

Summary of National Level Seminar on Climate Change, Water Resource Management and Livelihood Adaptation

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General Note

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National Seminar on Climate Change, Water Resource Management and Livelihood Adaptation

Saturday 7th May 2016

Circuit House Annexe, Shahibaug Ahmedabad.



SUMMARY OF PROCEEDINGS

National Seminar on Climate Change Water Resource Management and Livelihood Adaptation -Ahmedabad on 7th May 2016.

This seminar was supported by International Food Policy Research Institute-IFPRI, New Delhi.

The Meet began with, Ganesh Vandana and welcome.

This participants of all scholars from Hon'ble Minister of Education, Gujarat State Shri Bhupendrasinh Chudasama, 35 farmers from different parts of Gujarat, Prof.Ravindra Dholakia - Indian Institute of Management, Dr.Avinash - International Food Policy Research Institute, Dr.Tushaar Shah - Chairman International Water Management Institute(IWMI), Dr.Manash Choudhury, Dy. Adviser (Agriculture), NITI Aayog, **Mr. S K Gangwar Director, R&D ,Ministry of Water Resources, RD&GR**, Shri Arun Kumar Solanki, Principal Secretary, Agriculture; Government of Gujarat, Dr. N.C.Patel, Vice Chancellor, Anand Agricultural University, Dr. A R Pathak Vice Chancellor, Junagadh Agricultural University, Jaspreet Aulakh, Project Manager, International Food Policy Research Institute and Officers from Gujarat and Rajasthan State Government, Company representative and NGO's .

In all there was 124 Participants including Agriculture Scientists, Government officers, Civil Society members, Farmers and Students.

NCCSD has thankful to Dr P K Joshi and IFPRI-International food policy research institute for the Financial Support of this Seminar.

SUMMARY OF RECOMMENDATION

1. Solar Energy :

It was observed that the model project taken up by IWMI has potential for mass multiplication .India has sunlight sun areas with long sunshine hours. In villages the farmers can use solar energy to generate additional source of income. This is possible because energy produced after using it for

pumping water can be put in to local electrical grid and electrical companies can pay farmer for units delivered. This will be insurance in time of crop failure –as the power production can continue. A Cooperative model was recommended for multiplying this with creation of an Apex Body which can promote such village level cooperatives and link them with electrical company. This will need a policy decision to set up Apex body. Government of Gujarat can take a lead. This is basically following AMUL Pattern.

2. Changing Crop Pattern :

The increase in temperature has already adverse impact on productivity of wheat and rice. There are already traditional stress resilient crops – like Millet, Sorghum, Maize, Nagli ,But due to availability of wheat and rice through public distribution system (PDS) at a cheap price demand for these food grains have gone down. They used to be part of daily food in many most families of Gujarat. There is need to revive them. Perhaps MSP (Minimum Support Price) on these crops can be increased to make them attractive again to farmers and they need to be made available under PDS at cheaper rate than wheat and rice. It must be understood with climate change – crop pattern will have to be changed those crops which are suitable /can survive will have to be promoted. This is the need of time for providing Food Security.

3 Water conservation, recycling, re-charging, canal management and inter linking of rivers and river basin management :

- It was felt that new regulatory framework may be added in GDR of Town Planning Act- to make Water re-cycling compulsory and- where not feasible, compulsory water recharging in ground. This should also be compulsory for all municipal towns and multi-stories coming outside their limits.
- Country now needs to move from ‘watershed’ approach to Integrated River Basin Management and inter linking of rivers and canals.

- Management of Excess rainfall, with incidence high rainfall in one day are on increase. Currently such water is overflowing and perhaps wasted. A comprehensive policy framework needed for flood prone area and farms.

4 Capacity Building is for water management is needed for:

- i. Extension Team.
- ii. Farmers.
- iii. Elected leaders, sarpanch , Taluka Pramukh and jilla Pramukh.

5 Efficient use of water :

- Need to introduce compulsory drip and sprinkler irrigation to those who want canal water.
- Introduction of “Tunnel” for transferring irrigation water instead of open canals in new dam construction projects.
- Conversion of exiting canals into Tunnels over a period time.

