij bu dkek d ckj e fu.k; yu e mudh dkb [kkl Hkfedk ugh gkrh

gA xkjryc g fd ikjifjd jklk;fud dfUnr df'k dh ryuk e tyok;&vudfyr ,dhdr df'k ¼gekj v/;;u e ikdfrd df'k d fy; ckDl 2 n[k½ e efgykvk d dke dk ck> dgh vf/kd gkrk gA bl df'k e db Je&i/kku xfrfof/k;k dk leko"k g tl ,d Qly d ckn nljh Qly dk pØ] okfudh] i"kikyu o eNyh ikyu ¼n[k fp= 1 o 2½A bl rjg dh vudyu&df'k dk ;g Qk;nk gkrk g fd ikfjokfjd Lrj ij efgykvk dh fu.k; yu dh {kerk c< tkrh gA yfdu lenk; d Lrj ij ljdkjh ljpukvk d Hkhrj efgykvk dh fu.k; yu e Hkkxhnkjh T;k dh R;k gh jgrh g ¼n[k fp= 3 o 4½A

bl idkj ;g lkQ g fd Bkl df'k fodkl d mnn"; dk ijk dju d fy; ,u-,e-,l-,- d fn"kk&fun"k viuh lkjh igy efgyk fdlku dfUnr dj vkj lkFk&gh&lkFk mUg fe"ku dh fu.k; i.kkyh dk Hkkxhnkj cuk;A ; fn"kk&fun"k ,dhdr [krh e efgykvk ij c< tku oky dke d ck> ij vkj mud }kjk bl [krh ij T;knk le; nu dh etcjh ij pi gA

bu fn"kk&fun"kk d fy; ;g Hkh t:jh g fd efgyk; ,d ic/kd d jky e lkeu vk; rkfd o viu thou o vkthfodk lEcU/kh fu.k;k dk Lo; y ldA mnkgj.k d fy,] [kr&ty ic/ku lgk;rk (On Farm Water Management – OFWM) dk ijk Qk;nk mBku d fy; efgyk d'kd legk dk c<kok nuk pkfg, vkj ikFkfed df'k lgdkjh lfefr;k (Private Agricultural Cooperative Society – PACS)

Figure 2: Gender-based workload, 25 Activities, 75 chemical-input farmers

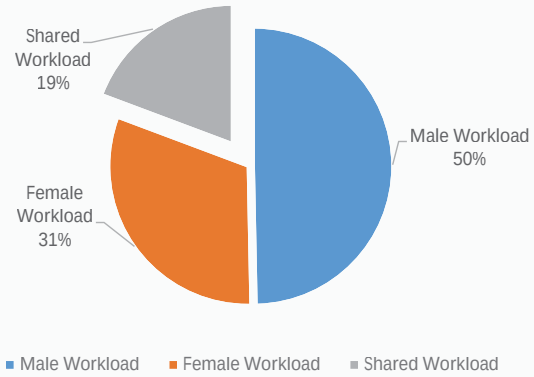
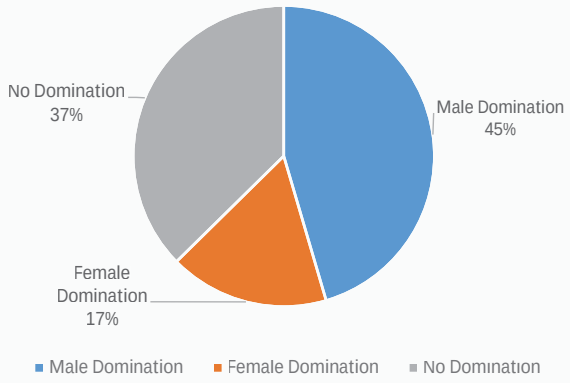


