

# Sand Bag Check Dam

*a case of successful mobilization of community resources  
against climate variability*



Zonal Project Directorate, Zone-II  
Indian Council of Agricultural Research  
Bhumi Vihar Complex, Sector-III  
Block-GB, Salt Lake, Kolkata-700 097



Zonal Project Directorate, Zone-II  
Indian Council of Agricultural Research  
Bhumi Vihar Complex, Sector-III  
Block-GB, Salt Lake, Kolkata-700 097



Farm ers practices

NICRA Impact





# **SAND BAG CHECK DAM – A CASE OF SUCCESSFUL MOBILIZATION OF COMMUNITY RESOURCES AGAINST CLIMATE VARIABILITY**



भा.कृ.अनु.प.  
ICAR

**Zonal Project Directorate, Zone - II  
Kolkata**

## **Zonal Project Directorate, Zone - II**

Indian Council of Agricultural Research

Bhumi Vihar Complex, Sector - III

Block - BG, Saltlake, Kolkata - 700 097

Phone : 033 2335 2355, 2335 3830

Fax : 033 2335 2355

E-mail : [zpdkolkata@gmail.com](mailto:zpdkolkata@gmail.com)

Website : [www.zpd-ii.com](http://www.zpd-ii.com)

Published by :

A. K. Singh

Zonal Project Director

Compiled & Edited by :

Sanjay Kumar, A. K. Singh, K. A. Gopinath, Sreenath Dixit and  
B. Venkateswarlu

Citation :

Sand Bag Check Dam – a case of successful mobilization  
of community resources against climate variability

Zonal Project Directorate, Zone-II, Kolkata

No. of pages : 24

Printed at :

Graphique International

Kolkata

# Contents

<b>Foreword</b> .....	i
<b>Preface</b> .....	ii
<b>Fighting Climate Variability :</b>	
<b>The Story of Sand Bag Check Dam</b> .....	1
Problem Statement and Diagnosis .....	2
Collective Action and its Outcome .....	2
The Impact.....	6
<b>Appendix - I</b>	
Baseline Information .....	9
<b>Appendix - II</b>	
Construction Work of Series Checkdam .....	10
on Ghaghri Nala, Bansari Nala And Gomat Nala In Block - Ghaghra	
<b>Appendix - III</b>	
Pariyojona Kendra, Gumla .....	11
<b>Appendix - IV</b>	
Media Coverage.....	12

**DR. K. D. KOKATE**

Deputy Director General  
(Agricultural Extension)



INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
KRISHI ANUSANDHAN BHAVAN – I, NEW DELHI 110 012

**FOREWORD**

In Indian agriculture, in the recent past is experiencing challenges due to climate variability in terms of delayed monsoon onset; breaks in monsoon, frequent dry spells and high intensity rainfall. These variation affect agricultural production adversely, however, application of climate resilient technologies would facilitate overcoming these challenges. For instance, excess runoff during high intensity rainfall may be harvested and used for improving moisture availability through community mobilization and investing in rainwater harvesting. Similarly, harvesting seasonal streams diverse agro-climate ensure water availability beyond rainy season and would improve cropping intensity, promotes diversity and above all increases the resilience of farmers in the event of crop failure due to ill distribution of rainfall.

In this context, National Initiative on Climate Resilient Agriculture (NICRA) implemented by 100 KVKs across the country has been advocating practices that impart resilience to agriculture through such initiatives. KVK, Gumla has documented the process of effective application of climate resilient technologies and is being published by Zonal Project Directorate, Zone-II. The publication illustrates the process behind the success of harvesting and storing rainwater from a seasonal stream and the effect on the community.

I compliment the Programme Coordin-ator, KVK, Gumla and the Zonal Project Director, Zone II and Coordinator of TDC-NICRA for bringing out the publication entitled 'Sand Bag Check Dam – a case of successful mobilization of community resources against climatic variability'.