6 Management of crops -Due to increasing temperature it is necessary that care is taken to properly preserve harvested crop from its harvesting in farm to market print. This is to reduce wastage due to spoilage-such wastage is on increase during heat wave

7 Block level – village level water management plan: we do have now agriculture production plans for blocks but now time has come to develop Micro level water management plan – which is integrated with Agriculture plan.

8 Converting Water Scarcity in an opportunity :

If water is used conserved and used efficiently will be feasible for farmers to take more than one crops- If all our efforts are converged and all stakeholders act together-India can Certainly produce enough food for not only its own requirement but also to meet the requirement of the world.

Session: I Opening Session

Dr. Kirit N Shelat – Executive chairman NCCSD gave an overview. He pointed out that in the current millennium challenges are:

- Climate Change
- Food Security
- Water and Energy Security
- Environment Degradation.
- Natural Calamities.

He further explained climate change impacts on productivity of both irrigated and rain fed agriculture. Rising temperature will translate into increased crop water demand so will be demand of increasing urbanities.

Both the livelihood of rural communities and the food security of predominantly urban population are therefore at risk from water related impacts linked primarily to climate variability. Same time increasing soil salinity is already affecting the root zone and hence productivity.

The rural poor who are the most vulnerable are likely to be disproportionality affected. So will be their livelihood.

Various adaptation measures that deal with climate variability and build upon improved land and it's efficient use have the potential to create resilience to climate change and to enhance water security.

Country as a whole is using water inefficiently.

Some Examples are:

1. Majority of farm irrigation is flood irrigated- weather; well or canal.
2. Public irrigations system canals are all open.
3. More water is given then actual need, due to lack knowledge of quantum of water needed to crop- after rainfall.

4. Canal irrigation water is almost free or with minimum rate and hence tendency to waste & allow overflow.

Prof. Dr. Ravindra Dholakia - Indian Institute of Management, Ahmedabad:

He observed that climate change and its effect on Agriculture and allied Industries require.

- Planning at grass root level.
- Strategic vision.
- Need to frame specific policy of efficient use of water.
- To promote cultivation of crops like Jowar, Bajara, and Maize – which are short duration and need less water.

He recommended increase in minimum support price of these food grains – as they are abandoned by farmers.

Dr. Avinash, IFPRI:

- Gujarat state has limited water resources.
- His study revealed that the gap between urban and rural area is increasing day by day.
- Increased migration from villages to city in search of jobs.
- He expressed his satisfaction regarding role played by state government of Gujarat.
 - Government had started to inter linking river- canals.
 - Sardar Sarovar Project- water supply pipe line covering 11000 villages.
 - Jayotigram Yojana of rural electrification.
 - Promotion of drip irrigation by Gujarat Green Revolution Company.
 - Public- private participation in construction of Check Dams.

- Gujarati farming community has improved standard of living and life style.
- With increase in Agriculture income; increasing facilities like cars, motor cycle, Eclectic fan, AC, and fridge / Refrigerator.
- Expansion of milk economy and development of Dairy Industries.

Dr. Tushaar Shah International Water Management Institute (IWMI):

- Up to 2005-2030 there will be increase in rain by increasing temperature on Himalaya and melt of ice. After 2030 onward there will be gradually decrease in rainfall.
- There will be uneven distribution on Rain fall and there will be decrease in Rainy Days.
- There will be high evaporation of water resulting into less availability of water to the crop/ plant.
- Due to increasing irrigation facilities, the agricultural production will be increased.
- Effective irrigation depends on water holding capacity of soil enhance soil water conservation work.

For managing these five components, need to develop a policy for effective management of water resources which to integrated with agriculture programmes.

He mentioned about innovative project initiated by IWAMI near Anand. The first SPICE i.e. "Solar pump irrigations co-operative enterprises;" is emerging in Dhundi village, Anand. Solar energy is used by farmers for pumping water and balance is channelized to local Electricity grid. Farmers are paid by Electricity Company for power supplied. This village cooperative's first of its kind for solar energy. This is a replicable Model.

Dr. Manash Choudhary , Dy. Advisor, NITI Aayog, New Delhi:

He explained the importance of need of water recharge and recycling..