Figure 3: Gender-based decision-making roles, 75 organic farmers



vkj ,-Vh-,e-,- ¼,xhdYpjy VDukykth euteV ,tlh½ d rgr mudh {kerk Hkh c<kuh pkfg,A bl rjg l bu efgyk legk dk lc vudyu&lEcU/kh igyk ¼tl fd lkby gYFk euteV idt½ dk ic/ku djuk pkfg, ¼i#'kk d cjkcj vkdj½A bl v/;;u d rhu df'k&tyok; {k=k e ;g ik;k x;k g fd lfCt;k vkj vU; [kk| mxku rFkk ?kj o i"kvk d fy; ikuh yku dh ftEenkjh e[;:i l efgykvk dh gh gkrh gA bld ckctn o T;knkrj ty&mi;kxdrk l?kk dh lnL; ugh cu ikrh gA eujxk tl dk;Øek l Hkh o dkb [kkl ykHk ugh mBk ik jgh gA

fn"kk&fun"kk dk ykx dju gr cuk; x; rhu&Lrjh; ic/ku e efgyk i{k dk etcr fd;k tkuk pkfg,A bld fy, ;g t:jh g fd bu rhu Lrjk ij efgyk ,o cky fodkl e=ky; rFkk ;ktuk vk;kx dh] rFkk df'k&lEcU/kh vkthfodkvk ij dke dju oky tu&legk o fyx fo"k'kKk dh Hkkxhnkjh lfuf"pr dh

Figure 4: Gender-based decision-making roles, 75 chemical-input farmers

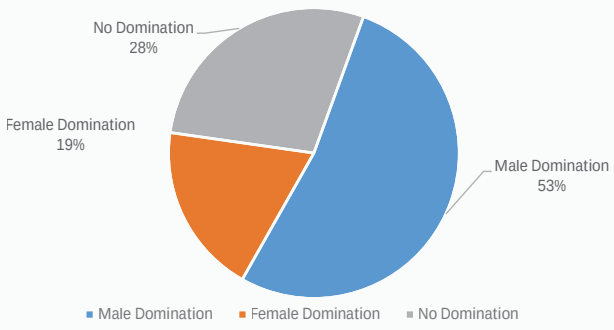
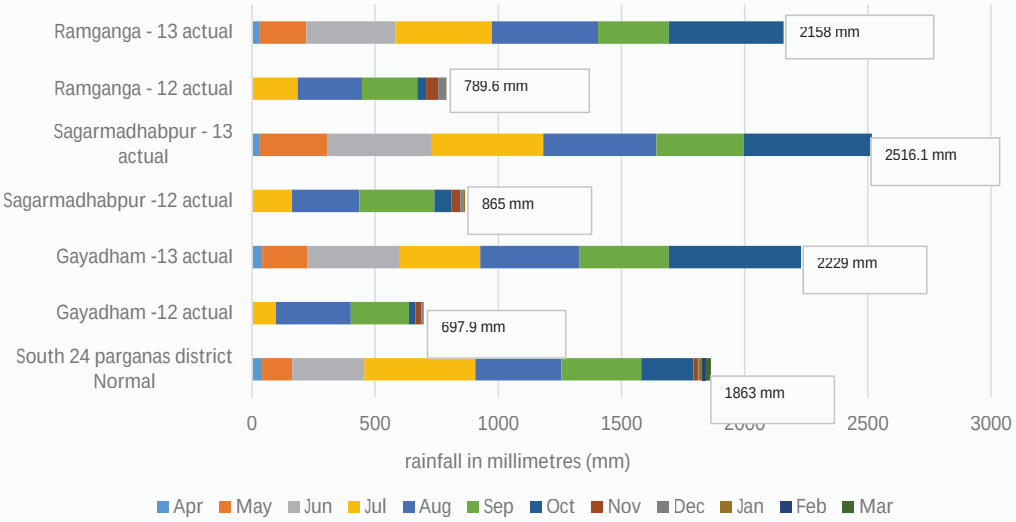


