

## Feedback report for Contingent Plan for Drought: Initiatives taken by IGFR

### Action Taken at IGFR HQ:

The climate of Bundelkhand region is characterized by long and intensely hot summer, low and irregular rainfall and short mild winter. The South west monsoon starts by 26<sup>th</sup> (June 25-2 July) and ends by 37<sup>th</sup> SMW ( Sept-10 to 16). Most of the rainfall is received during S-W monsoon period (June to September) accounting for 90 % percent of the total annual rainfall with occasional showers during winter months. The mean annual and Kharif rainfall of Jhansi are 914 and 801 mm, respectively. In Bundelkhand region agricultural operation generally starts with onset of monsoon. This year monsoon was almost delayed by 15 days and till today rainfall deficiency is 83 and 100% for the respective weeks.

IGFR has establish *Adarsh Chara Gram* in MP. Recently besides this the institute has formed 11 groups to address the issue of drought and long term prospected plan. IGFR scientist are frequently visiting the drought effected villages and advising them on contingency plan.

### Adarsh Chara Gram –Datia and Shivpuri districts of MP (Bundelkhand)

- The traditional crops such as groundnut which need more water has been replaced with alternate fodder crops such as sorghum (MP Chari), Bajra (AVKB-19) and Guar (Bundel Guar 1) which are drought tolerant and help in livestock so that farmers livelihood is secured as contingent plan. The

IGFR has provided seed of these crops (MP Chari-1.4 q, Bajra-2, Guar-0.30 q)

to the farmers. (no. of beneficiaries=117 farm families).

- The perennial fodder crops in crop boundary planting system at the farmers field which are having life saving irrigation facility has

been introduced as a contingent plan to supply round the year green fodder in deficit situations. (no. of beneficiaries=37 farm families).



Adarsh Chara Gram-Fodder Field Day in drought situation



Women livestock farmers harvesting green fodder inspite of delayed rainfall.



Director, IGFR, Heads, Scientists and farmers making strategies to face drought stress conditions at farmers field.



Adarsh Chara Gram established by IGFR

Director, IGFR, Heads, Scientists explaining perennial fodder to farmers at farmers field



Perennial fodder in crop boundary planting system at farmers field

- Regular weather advisory services through e-Chara Kendra (established at Datia)



Director, IGFR, Heads, Scientists and farmers during *Mosam Pathshala*



Women farmers getting weather, inputs, technology related information through e-Chara Kendra.

district by IGFR) - (no. of beneficiaries=1257 farmers).

- Farmers were suggested for vermin-composting for soil health improvement in context of drought. The five units of vermin-bag were established by IGFR at farmers field.
- The farmers were advised by IGFR scientist to utilise existing fodder

trees as green fodder for livestock. The plantation of fodder purposes trees such as Subabool and Kala Sirus on field boundaries has been done at farmers field.

- The farmers were advised about drought management strategy for livestock. Vaccination of all livestock for HS, BQ, FMD and PPR (total about 3000 animals) and provision of endo and ectoparasite control medicines.
- Introduction of drudgery reducing tools (groundnut decorticator, maize sheller) to farm women to increase working efficiency in semi arid climate (no. of beneficiaries=87 farmers).

Vermi-compost techniques being demonstrated at farmers field.



Women farmers using groundnut decorticator at Adarsh Chara Gram



Farmer- scientist interface meeting at Adarsh Chara Gram

### Outreach Programmes

(i) During the Kharif 2014, following support has been provided.

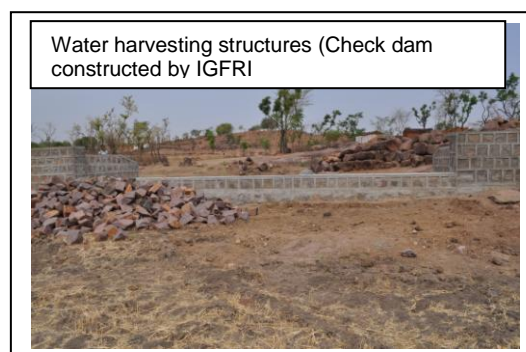
IGFR support to farming community through 100 KVKs of 8 ZPDs in all zones of India		
Kharif crops	Variety	Amount (kg)
Maize	African Tall	1564
	J 1006	530
Sorghum	MP Chari	803
	COFS 29	440

Bajra	AVKB-19	91
	GIANT Bajra	26
Cowpea	BL2	240
	EC 4216	922
	UPC 622	290
	CO-fs-8	348
COIX	KCA-3	30
Guinea grass seed	BG 2	175.2
Cenchrus setigerus	CAZRI-392	12
Cenchrus seed	IGFRI 3108	188
Stylo Seed	Hamata	24
	Scabra	125
Subabul seed	K 8/ S24	6.6
	K636	7.6
Dinanath Seed	BD 2	34
Congosignal		12
Sewan grass seed	Local	12
Crysopogon seed	Dhawalu 1/NS	1.6
Ricebean	Bidhan2	208
<b>Total</b>		<b>6090</b>
<b>Rootslips</b>	<b>Variety</b>	<b>Number</b>
NB Hybrid RS	Co-3/4	236000
	BNH10	39500
	PNB 83	8000
Para Grass RS		224000
Orchard grass seed		24000
<b>Total</b>		<b>531500</b>

(ii). **Fodder Technology demonstration (FTD):** 156 FTD on short duration, drought resistant Kharif fodder in Bundelkhand.