Dr. S.K.Gaungwar, Director; R&D, Ministry of Water Resource, New Delhi:

He explained the importance of water Resource Management and also the need for effective Water Resource Management through:

- Micro planning.
- Co-ordination.

Dr. N.C.Patel, Vice Chancellor, Anand Agricultural University Anand: He refer to the effect of climate change on Agriculture productivity and needs to develop climate resilient agriculture.

- Agricultural University needs to develop variety of seeds which can continue to provide production despite climate change.
- Standardize need of quantum of water needed for agriculture crops and horticulture and guide farmers for not use excess irrigation by flooding.
- Similarly, live stock particular cross breed cows are affected by heat wave and need shelter and more water to maintain productivity. Indigenous breed are stress resistant and need to be promoted.

Dr. A.R.Pathak Vice Chancellor, Junagadh Agricultural University, Junagadh :

- With increasing population, there will be increasing requirement of food. In arena of climate change crop productivity is affected.
- There is need to develop and select crops and its variety along with technology, which can give more yields with low water requirement and are stress resistant.
- There will be decrease in yield of certain crops and also increase in pest and disease.

- Need to recommend the application of more organic manure.
- **Shri Arunkumar Solanki**, Principal Secretary, Agriculture & Co-operation, Govt. of Gujarat :
 - Agriculture growth in the State has been significantly higher than the National average as well many other States. But, recently it has been lower due to two recurring draughts and that is a matter of concern. He requested scientists to develop stress resistant varieties and make them available to farmers.
 - He emphasized need for reaching out farmers – particularly poor farmers and provides them guidance.

Session: II:

Chairperson: Dr A R Pathak, Junagadh Agriculture University-

Co- Chairperson: - Mr S K Gangwar Director, R&D, MoWR,RD&GR

Dr. R.K.Sama Formerly Project Director Water and sanitation Management organization (WASMO)

In Gujarat during Seventies and eighties, there were continuous droughts. There were regular Cattle and human migration from drought prone areas and drinking water was supplied by tankers. This led to

- Massive programme of water harvesting structures to conserve/ harvest water in site.
- Recharge of well and tube well during season.
- These paid results in dry land areas of Saurashtra and Kutch areas, where crop intensity increased.
- SRI – System of Rice Intensification like crop cultivation practices is useful in saving the water in high water requirement crops like rice.

Session III:

Farmer Interaction Session:

Following farmers participated in discussion:

- Sanjay Valand from Sadguru Water and Development foundation-Dahod,
- Manubhai, Vivekanand Training and Research Institute -Bhavnagar
- Jyotiben Attapi , Jambusar
- Bhartiben Bhavssar -Self employed Women's Association – SEWA-Ahmedabad,
- Bhikhabhai from Banaskantha Farmer,
- Maganbhai from Patan. -Farmer
- Ashaben Parmar -Mehsana-Farmer,

Their concerns were decline productivity due to recurring droughts: both of livestock and crops and & local level paucity of drinking water and salinity ingress in root zone of crops – including horticulture crops.

Nisha Shah -NCCSD provided feedback related to Role of Women in water resource management and time needed by them in fetching water in rural areas and the role that they can play to make efficient use of water.

Session: V

Chair Person: Dr. Tushaar Shah, IWMI.

Co -Chair Person: Dr. Manash Choudhry- Advisor, Niti Aayog.

Dr. R.A.Sherasiya , Director Horticulture, Government of Gujarat.

Explained requirement of water for horticulture crops and need for promotion of drip irrigation.

Dr. Shital Sharma, Director State Institute of Agriculture (SIAM) Jaipur.

He shared Rajasthan situation and the initiatives taken by State Government.

Dr. S.K.Gangwar Director R&D Ministry of Water Resources, Government of India had explained detailing situation of ground table. He suggested

- Inter Basin Concept of Irrigation.
- Situational Base water utilization concept.
- Micro irrigation Concept of Irrigation and promoting Participatory irrigation management concept.