Figure 5: Rainfall distribution across 5 villages in West Bengal 2012-13



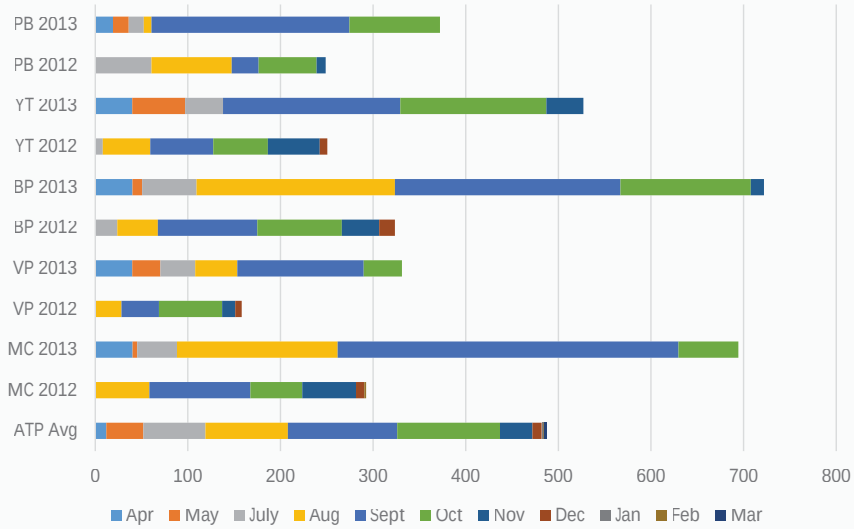
tk;A yfdu fQygky ,u-,e-,l-,- d jk'Vh;] jkT; o ftyk Lrjk ij ;ktuk fuek.k] ic/ku rFkk vkdyu e fyx vk;ke dgh fn[kk;h ugh nrk gA

2- xko&Lrjh; ekleh&cnyko dk egRrk ;g blfy, fd LFkkuh; Lrj ij tyok; vUrj lkQ utj vkr gA

lHkh LFkkuk d vkdM n"kkr g fd vkl&ikl d bykdk e gh ugh] xko nj xko o'kk dh ek=k e vUrj gA mnkgj.k d fy;] vkU/k in"k d ftyk vuUrij d ikp xkok e rFkk if"pe cxky d 24 ijxuk fty e ekleh o dy o'kk forj.k] nkuk ekeyk e dkQh vUrj ik;k x;k ¼fp= 5 vkj 6½A rkieku vkj vknrk e de Qd n[kk x;kA ;gh vUrj bu bykdk e dhVk d vkj Qlyh chekfj;k d Qyu d fy, ftEenkj g vkj fdlkuk dh df'k xfrfof/k;k bu leL;kvk l iHkkfor gk jgh gA

LFkkuh; ekleh cnyko o vUrj i#'kk vkj efgykvk dk vyx rjg l iHkkfor djr gA ;g n[kk x;k fd ftu xkok e o'kk de gb] fdlkuk e _.kxLrrk

Figure 6: Rainfall (mm) distribution across 5 adjoining villages in Anantapur 2012-13



rth l c<hA ;g iHkko i#'kk vkj efgykvk e yxHkx ,d tlk Fkk & 55 ifr"kr i#'k fdlku vkj 45 ifr"kr efgyk fdlkuA

ohjiYyhiVk xko e] mnkgj.k d fy,] tgk o'k 2012 e o'kk ugh gb] i#'k fdlku dke dh ryk"k e cxy: py x; vkj vkjr ifjokj pyku dh ftEenkjh d lkFk ihN jg xbA ikykcoh xko e Hkh o'k 2012 e cgr gh de ckfj"k gb ftld dkj.k vkjrk dk ckjcyk l ikuh yku 3&4 fdykehVj vfrfjDr tkuk iMkA dy feykdj i#'kk vkj efgykvk ij vyx&vyx iHkko n[k x;A de o'kk oky le; e efgykvk dh ryuk e nxu i#'k vklikl d "kgjk dk py tkr gA ihN NV x;h vkjrk dk thou nHkj gk x;kA mUg ;k rk NkV&ekV de mitkÅ [krk ij dke djd vkthfodk pykuh iMh] eujxk d rgr dke djuk iMk vkj ;k nlj ?kjk e n[kHkky dk dke yuk iMkA i#'k fdlkuk e vkRegR;k; c< xbA dN vkjr fo/kok gk xb vkj db cPp vkj c< vukFk gk x;A bUgh vkQr d fnuk e ?kjy fglk Hkh cgr c< x;hA