(iii). **NICRA –Lalitpur district of UP**

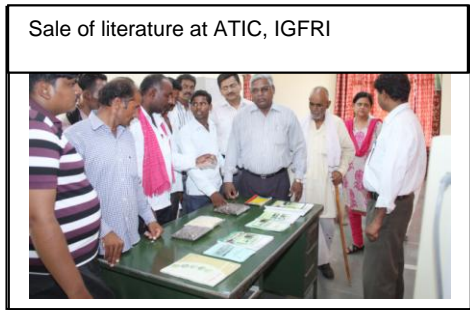
- **Water harvesting structures (Check dam):** A check dam was constructed approximately catchment area of 90.0 ha. The command area is 20 ha approximately. The total cost is 2.64 lakhs. The cost of structure /ha command area is Rs. 13,200. This stores approximately 15000 m<sup>3</sup> rain water. This resulted in 20 % increase in cultivated area.
- The cropping intensity increase 119 to 355 in different zones.



- The well recharge increased upto 300 % which resulted shift to cash crops, vegetables, increased water availability period and increase in yield during drought stress.
- The crop residue enrichment technique (urea treatment) was introduced which resulted in increased DMI (14.7%) and total milk yield increased by 18%. It helped in reduction of concentrate demand for livestock.

**Initiatives with Line departments and farmers in context of delayed onset monsoon.**

- Frequent meetings of IGFR scientists with line department officers in context of late monsoon.



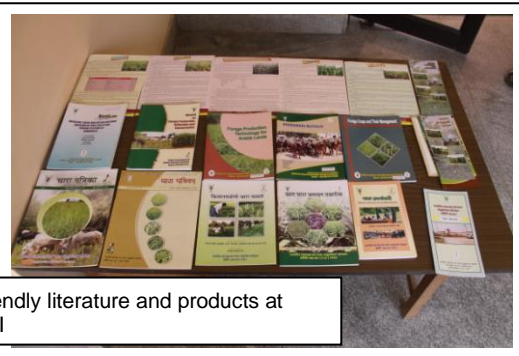
- Scientific Advisory Committee meeting at ATIC on every Wednesday



- Regular visits to IGFR are conducted by ATIC and details presentation given to them.

- Advisory services through Kisan Call Centre of IGFR, email and post.

- Sale of drought related literature, inputs and fodder products from ATIC of IGFR.



**Action Taken by Regional Research stations of IGFR WRRS, Avikanagar**

In western India the rainfall deficit is 64 % up to 13 July 2014. Western Rajasthan deficit is 71 % and in Eastern Rajasthan deficit is 68%.

- In view of delayed monsoon, seed of important crops viz. dual purpose variety of bajra "AVKB-19", Bundel guar-1/Bundel guar-2, Dolichos, Anjan and Dhaman grasses has been distributed to the farmers.



Seed distribution and advisor services by WRRS, IGFR to farmers

- Development of fodder technology parks:- Fodder demonstration plots is being developed at KVKs in the nearby districts viz. Tonk, Jaipur, Siker, Ajmer, Dousa and Rajasthan Agriculture research institute, Durgapura. About 5 q seed of AVKB-19 is supplied to KVKs for conducting FTDs.
- Participatory seed production at Goushalas:- The seed availability of Cenchrus grasses is very limited therefore, to accelerate the seed production seed of Anjan and Dhaman grasses is provided to 7 Goushalas and sowing of nursery of Cenchrus grasses is done. Discussion was held for site selection for development of grazing area at Goushalas where no irrigation facilities are available and lands are poor and undulated. This will provided good quality fodder and revenue from seed even in very limited rainfall.
- WRRS, Avikanagr convinced the farmer, having well established orchards of Aonla and Pomegranate for sowing of Cenchrus grasses under the fruit plants. The seed of Cenchrus grasses is provided and nursery is being planted.

### **SRRS, Dharwar**

After a least rainfall in the month of June 2014 for the last 100 years in Karnataka, the monsoon has become active since 9th July 2014. It has rained torrentially in most of the districts in the south and coastal Karnataka. It is moderate in central and north Karnataka. The rainfall deficit is 22 to 33 % in different parts of Karnataka.

### **Management of Lack of Rains Owing to Poor Monsoon**

- Creating awareness and planning for measures to address the problem

An In-House brainstorming session was held on June 28, 2014 at IGFRS SRRS, Dharwad on "Impact of delayed monsoon and measures to address the various issues emerging out of it" to understand the severity and measures to address the lack of rains owing to delayed monsoon. Participants included the scientists of IGFRS Southern Regional Research Station, Dharwad; IARI Regional Station, Dharwad' IIPR Regional Station, Dharwad, CEOs of NGOs viz. SCOPE and ISAARD, Dharwad; Professor & Head of Agronomy, UAS, Dharwad and a few progressive farmers.

- Field visits were made to severely drought affected areas in Haveri District in Karnataka and observations were made on the drying crops and lack of moisture in the soil. It was advised to conserve moisture through soil mulch and spreading of weed biomass on the surface.
- Efforts are being made to provide short duration annual crops of fodder maize (var. African Tall), fodder cowpea (var. EC 4216) and fodder bajra (var. AVKB 19 and Giant Bajra) for the needy farmers in areas of less rainfall in future. Further supply of perennial fodder crops' seeds viz. perennial fodder sorghum (var. CoFS 29, and planting material of grazing guinea and signal grass is being made.

About 2 lakhs root-slips of signal grass, grazing guinea, napier bajra hybrid, about 50 kg seeds of perennial sorghum, 200 kg of fodder maize, 200 kg of fodder cowpea have been supplied to farmers during this period.

Brain storming session on delayed monsoon at SRRS, IGFRS



Scientist farmer interaction at Farmers field in Karnataka.



Growing fodder in mango orchard.