  
**(K. D. Kokate)**

## PREFACE

National Initiative on Climate Resilient Agriculture has given an opportunity to several KVKs to demonstrate climate resilient agricultural practices in the context of the challenges faced by vulnerable communities due to climate variability. The project has also provided a platform for vulnerable communities to address crucial climate related issues often encountered by them. Although the project prescribes modular approach to address climate variability challenges, there is enough scope for development of interventions and their implementation at grassroots level. This has infused new enthusiasm among the communities as it is promoting several initiatives that are helping to build the community capacity. Thus, the KVKs are able to harness the latent energy present in the community by awareness building and facilitation. These processes are also significant in bringing lasting changes within the communities since they are imparting a sense of ownership among the members of the community.

In this publication, we bring out a story of successful community participation

in identifying, acting and sustaining the outcome of a unique intervention. The focus here is not on the technology but on how a community was enabled to adopt a practice that would eventually make them free of water scarcity both for human and livestock consumption and agriculture. The story also narrates the cascading effects of the success and prosperity the collective efforts of the community have brought along. It was indeed a valuable learning experience for all those who were associated with implementation of interventions, monitoring of progress and documentation of overall outcome. Although this is a very simple intervention, it has the potential to bring several changes both in material prosperity and mindsets. We wish that this publication spreads the simple idea of harvesting runoff in seasonal streams by laying across low cost check dams and making vulnerable communities a little more resilient to the impending risks of climate variability.

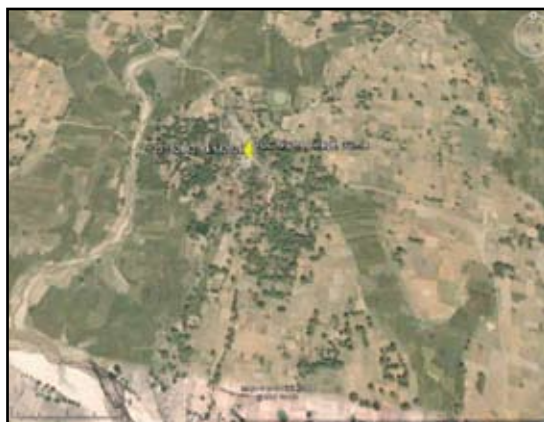
Authors

## FIGHTING CLIMATE VARIABILITY : THE STORY OF SAND BAG CHECK DAM

### The Setting

The cluster of villages consisting of Gunia, Jargatoli, Burhu, Balagada and Kuhipat hamlets in Ghaghra block of Gumla district, Jharkhand has around 500 households and is dominated by Oraon tribe who cultivate just one crop of rice during kharif. Besides, they also cultivate ragi or maize with little or no inputs. The tribes generally broadcast rice and do not apply any nutrients nor do they weed their plots. Hence, the rice yield is very poor (just around 1500 kg/ha). They migrate to nearby areas during the rest of the season as labourers to eke out a living. A brief summary of the baseline information is provided in Appendix-I.

Although this area receives about



Ariel view of Gunia Village

1200 mm rainfall annually, there is a high degree of variation in the spatial and temporal distribution rendering the farming community vulnerable. There is no water storage/harvesting infrastructure that can support agriculture during dry spells and beyond kharif season.

**Table 1: Rainfall trend over the past decades**

Decadal trend		Decadal average		
		1981-90	1991-2000	2001-2010
No. of rainy days		128	122	107
No. of Dry Spells During Kharif Season	> 10 days	5.1	4.4	5.0
	> 15 days	01	-	01
	> 20 days	-	-	02
No. of Intensive Rainspells	> 60 mm/day	3.8	4.2	06
Average Annual Rainfall (mm)		1423	1623	1361



The villagers suffered from scarcity of water for domestic and agriculture use despite having a seasonal stream Mahasaria. Due to erratic rainfall in the past few years, the stream dries up by mid January leaving little scope for cultivation beyond kharif season. Having understood the issues of vulnerability of the farming community in the cluster of villages, the NICRA project staff of KVK, Gumla engaged the community in a series of discussions during mid 2011.