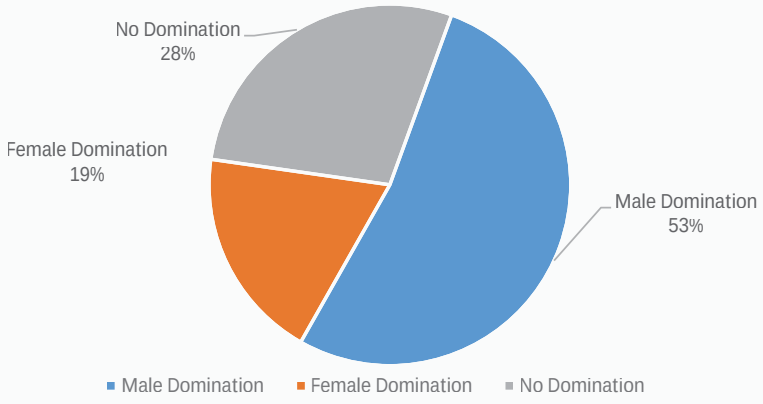
o'kk&vk/kkfjr {k= fodkl dk ykx dju d fy; ,u-,e-,l-,- d fn"kk&fun"k ,d DyLVj vk/kkfjr ic/ku dk l>ko nr g ftle ,d DyLVj dk {k= 100 gDVvj ;k bll T;knk gkxkA yfdu ;g igy rHkh lQy gk ldrh g ;fn xko Lrj LFkkuh; ipk;rk] fdlkuh lxBuk vkj ,-Vh-,e-,- d rgr cu efgyk d'kd legk dk o'kk&ek=k] rkieku o vknrk ekiu dh Vfux nh tk;A

;g Hkh t:jh g fd LFkkuh; Lrj ij tyok; ifjoru vkj fVdkÅ df'k d ukr ekfuVfjx] ekMfyx o uVofdx dk ,d ,dhdr nf'Vdk.k viuk;k tk; tk Cykd ;k ftyk Lrj d ctk; xko Lrj ij ekleh vUrjk d #>ku ij /;ku n ldA bl lh-lh-,l-,-,e-,l-,u- ,dhdj.k ;k l?k e d'kd efgykvk dk ijh Hkkxhnkjh fey] vkj mud LFkkuh; Kku o l>&c> dk ekU;rk nh tk;A vkj bl LFkkuh; Kku dk e[;/kkjk d lLFkkuk ¼tl jkT; df'k fo"ofo|ky;] df'k foKku dUn vkj jk'Vh; df'k "kk/k ifj'kn ¼vkb-lh-,-vkj-½ d lkFk feykdj vkj l"kDr fd;k tk;A

nlj "kCnk e gekjh fjlp ;g fn[kkrh g fd fVdkÅ o Bkl df'k d fy, ekle&lEcU/kh Kku ,o le> cgr t:jh gA bl le> dk c<kok nu d fy, ;g vko";d g fd ykxk dk xko@DyLVj Lrj ij ekle dh lVhd fuxjkuh j[ku dh Vfux nh tk;A