Dr. R.K.Sugor IFS-Managing Director, Gujarat Green Revolution Company:

Gujarat State has created Gujarat Green Revolution Company Ltd(GGRC) to care need of farmers in micro-irrigation system (MIS). This has resulted in to uniform efficient approach in MIS and integrated all available funds. This has extended benefits to more farmers with doorstep approach; more area is getting covered under MIS. This has already resulted into saving of water and increased coverage of more area under irrigation. Farmer has increased income as he has having multiple crops.

Dr M. B. Joshi, General Manager (T & C)-Sardar Sarovar Narmada Nigam ltd":-

Sardar Sarovar Narmada not only catering need of water to farmers it had supply drinking water to 11000 villages of the state through pipelines because of this human and cater migration has stopped.

Water from Narmada canal is also diverted in to dry rivers/ revalues resulted in to recharge of underground aquifer. This is great unseen benefit. In Ahmedabad District because of inter linking of Narmada canal to Sabarmati river the tube wells got recharged and quantity and quality of water supply has improved.

Dr. Ashok Patel, Vice Chancellor, Sardarnagar Dantiwada Agricultural University, submitted paper on rain water harvesting, surface water management and role of drip irrigation and mulching in arena of climate change. He narrated there will be net deficit of water 12% of water demand

by 2025 basis on annual current and expected requirements. He also discussed sensitivity to heat stress.

Augmentation of water resources by in situ water harvesting by subsoiling, open well recharging, Percolation tank like structure construction for water harvesting. He also stressed to save water by adopting micro irrigation system (MIS). He also suggested way forward; like water grid concept, warning and forecasting systems for farmers, water treatments for effluents, low energy systems. Etc.

Dr. C.J. Dangaria, Vice Chancellor, Navsari Agricultural University, Gujarat submitted paper on "Agriculture Research in relation to Climate Resilience". He discussed various thrust areas like- dry land farming, biotechnology, access to information, risk diffusing technology etc for sustainable agriculture. He also suggested various area of research to mitigate climate resilience. This includes new packages of practices, developing genotypes tolerant to stress, safe guard animal population, surveillance of disease patterns and monitoring climate change etc.

Concluding Session - Summary of Deliberations:

Chair Person: - Shri Bhupendrasinhji Chudasama- Hon'ble Minister - Education, Consumers Affairs, Panchayat, Food & Civil Supplies,

Address by Dr Manash Choudhury Dy. Adviser, Agriculture Adviser (Agri)NITI Aayog-New Delhi

Address by- Mr S K Gangwar - Director, R&D, MoWR, RD&GR

Address by Dr. Tushaar Shah-IWMI

Address by Dr A.R Pathak VC Junagadh Agriculture University

Address by, Dr Avinash International Food Policy Research Institute

Address by, Dr Kirit N Shelat Executive Chairman-NCCSD

Concluding Remarks- Prof.Ravindra Dholakia . Indian Institute of Management

Gujarat has initiated number of successful initiative and has come out most challenging situation that existed in sixties, seventies, eighties and nineties. This includes massive water conservation programme “Narmada water Cannels, linking of over rivers and massive micro irrigation programme.

Despite this there are problems due to climate change and two consecutive droughts. However communities are well organized and there is relative less stress as revealed in IFPRI study of Sabarkantha district. Gujarat Ground water level is better and improved due to Massive efforts under participatory scheme for community water conservation.

Workshop Feed Back

.....
Shah, Tushaar (IWMI-Anand, India)

May 9

to me

Dear Shelat Saheb,

Compliments for an excellent and very useful workshop that you organized last Saturday.

I append an article on Dhundi solar cooperative that will appear in a news paper in a week or two. This provides all details about the benefits of this model for farmers, water as well as DISCOMs. We will be very happy if this model is replicated in a few places. It will also be great if you you can put your weight behind it and get government of Gujarat’s support along the lines we have recommended in this article.

With high regards,
Tushaar Shah

Farmer Feed Back

6/9/2016 Gmail - Re: One day seminar on "Climate Change, Water Resource Management and Livelihood Adaptation "on Saturday 7th of May 2016 at Circuit Ho...