### Problem Statement and Diagnosis

After several round of visits to the cluster of villages, interaction and discussion with the villagers, NICRA project staff at KVK defined the problem and its solution as follows :

*The vulnerability of the farmers to the current climate variability is very high, as they are able to cultivate only one crop in kharif season which is also faced with intermittent dry spells. Besides, the cropping intensity is also low because of non availability of water for cultivation of crops during post rainy season. Providing water security for overcoming dry spells during Kharif season and extending water*

*availability during rabi and summer for increasing cropping intensity can reduce the vulnerability of the community to the climatic variability being faced by the farmers.*

### Collective Action and its Outcome

Interaction with the villagers indicated their keenness to cultivate their fields in rabi as well, provided they had access to water resource. The scientists at KVK, Gumla in consultation with the villagers



Villagers meet during launch workshop



Farmers filling up cement bags with sand

decided to try and extend the availability of water in Mahasaria stream by arresting its flow with the help of a sand bag check dam. The idea was readily accepted by the villagers and they came forward to contribute their labour (*shramdaan*) to lay a sand bag check dam across the rivulet. Civil engineers of Birla Institute of Technology, Mesra located near Ranchi were consulted to select an appropriate location for laying the sand bag check dam. The engineers assessed the peak flow and gave a rough estimate about the width and height of the check dam. The villagers were so excited about trying the idea of building sand bag check dam that they started off working on it on one morning in the middle of December, 2011. Nearly 500 villagers gathered on the banks of Mahasaria and started filling nearly 600 empty cement sacks (*procured by paying ₹ 2 each by KVK*) with sand. While one group of people filled sand and closed the bags by tightly securing them with strings, the other began laying them one above the other across the flow of water. The bags were arranged in two rows with about a meter's gap in between in which sand was filled and trampled for the required

strength. As the villagers raised the height of the check dam by placing sand bags row by row, the water level rose along with it simultaneously. This was indeed spectacular and the fruit of collective labour was realized instantly. The rising level of water raised villagers' enthusiasm as well. By the evening of that day, a 100 m long, 3 m wide and 2 m tall check dam was ready retaining a large amount of water behind it. The whole day was very productive and the villagers went home with a sense of accomplishment.

The next morning was not like other mornings they had seen for ages. Before the sun reached the middle of the sky, hundreds of farmers from the neighbouring villages started gathering on the banks of Mahasaria and walking across the river on the newly built check



Jubilant villagers after accomplishing the mission

dam. The impression of the check dam in the minds of other villagers was so strong that they also started mobilizing themselves to identify appropriate locations for laying such check dams. Following that, by the end of December, 2011, eight more sand bag check dams were built across Mahasaria. This was perhaps one of the quickest adoption of a water harvesting option over a geographical area in the state of Jharkhand.

The series of check dams unleashed farmers' aspirations for cultivating second and third season crops (rabi



Diverting water for check dam

and summer). This was again another first- of-its-kind initiative by the farmers of Gumla district. It was now time for farmers to take the water impounded behind the check dam to their farms.



Channels carrying water

Farmers got together and dug channels to divert water into their farms. Many farmers had kept their fields ready for cultivating vegetables while some others wanted to try wheat on a limited scale. For the first time in the history of Gunia, farmers raised a successful crop of vegetables in about 10 ha and wheat in about 50 ha during rabi 2011-12. This has diversified the cropping system and minimized the risk besides increasing avenues of income. The details of wheat and vegetable crops raised and their yield are provided in the following table.

**Learning :** As expected, the flow of water did not reduce after December and fresh flows came into the stream later during the month. This resulted in slight damage to the check dam and villagers learned their lessons well. They

decided that the check dam would be laid only by January henceforth.

It may be noted that this intervention did not require high investments but just an innovative idea of reducing the flow of the stream and extending the availability of water beyond kharif season. It also showed the farmers, development workers and the state