3- tyok;u&vuqdyu ifjr df"k rduhfd;k dk ikFkfedrk% ;g blfy; t:jh g D;kfd i;koj.kh; df'k viuku e Qly d cjckn gk tku dk vUn"kk de gk tkrk gA gekjk "kk/k ;g fn[kkrk g fd l[k o ck< tlh vkinkvk d nkjku ikdfrd df'k d rgr ikdfrd <x l r;kj tehu ij ,d lkFk

Figure 7: Women doing organic farming earn more than conventional farm women (sample of 150 women)



,dhdr rjhd l ckb x;h Qly ikjifjd rjhd l mxkb x;h ,d gh Qly dh ryuk e dgh T;knk dke;kc gkrh gA ;g Hkh n[kk x;k fd vuUrij d l[k bykd e tc fcuk dhVuk"kdk d Qly ic/ku (Non-Pesticides Management) fd;k x;k rk dhV de ink g, vkj lkFk&gh&lkFk ik/kk dk jkx Hkh de yxA

ckDl 2% vuqdyu [krh ikjifjd [krh l: dgh T;knk Qk;nsen g

o'k 2012&13 e mRrj in'k d pu g; xkok e ikdfrd [krh l vklru mRiknu 1802 fd·xk· Fkk tcfd jklk;fud [kkn o dhVuk'kd rduhdh ij vk/kkfjr [krh l ;gh mRiknu 1739 fd·xk· FkkA ikdfrd [krh dju oky fdlku dh vklr vkenuh 7382 #i; ifr ,dM Fkh ij jklk;fud [krh oky fdlku dk 6890-50 #i; dh vkenuh gbA

vkU/k in'k e exQyh dh Qly dk jklk;fud [krh }kjk fd;k x;k] vklru mRiknu 245-15 fd·xk· ifr ,dM Fkk tcfd ikdfrd [krh d fy; ;gh vkdMk de Fkk & 224-75 fd·xk·A yfdu ifr ,dM mRiknu [kpk ikdfrd [krh e de Fkk & 7957-38 #i; tk jklk;fud [krh e 9336-54 #i; FkkA ikdfrd [krh l fdlkuk dh Qly l vklru vkenuh 11873-08 #i; gb tk jklk;fud [krh dju okyk d fy, 10750-00 #i; FkhA jklk;fud [krh okyk dh dy vk; 3427-31 #i; ekfld rFkk ikdfrd [krh okyk dh 4967-63 #i; FkhA

xkjryc g fd l[k vuUrij e rFkk ck< l t>r xkj[kij e ikdfrd [krh dju oky fdlkuk dh vkenuh ikjifjd fdlkuk l T;knk Fkh ¼ckDl 2½A ij ikdfrd df'k oky fdlkuk dh T;knk vkenkuh efgykvk d Je dk u rk de djrh g vkj u gh mudk viuh dkb vkenuh nrh gA yfdu gekjk rhu {k=k dk v/;;u ;g t:j fn[kkrk g fd dke d c< ck> d ckctn vkjr ikdfrd ,dhdr [krh e T;knk #fp j[krh gA ;g blfy, fd de l de bl [krh e ik;h tku okyh fofHkUurk mUg T;knk vkenuh dk ekdk nrh g ¼fp= 7½A yfdu vudyu&[krh dk ydj ,u·,e·,l·,· d fn"kk&fun"k Li'V ugh gA gkykfd ,dhdr df'k ij budk tkj g] ; fn"kk&fun"k mRikndrk&c<kRrjh o 'gj ikuh dh cn ij T;knk inkokj^ d fl)kUrk dk ikFkfedrk nr gA vudyu&df'k d ,d e[; fcUn & df'k&Hkfe dh ueh dh lEHkky o j{kk & ij dkb [kkl tkj ugh gA