Dr. Kirit Shelat <drkiritshelat@gmail.com>

Re: One day seminar on 'Climate Change, Water Resource Management and Livelihood Adaptation "on Saturday 7th of May 2016 at Circuit House Annexe, Shahibaug Ahmadabad.

AATAPI GAJERA <aatapi09@gmail.com>
To: "Dr. Kirit Shelat" <drkiritshelat@gmail.com>

Mon, May 9, 2016 at 3:02 PM

શ્રી કિરીટ ભાઈ, નારણભાઈ, નીશાબેન

નમસ્કાર

તા-7/5/16 ના રોજ અમદાવાદ ખાતે "પર્યાવરણીય ફેરફાર -પાણી- આજીવિકાના પારપારીક સ્ત્રોત" સેમીનાર મા આતાપીને અને પ્રેક્ષકો- ભાઈઓને આવવા ની તક આપી આપ સોનો ખુબ ખુબ આભાર.

આ સેમીનારમા પ્રેક્ષકો- ભાઈઓને ખુબ જ રસપ્રદ માહિતી મળી, તેઓ ખૂશ થયા. તેઓના અભિપ્રાય છે કે

- અમો નાના અને સીમાત ખેડૂતો ને આવા કાયકમ મા આવવાનો મોઢો મળીઓ - આયોજકો નો આભાર.
- વિષય નિષ્ણાતો, સરકાર, સંસ્થાઓ વગેરે પ્રેક્ષકો માટે ખુબ જ વિચારે છે, ચર્ચાઓ કરે, અભ્યાસો કરે, સંસોધન કરે તે જાણીને આનંદ થયો, :-
- ખેતીની ચિંતા કરવા વાળા અમારી સાથે વિષય નિષ્ણાતો ઘણા છે. તે આજે પ્રત્યક્ષ જોવા મળિયું.
- અમો આવા વિચારો, અભ્યાસો, સંસોધનો ઉપયોગ કરી અમારી ખેતીને સફળ બનાવીશું.
- આવી સંરસ જગ્યા, આટલું સરસ જમવાનું, અને વિષય નિષ્ણાતો, પ્રેક્ષકોની ચર્ચા વિચારણામાં સાંજ પડી ખબર ના પડી મજા આવી.
- આબોહવા પરિવર્તનની વાતો અને આ વિષય અમને નવો જાણવા મળીયો.
- આબોહવા પરિવર્તનની વાતો તેની અસર વિશે ગામડાના છેવાડાના લોકોમાં સઘન જાગૃતી જુબેશની જરૂરત છે.
{ રતનબેન, મંજુલાબેન, કાનજીભાઈ, ફતેસંગભાઈ- જંબુસર, જી-ભરૂચ}

અમો આતાપી ફરીથી આપ સહુ આયોજકો, વિષય નિષ્ણાતો, પ્રેક્ષકો નો આભાર માનીએ છે.

ફરીથી આવી બેઠકોમા આવવાની તક મળશે તો આવીશું.

આભાર.....

ચંદ્રિકાબેન (મો. ૯૫૫૮૮૨૧૪૭૨)

આતાપી સેવા ફાઉન્ડેશન

ગજેરા, જંબુસર, ભરૂચ

<https://mail.google.com/mail/u/0/?ui=2&ik=ed3hfaf1f&view=nt&n=1shah%40nagar.com&ns=true&search=guen&msg=15401416>

તા. ૧૭/૦૫/૨૦૧૬

મુ. વડગામ.

મા. શ્રી, નારાયણભાઈ સાહેબ

અમદાવાદ.

તા. ૦૭/૦૫/૨૦૧૬ ના રોજ સરકીટ હાઉસ એનેશ્રી (શાહીબાગ)

ખાતે નેશનલ કોન્ફ્યુરેશનના પ્રતિભાવ.