Farmers laying check dam

**Table 2: Details of wheat and vegetable cultivation**

Crops	Variety	No. of farmers	Area (ha)	Measurable indicators of Yield (q/ha)	Economics (₹/ha)			
					Gross cost	Gross return	Net return	BC
1	2	3	4	5	6	7	8	9
<b>Cereals (2011-12)</b>								
Wheat	PBW-343	35	50	32.00	17300	35200	17900	2.03
<b>Vegetables (2011-12)</b>								
Okra	Avinash,	10	0.75	128.29	25500	76974	51474	3.01
	Tulsi	10	0.75	160.42	30000	96252	66252	3.20
	Arka Avinash	06	01	130.32	25500	78192	52692	3.06
Tomato	Supar Rasna	03	0.5	215.35	40000	129210	89210	3.23
Cow pea	Ravina	26	02	57.42	30000	91872	61872	3.06
Bottle gourd	Gaurav	32	2.5	130.50	35000	130500	95500	3.72
Ridge gourd	Dharidar	05	0.5	104.25	32000	104250	72250	3.25
Bitter gourd	Chaman	20	01	106.15	32000	127380	95380	3.98
Bitter gourd	Selection Kathi no.-1	09	0.5	81.27	31200	97524	66324	3.12
Sponge gourd	Jhalak	18	0.5	115.24	32500	115240	82740	3.54
<b>Total</b>		<b>139</b>	<b>10</b>	–	–	–	–	–



Farmers visit a wheat field on the Field Day

administration as to how vast stretches of land left fallow for want of water could be brought under cultivation during rabi and summer. It also revived the collective spirit of villagers that could make a difference to their livelihood. Although it is not a sophisticated technology, it is indeed a community based approach that can give hope to many communities suffering from water scarcity, resultant low productivity and lack of livelihood opportunities. This



A bumper crop of rice cv. Lalat

is an example of how a small idea can go a long way in contributing towards increasing cropping intensity and food security

### The Impact

The news of success of sand bag check dam in Gunia spread across the district of Gumla and soon the district officers



District Development Commissioner discussing with project leader and farmers

started visiting the spot and talking to farmers and KVK about NICRA and its



Cement check dam built by district administration

initiatives. The district collectorate also got to hear about the success of check dam in the remote cluster of villages in Gumla. During the year 2012, the area under second and third crop increased significantly. Over 120 acres of wheat was sown in this cluster of villages and many more farmers took to cultivation of vegetables (list of farmers with details of wheat and vegetable cultivation in Table-2). The district agricultural department acknowledged that it was for the first time wheat was cultivated on such a large scale in any one block of the district. Meanwhile, the minor irrigation division of the Gumla district administration identified nine locations for constructing a series of pucca check



The kutchha road (left) leading to the KVK replaced with concrete road

dams on Ghaghri nala, Bansari nala and Gomath nala in Ghaghra block and floated a tender worth ₹ 3,94,72,402/-



A farmer happy with his good crop of mustard

(see Appendix-II). Followed by this, the construction of two pucca check dams, one each at Gunia and Jargatoli was completed by end of February, 2013. The Member of Legislative Assembly of Bishunpur constituency visited the check dam at Jargatoli and was impressed with the work. Keeping in view the utility of the intervention, he funded from the MLA-LAD the installation of water lifting device (currently operated by diesel on cost sharing basis). The device is shortly going to be electric powered, electrical poles have now been erected to this cluster. The past two years were eventful in the history of Gunia cluster during which several changes triggered from laying of a sand bag check dam to cement check dam and other improvements that came thereafter. The villagers give NICRA Project of ICAR the credit for the chain



Local TV channel interviewing a farmer in the cluster

of events leading to these improvements. The villagers, district administration and the media have come to know and appreciate the role a KVK can play in the development of a region. Recognizing KVK as an important institution in heralding development in a district, the Gumla district administration laid one km stretch of all-weather road (cement) leading to KVK farm from the main road which was until recently a *kutchra* road.

Influenced by the outcome of NICRA interventions in the Gunia cluster, the Deputy Commissioner, Gumla district invited KVK, Gumla to submit a proposal for a prototype project funded by the Government of Jharkhand on water conservation, irrigation and land development in ten villages of Majhgaon panchayat of Dumri block (Appendix-III). The project has an outlay of ₹ 89,89,000/- for a period of three

years. Normally, district administration funds NGOs to implement such projects. But, as an exception; KVK, Gumla was offered this project based on its performance under NICRA being implemented in Gunia cluster.