4- LFkkuh; lxBuksa d lkFk lk>snkjh% ;g blfy; fd lkefgd lxBu vudyu gr ennxkj lkfcr gkr gA gekjk "kk/k fn[kkrk g fd mu xkok e tgk fdlkuk d lgdkjh leg cuk; x; g vkj tgk df'k dk; ;ktukRed rjhd l fd;k tkrk g] ogk fdlkuk dh] vkil e feyty dj ;k LFkkuh; df'k dUnk l Vfux ydj] tkudkjh o lh[k c<rh gA bldk ;g Qk;nk gkrk g fd o vudyu&rduhdh vklkuh l viuk yr gA fdlkuk d lxBu Hkh mUg ljdkjh dk;Øek l tkMu e enn djr gA ;g Hkh n[kk x;k g fd tgk xj&ljdkjh lLFkk; rFkk tufgr leg fdlkuk dh enn dk vkr g ogk fdlku Hkkb vklkuh l fofHkUu df'k rjhd viuk yr gA ; lLFkk; ,d ij.kknk;d dk dk; djrh g vkj d'kdk d fy; ub tkudkjh] rduhdh o llk/ku tVkrh gA ; lLFkk; efgyk fdlkuk d chp e dke djrh gA yfdu mUg pkfg; fd bl dke d lkFk&lkFk o mUg l"kDr Hkh cuk;A

viu fe"ku dh lQyrk d fy, ,u·,e·,l·,· dk pkfg; fd LFkkuh; legk vkj lxBuk d lkFk Hkkxhnkjh fodflr djA ;g Hkkxhnkjh o'kk&fuHkj {k= fodkl dk;Øe d fy, rFkk vU; ;ktukvk d fy, cgr ykHkin gkxh vkj lkFk&gh&lkFk bldk ekMy Hkfo'; e cM ieku ij vU; {k=k e ykx fd;k tk ldxkA ;g Hkkxhnkjh lh·lh·,l·,·,e·,e·,u· d vUrxr ekfuVfjx] ekMfyx o uVofdx d fy; viuk;h xb fofHkUu LVdgkYMjk dk tkMu okyh igy d fy; Hkh cgr eukflc gkxhA

5] Hkfeghu vkj dk'rdkjksa dk leko'k gk% ;g blfy, t:jh g D;kfd bl rcd ij tyok;&ifjoru dk iHkko dgh T;knk o xEHkhj gku dh lEHkkouk g vkj ljdkjh dk;Øek dh bu fu/ku ykxk rd igp cgr gh de gA bud tkf[ke dgh

vf/kd g D;kfd Qly cjckn gku ij mud jktxkj dk ,d gh volj Hkh lekIr gk tkrk gA mUg df'k&vk/kkfjr vU; dkb dke ugh feyrk vkj o _.k xLrrk d xgj ldV e Ql tkr gA gky d fnuk e efgyk [kfrgj etnjk dh l[;k i#'kk dh ryuk e rth l c<h g ¼tux.kuk&2011 rFkk 11oh ipo'kh; ;ktuk] ofdx xi & 2011] it 6½A

,u-,e-,l-,- d fn"kk&fun"k rth l c<r g; Hkfeghu fdlkuk] dk"rdkjk vkj d'kd etnjk d cgr cM Jfed lenk; d fodkl ij pi gA bu fn"kk&fun"kk e ;g lfuf"pr fd;k tkuk pkfg, fd bl lenk; d i#'k o efgyk, fofHkUu df'k ;ktukvk d rgr xfBr fdlkuk d legk e "kkfey fd; tk;A o bu fdlkuk dk egt d'kd u le> cfYd mUg gj rjg l l"kDr cuku e ;kxnku djA xj&df'k {k= dk c<kok nu gr bl lenk; dk fofHkUu rjg dh igyk o lk>nkfj;k e txg nuh pkfg;A bu igyk e "kkfey gh LFkkuh; Lrj ij [kk| mRikn] ikdfrd ;k de&dhVuk"kd [krh l mxk; x; [kk|] [kk| oLr; o vU; phtk dk 0;kikj rFkk df'k&lEcU/kh de dkcu cuku oky Åtk fodYik ij dkeA ,u-,e-,l-,- dk pkfg; fd viu fn"kk&fun"k vke fdlku ij dfUnr dj fo"k'kdj efgyk fdlku ij] tk i#'kk d edkcy n"k d [kk| mRiknu gr dMh egur djrh g vkj viuk le; nrh g ij fdru gh rjg d tkf[kek d lkeu o clgkjk vkj lk/kughu [kMh jg tkrh gA