૧. આવી નેશનલ કોન્ફ્યુરેશન આપ વારંવાર યોજો છો તે બદલ ખુબજ અભિનંદન.
૨. દેશના દરેક વિભાગના વૈજ્ઞાનિકોના અભિપ્રાય જાણી કંઈક નવિનમત કાર્યો કરી શકાય.
૩. ગ્લોબલ વોર્લ્ડના વિશ્વનું પરિવર્તન થઈ રહ્યું છે. તે માટે જલદી જાગૃત થઈ કંઈક ચોકસાઈ આયોજન કરવું પડશે.
૪. વૈજ્ઞાનિકો અને ખેડૂતો આ બાબતે શું કરી શકે તે આંતરિક ચર્ચાકરી જરૂરી નિર્ણય કરવા લોકોને અપિલ કરી શકાય.
૫. સરકારે અને ઉદ્યોગપતિઓએ આમાં શું કરવા જેવું છે. તે ચર્ચા કરી વિનંતી કરી શકાય
૬. છેવટે આવનાર વર્ષોમાં ગ્લોબલ વોર્લ્ડની ગંભીર પરિસ્થિતિમાં પાણીની જે કટોકટી ઉભી થાય છે તે બાબતે યોગ્ય નિર્ણય લેવા સૌને પ્રેરણા મળે.

પ્રવાણી

આદેશ ખેડૂત

આભાર.. સોલંકી ભીખાજી કાળુજી. વડગામ.

National Seminar on
"Climate Change, Water Resource Management and Livelihood Adaptation"

Organised by the National Council for Climate Change, Sustainable Development and Public Leadership (NCCSD), Ahmedabad, Gujarat in collaboration with the International Food Policy Research Institute (IFPRI)

Date : 07/05/2016

Venue : Circuit House Annexe, Shahibaug, Ahmedabad

Before plunging into the nexus of climate change, water and food security, I would like to take a moment to contextualise the topic in Indian context.

India accounts for about 17.50% of the world's population and roughly 4.00% of the total available fresh water resources. If I may focus on agriculture sector, more than 60.00% of the irrigated land makes use of ground water resources which has already depleted to large extent in many pockets of the country. Most of the rivers in the country are seasonal and rain-fed.

A paper in *International Research Journal of Environment Sciences* stated that 91.00% of groundwater extracted is consumed by the agricultural sector and rest 9.00% by the industrial and domestic sectors. Similarly, 89.00% of surface water is consumed by the agricultural sector and 2.00% and 9.00% are used by the industrial and domestic sectors respectively. An increase in population and growing demand from industrial and agricultural sectors will lead to a tremendous leap in the demand of water in the near future. Some estimates indicate that India could be on its way to becoming a water stressed country by the years 2020 - 2025 with per capita water availability falling to 1341 Cum/ person/ year by 2025¹. Excessive groundwater abstraction in India has become unsustainable.

There is clearly an urgent need to better adopt water management practices in the country to increase the water security for proper transition into a green economy.

Climate change can severely threaten India's water security. India's hydro-climatic regime is expected to alter significantly over the course of the 21st century. Impacts of climate change on water resources are sure to have consequences on the food security of India, as food security cannot be expected without a fool proof water security.

Some changes in climate have already started to appear affecting the water resources of the country. The glacial recession in the Himalayas, decreasing rainfall pattern in some parts of India, greater but variable rainfall pattern in other parts of the country can lead to drought and flood like situations². Increased evapo-transpiration and reduced soil moisture may increase land degradation and desertification.

With all these inputs, I have a few questions that we can collectively strive to answer through this workshop :

- Are we ready to adapt/withstand the changes in ecology basis the change in climatic conditions?
- Water and temperature being critical to agriculture and food security, is our traditional knowledge sufficient in the current times?
- Can we look at and learn from practices on ground zero by the cultivators of India, which have led to enhanced water security and agricultural resilience? And can we leverage some of this to improve upon the conditions elsewhere in the country?
- How far has the existing policy structure and schemes been able to address the water security issue?
- What are the suggestions from India's farmers which can be integrated into the policy landscape of the country to deal with the impact of the nexus between climate change, food security and water security?

Manash Choudhury,
Deputy Adviser, Agriculture Vertical,
NITI Aayog (GoI),
New Delhi : 110 002

¹ Per capita water availability in India in 2001 was 1820 Cum/ person/ year which is projected to go down to 1341 Cum and 1140 Cum / person/ year by the years 2025 and 2050 respectively.

² Himalayan glacial recession is one among the factors...