The media, both print and electronic, visited and covered the Gunia success story extensively (Appendix-IV). Dainik Jagaran, a leading Hindi daily newspaper which recognizes achievers every year from various walks of life, recognized Dr. Sanjay Kumar, Programme Coordinator, KVK, Gumla and the Principal Investigator of NICRA for the year 2012 in agriculture sector. The story of sand bag check dam does not intend to highlight the success of an intervention alone, it equally underscores community mobilization by KVK Gumla to address a common cause. The impact



Dr. Sanjay Kumar, Programme Coordinator and Project Leader being honoured by Dainik Jagaran

does not end with completion of check dam, beneficial effect accrued out of this innovative idea has also forced the district administration to become a part of the entire success story. Uniqueness

of such cases needs to be brought into the notice of all the stakeholders so that farmers of other areas also benefitted for the overall development of agriculture.

## Appendix - I

### BASELINE INFORMATION

#### Climatic Vulnerability :

Gumla has a sub-tropical climate with temperatures of 20-40°C during summer and 3-21°C during winter. The major climatic variability took place in the village during 2011-12 was less number of rainy days coupled with high intensity rainfall.

#### Predominant farm enterprises

Monocropping is predominant in the village with cultivation of different field crops during kharif while fields are left fallow during rabi. Farmers having assured irrigation facilities cultivate vegetables and fruit crops. Livestock enterprise includes rearing of small and large ruminants and backyard poultry.

Name of the village	: Gunia
District	: Gumla
No. of households	: 320
Total cultivated area	: 523 ha
Major soil types	: Sandy loam and clay loam
Mean annual rainfall	: 1233 mm
Major crops	: Paddy, maize, black gram, groundnut, niger and wheat
Climate vulnerability	: Drought, heat wave and cold wave

#### Area and productivity of major crop

Crop	Area (ha)	Yield (q/ha)
Paddy	395	16.0
Black gram	60	6.7
Groundnut	25	8.3
Niger	25	1.5
Maize	30	14.5
Wheat	20	16.5
Finger millet	02	7.0



## Major sources of irrigation

Most of the cultivated area in the village is rainfed. About 20 farmers have open wells as source of irrigation. In addition, there are three community ponds in the village. Although two small streams flow through the village, farmers have not yet tapped the water for irrigating crops.

Source	Area (ha) under irrigation
Open well (20)*	15
Canal	Nil (defunct)
Ponds (3)	2.5
River (2)	Nil

\*Figures in parentheses are numbers

## Construction Work of Series Checkdam on Ghaghri Nala, Bansari Nala And Gomat Nala In Block - Ghaghra

Top of Form  
Bottom of Form  
Minor Irrigation Division  
Gumla - Jharkhand - India  
Executive Engineer of Minor Irrigation Division, Gumla, Jharkhand invites tenders notice for construction work of series checkdam on Ghaghri Nala, Bansari Nala and Gomat Nala block-Ghaghra at district-Gumla. Tender document can be collected / downloaded from Gumla.

- **Notice Type** : Tender Notice
- **Tender Scope** : Domestic
- **Tender Value** : ₹ 3,94,72,402/-
- **Project Period** : 335 Days
- **Category** : Civil Construction Works
- **Products** : Construction Work
- **Tender Due Date** : 23 Feb 2012
- 1. <http://www.jharkhandtenders.gov.in>
- 2. [http://2.imimg.com/data2/LN/PN/HTT-947/947\\_2012-02-11\\_1328937783.jpg](http://2.imimg.com/data2/LN/PN/HTT-947/947_2012-02-11_1328937783.jpg)
- 3. <http://tenders.indiamart.com/details/864833975/>

## Appendix - II

### Office of the Executive Engineer MINOR IRRIGATION DIVISION, GUMLA e-Procurement Notice

Tender Reference No. : WRD/MID GUMLA/IFB-21/2011-12

1.	Name of the Work	Construction of series Checkdam on Ghaghri Nala, Bansari Nala and Gomat Nala Block- Ghaghra, Distt.- Gumla.
2.	Estimated Cost (Rs.)	₹ 3,94,72,402.00 ( Rupees Three Crore Ninety Four Lacs Seventy Two Thousand Four Hundred Two )
3.	Time of Completion	335 days
4.	Last Date/Time for Submission of Bids	23.02.2012 upto 5.00 P.M.
5.	Date of Publication of Tender on Website	09.02.2012 at 1.30 P.M.
6.	Name & Address of Office Inviting Tender (e-Procurement Officer)	Executive Engineer, Minor Irrigation Division- Gumla, Karamtoli Road, Gumla.
7.	Contact No. of e-Procurement Officer	06524-222100
8.	Helpline number of e-Procurement Cell	0651-2214784

Note :- Only e-Tenders will be accepted.