Alternative FUTURES

Creating another future together

Alternative Futures is a development research and communication group working on creative and meaningful policy, social and technological alternatives and innovations for sustainable development and social change. We are inspired by the vision of a society based on the principles of ecological sustainability, social justice, spirituality and cultural pluralism. Our objective is to create an alternative future that is more humane, just and sustainable, by catalyzing and bringing together a community of change-makers.

Activities undertaken by Alternative Futures include:

- Policy research and advocacy, field research and surveys, sector studies, background papers, resource manuals
- Documentation of initiatives and innovations for development and social transformation and dissemination of these through the website **www.iforchange.org** and other channels
- Monitoring and evaluation studies
- Media outreach through old and new media, communication and preparation of information, education and communication (IEC) materials
- Support to innovative voluntary efforts and capacity-building initiatives

For more information and to contact us visit **www.alternativefutures.org.in**

अल्टरनेटिव फ्यूचर्स

वैकल्पिक भविष्य की ओर

अल्टरनेटिव फ्यूचर्स विकास–संबन्धी शोध और संप्रेषण समूह है, जो टिकाऊ विकास और सामाजिक परिवर्तन के लिए कार्यरत है। यह समूह रचनात्मक और सार्थक नीति एवं सामाजिक और तकनीकी विकल्पों पर शोध करके उनको बढावा देता है। हम नये विचारों, सामाजिक परियोजनाओं एवं उपायों को भी प्रोत्साहित करते हैं। हम पारिस्थितिक स्थिरता (ईकोलॉजिकल सस्टेनेबिलिटी), सामाजिक न्याय, आध्यात्मिकता और सांस्कृतिक बहुलवाद के सिद्धांतों पर आधारित समाज की कल्पना से प्रेरित हैं। हम परिवर्तनशील लोगों को आपस में जोङकर एक ऐसे वैकल्पिक भविष्य को बनाना चाहते हैं जो मानवीय, न्यायसंगत और टिकाऊ हो।

अल्टरनेटिव फ्यूचर्स की निम्नलिखित xfrfof/k;k हैं:

- नीतियों एवं विभिन्न मुद्दों पर शोध और पैरवी; कार्यक्षेत्र (फील्ड) शोध और सर्वेक्षण; इन शोधों के आधार पर दस्तावेज, मैनुअल एवं रिर्पोटें तैयार करना।
- विकास और सामाजिक परिवर्तन के लिए पहलों, कार्यक्रमों और नये विचारों एवं उपायों पर शोध। वेबसाइट **www.iforchange.org** तथा अन्य चैनलों के माध्यम से इनके बारे में प्रचार एवं प्रसार।
- परियोजनाओं एवं कार्यक्रमों की निगरानी (मॉनिटरिंग) और मूल्यांकन।
- नए और पुराने मीडिया के माध्यम से प्रचार एवं प्रसार। विभिन्न मुद्दों पर जानकारी, शिक्षा और प्रसार के लिए सामग्री तैयार करना।
- अभिनव सामाजिक एवं स्वैच्छिक प्रयासों का समर्थन और इनमें क्षमता–निर्माण।

अधिक जानकारी एवं संपर्क के लिए **www.alternativefutures.org.in** पर जाएँ।

India's National Mission on Sustainable Agriculture (NMSA), one of the eight Missions set up under the NAPCC, aims to take India on a path of food security in the wake of climate change. It focuses on rainfed agriculture practiced by majority of India's farmers. What will be the impact of adaptive interventions proposed by the NMSA on our farmers, majority of whom are small and marginal? Since female agricultural labour is on the rise, what must the recent NMSA operational guidelines include to ensure gender-responsive and locally resilient agriculture?