**National Seminar
on**

**“Climate Change, Water Resource Management and Livelihood
Adaptation”**

Saturday 7th May, 2016

Circuit House Annexe, Shahibaug, Ahmedabad.

Overall Moderator: Nisha Shah-NCCSD

9:00-10.00hrs: **Breakfast and Registration**

10:00 – 10.05 hrs : *Ganesh Vandana*

10:05-11:30hrs: **Opening Session**

Welcome
Nisha Shah-NCCSD

Address by Dr Kirit Shelat-Executive Chairman NCCSD

Opening remarks Prof.Ravindra Dholakia .
Indian Institute of Management

Opening of the Theme
Dr Avinash, International Food Policy Research Institute

Key Note Address
Dr.Tushaar Shah-IWMI

Address by Dr Manash ChoudhuryDy. Adviser,
Agriculture Adviser (Agri)NITI Aayog-New Delhi

Address by Mr S K Gangwar
Director, R&D, MoWR,RD&GR

Address by Dr. N.C.Patel VC Anand
Agriculture University

Address by Shri Arun Kumar Solanki, IAS

Principal Secretary -Agriculture
Government of Gujarat,

11:30-12.00 hrs

Tea/coffee Break

12:00-13:30hrs:

Session I-Farmer Interaction Session

Chairperson: Dr A R Pathak, Junagadh Agriculture University-

Co- Chairperson:- Mr S K Gangwar
Director, R&D, MoWR,RD&GR

Opening remarks:- Dr A R Pathak, VC Junagadh Agriculture University

“Water Management”

Shri R.K Sama -Formerly Project
Director. WASMO

Malay Joshi and Farmer representative-VRTI -Kutch-Gujarat

Farmer representative-VRTI-Bhavnagar Gujarat

Mr Sanjay Valand and Farmer representative- ADahod Gujarat

Jyotiben and farmer representative AATAPI -Jambusar

Bhartiben Bhavsar and Women farmer from SEWA

Ms Nisha Shah-NCCSD

Dr Jaspreet Aulakh,

Project Manager-International Food Policy Research Institute

Co- Chairperson’s Remarks: - Mr S K Gangwar
Director, R&D, MoWR,RD&GR

13.30-14.30 hrs:

Lunch

14:30-16:30hrs:

Session II

Chairperson: Dr.Tushaar Shah-IWMI

Co- Chairperson: Dr Manash Choudhury Dy. Adviser,
Agriculture Adviser (Agri)NITI Aayog-New Delhi

Opening remarks: - Dr.Tushaar Shah-IWMI

**Water Management by Water Resources
Department"** Dr M.P. Raval
Chief Engineer (Sau) & Add.Sec.

Gujarat Drip irrigation Approach
Dr R.K Sugoor IFS-MD, Gujarat Green Revolution
Company-GOG

Impact –Narmada irrigation System
Dr M. B. Joshi, General Manager (T & C)-Sardar
Sarovar Narmada Nigam ltd"

Horticulture and water management
Dr. R. A. Sherasiya,-Director Horticulture-GOG

Dr Shital Sharma
Director, State Instt. Of Agriculture
Management, (SIAM)Tonk Road,Durgapura,

Co- Chairperson's Remarks
Dr Manash ChoudhuryDy. Adviser, Agriculture Adviser
(Agri)NITI Aayog-New Delhi

16:30-17:30hrs:

Panel Discussion

Address by Dr Manash ChoudhuryDy. Adviser, Agriculture
Adviser (Agri)NITI Aayog-New Delhi

Address by- Mr S K Gangwar
Director, R&D, MoWR,RD&GR

Address by Dr.Tushaar Shah-IWMI

Address by Dr A.R Pathak VC Junagadh
Agriculture University

Address by, Dr Avinash International Food Policy Research
Institute

Address by, Dr Kirit N Shelat Executive Chairman
NCCSD

Concluding Remarks- Prof.Ravindra Dholakia .
Indian Institute of Management

Address by Shri Bhupendrasinhji Chudasama
Hon'ble Minister – Education, Consumers Affairs,
Panchayat, Food & Civil Supplies,

Vote of Thanks
N.M Patel NCCSD