Further details can be seen on website <http://jharkhandtenders.gov.in>

Executive Engineer  
Minor Irrigation Division  
Gumla

PR No. PR - 49124(Irrigation)11-12

## Appendix - III

परियोजना कार्यालय मेसो क्षेत्र, गुमला।  
पत्रांक. 226 / मेसो

प्रेषक,

परियोजना पदाधिकारी,  
मेसो क्षेत्र, गुमला।

सेवा में,

श्री संजय कुमार,  
कृषि विज्ञान केन्द्र,  
गुमला। (विकास भारती)

गुमला दिनांक- 27/4/11

विषय:- प्रोटोटाइप योजना फेज-IV के कार्यान्वयन के संबंध में।  
महाशय,

उपरोक्त विषय के संदर्भ में कहना है कि आपका पत्र सं०-11 जो इस कार्यालय को प्राप्त हुआ है, के संदर्भ में उपायुक्त महोदय द्वारा प्रोटोटाइप योजना फेज - IV के अन्तर्गत डुमरी प्रखण्ड में 1 यूनिट जल संचयन, सिंचाई एवं भूमि विकास के कार्यान्वयन हेतु स्वीकृति प्रदान की गई है।

अतः आपको निदेश दिया जाता है कि दो दिन के अन्दर मेसो कार्यालय में आकर योजना से संबंधित एकरारनामा प्रस्तुत करें साथ ही निम्न विन्दुओं पर कार्य करना सुनिश्चित करें:-

1. योजना का कार्यान्वयन कल्याण विभाग, झारखण्ड रौंघी के मार्गदर्शन के अनुसार करना सुनिश्चित करेंगे।
2. सभी कार्यान्वयन एजेंसी/स्वयंसेवी संस्था योजनाओं से संबंधित कौडीनेटर नियुक्त करेंगे जो उस क्षेत्र में योग्यताधारी हो तथा 2 (दो) फील्ड वर्कर (जो स्थानीय हो) की भी नियुक्ति करेंगे।
3. कार्यान्वयन एजेंसी/स्वयंसेवी संस्था संबंधित प्रखण्ड विकास पदाधिकारी से सम्पर्क स्थापित कर उनके मार्गदर्शन में पंचायत एवं ग्रामों का चयन करेंगे। यह कार्य कलस्टर में होगा।
4. वैसे लाभुकों का चयन करेंगे जो गरीब हो तथा अनुसूचित जन जाति के सदस्य हो साथ ही उन्हें पूर्व से किसी तरह की सरकारी सहायता नहीं मिली हो।
5. संबंधित चयनित ग्राम में संबंधित प्रोटोटाइप से संबंधित योजनाओं का स्वयं सहायता समूह का गठन करेंगे जिसमें एक अध्यक्ष एवं सचिव एवं एक कोषाध्यक्ष का चयन किया जायगा तथा लाभुक समिति का नामकरण होगा जिसके नाम से बैंक में खाता खोला जाएगा।
6. योजनाओं के कार्यान्वयन के पूर्व संबंधित भूमि का सत्यापन प्रतिवेदन संबंधित अंचल अधिकारी से प्राप्त करना होगा।
7. संस्था को योजनाओं के कार्यान्वयन हेतु राशि संबंधित लाभुक समिति के खाते में हस्तान्तरित करनी होगी।
8. योजनाओं के कार्यान्वयन पर्यवेक्षण कार्यान्वित एजेंसी सुनिश्चित करेंगे।
9. प्राक्कलन के अनुरूप योजना का कार्यान्वयन कार्यान्वयन कराने की जिम्मेवारी कार्यान्वयन एजेंसी की होगी।
10. योजनाओं की प्रगति के अनुरूप राशि की माँग अधोहस्ताक्षरी से की जाएगी।
11. योजनाओं का वित्तीय एवं भौतिक प्रगति प्रतिवेदन प्रत्येक माह के दूसरी तारीख तक अधोहस्ताक्षरी के कार्यालय को निश्चित रूप से देना होगा।
12. योजना के कार्यान्वयन में किसी प्रकार की राशि की अनियमितता एवं गुणवत्ता के अनुरूप नहीं पाये जाने पर कार्यान्वयन एजेंसी/स्वयं सेवी संस्था की सारी जवाबदेही होगी तथा नियमानुसार कार्रवाई की जाएगी।
13. अकैक्षण दल द्वारा पृच्छा करने पर उसका अनुपालन करना सुनिश्चित करेंगे।