This study examines organic farming practices, similar to integrated farming proposed by the NMSA, in three vulnerable agro-climatic zones (flood-prone plains of U.P., cyclone-prone Sunderbans and arid zone in Andhra Pradesh) to understand its resilience and impacts of climate change on gender roles. Quantitative and qualitative research findings suggest that:

- Women work harder on adaptive farms than on conventional ones.
- It is necessary to consider local variations such as rainfall to design sound adaptation practices and to address gender-based farm activities.
- Organic agriculture is more adaptive than conventional agriculture and also yields higher net incomes.
- Nurturing farmers' institutions and farm women groups helps farmers adapt better.

This study is part of a larger evidence-based policy research by Alternative Futures on 'Gender and State Climate Change Action Plans' that explores impacts on women in agriculture and where women stand vis-à-vis sustainable agriculture-related policies, including public provisioning.

jk'Vh; Bkl LFkk;h df'k fe"ku (National Mission on Sustainable Agriculture & ,u-,e-,l-,-½ d rgr LFkkfir vkB fe"kuk e l ,d g ftldk mnn"; g tyok; ifjoru l gk ldu okyh [kk| vlj{kk l n"k dk cpkukA ;g fe"ku o'kk&fuHkj df'k ij dfUnr g ftle n"k d T;knkrj fu/ku NkV fdlku tV g; gA i"u ;g g fd bl fe"ku }kjk l>k; x; vudyu mik;k dk bu fdlkuk ij D;k vlj gkxkA n"k d df'k {k= e efgyk Jfedk dh l[;k rth l c< jgh gA bl lUnHk e ;g loky Hkh mBrk g fd ,u-,e-,l-,- d gky d fn"kk&fun"k] dl bu Jfedk dh tyok;&lEcU/kh t:jrk dk ijk dju e vkj LFkkuh; Lrj ij Bkl df'k rduhdh d iuiu e lgk;d gkxA

bl v/;;u e n"k d rhu tyok;&lonu"khy df'k {k=k e tfod [krh dk (tk viuh rduhdh e dkQh gn rd ,u-,e-,l-,- }kjk iLrkfor ,dhdr df'k tlh g) fujh{k.k fd;k x;k gA e[; fu'd'k bl idkj gk

- efgyk d'kdk dk ikjifjd [krh dh ryuk e vudyu [krh e T;knk egur djuh iMrh gA
- vudyu xfrfof/k;k r; dju e rFkk efgyk d'kdk dk bu xfrfof/k;k d fy; l"kDr cuku e o'kk&ek=k bR;kfn dk LFkkuh; vUrjk d lkFk lketL; cBkuk cgr vko";d gA
- ikdfrd df'k] ikjifjd df'k d edkcy e dgh T;knk vudyu d vudy g vkj bll fdlkuk dk vkenuh Hkh T;knk gkrh gA
- fdlkuk vkj efgyk d'kdk d lLFkkuk o legk dk c<kok nu l bud }kjk dh xb vudyu ifrfØ;k; Qyrh&Qyrh gA

;g v/;;u vYVjufVo ¶;pl d uhfr&"kk/k] Þtyok;&ifjoru gr n"k d jkT;k dh vudyu dk;&;ktukvk e fyx Hkn dh leL;kÞ dk fgLlk gA bl uhfr&"kk/k dk mnn"; g efgyk df'k Jfedk ij tyok;&ifjoru d iHkkok dh ij[k djuk] rFkk ;g l>kuk fd n"k e pyk;h tk jgh Bkl&df'k uhfr;k o ljdkj d tyok;&vudyu dk;Øek l ; efgyk; dgk rd tM ldh g vkj bu dk;Øek dh Hkkxhnkj cu ldh gA

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CDKN Climate & Development Knowledge Network