परियोजना पदाधिकारी,  
मेसो क्षेत्र, गुमला।

**MEDIA COVERAGE**

**Appendix - IV**

**6**  
**JHARKHAND**  
**THE TELEGRAPH CALCUTTA MONDAY 11 JUNE 2012**

**SANDS**

**Sandbags check rivulet water to turn parched fields green in Gumla village**

## A dam idea that changed lives

**SANTOSH K. KIRO**

Ranchi, June 10: Some 550 sandbags, a day of labour by 300 villagers and a check dam's ready for optimum irrigation. Result: green vegetables and rabi crop on parched land.

For farmers of Gumla—a small hamlet in Ghaghra block of Gumla district—prosperity has required only an innovative idea and not crores of rupees. All that villagers did was fill up empty cement sacks with sand and build temporary barriers on Mahasara—a small rivulet that runs by Gumla—showing to the rest of the world how vast arid swathes can go green if there is will.

The inspiration to raise the temporary check dams came from scientists of Krishi Vigyan Kendra in Mahasara, established by Indian Council of Agricultural Research, and Vikas Bharati Bishnupur, an NGO working with villagers in the district.

"We have set up check dams at eight different points on Mahasara with the help of sandbags. We have already grown wheat in January-February and now, nearly 40 farmers have cultivated vegetables on an arund 56 hectares of land with the help of water from these check dams," said 75-year-old resident Soma Biswas, who also happens to be the traditional tribal chief of Gumla.

Villagers in 500-odd households on the banks of the 300-metre wide Mahasara had never imagined that the water of this seasonal rivulet, which normally dries up by January, could help them grow vegetables in April-May. They had no option but to leave their lands empty after kharif crop, waiting for the monsoon to arrive.

But, the Krishi Vigyan Kendra, which functions from the premises of Vikas Bharati Bishnupur under its National Initiative on Climate Resilient Agriculture project decided to develop a method to help farmers cultivate even during the dry season (after January).

In early December last year, the idea of setting up temporary check dams dawned collectively on the scientists of Krishi Vigyan Kendra, members of Vikas Bharati Bishnupur as well as villagers and it took only eight days to build the eight check dams on Mahasara.

"We bought empty cement sacks at Rs 2 each, filled them with sand and put them one after another for about 100 metres into the rivulet. Each check dam was ready for use within a day," said Sarjay Kumar, an agronomy scientist and programme co-ordinator at Krishi Vigyan Kendra in Gumla.

Like most rivers in Jharkhand, Mahasara is a seasonal rivulet and its flow decreases in November-December. It was during this time that villagers raised the check dams. The first was ready on December 18 last year.

"During monsoon, the sandbags will be carried away by the waters. But, after the rains when the current of the rivulet is less, we can once again set up check dams," Vijay Oraon, a farmer.

The innovative irrigation idea may find resonance in other villages by the end of this year. "The sandbag check dam has been a success in Gumla village and we will now want the same to work in other villages too. A small idea can go a long way in contributing towards food security in the state," summed up Ashok Bhagat, a social activist and secretary of Vikas Bharati Bishnupur.




Residents of Gumla build a temporary barrier with sandbags on the rivulet in December last year and a paddy grower in the village. Telegraph photo

3

हिन्दुस्तान

रावै • कुश्वाड़ा • 21 मार्च 2013

**कृषि विज्ञान केंद्र के प्रयास और निकरा परियोजना की पहल से जागरूक हुए किसान, मसरिया नदी पर बनाया बांध**

## घाघरा के बुरुहू में 120 एकड़ में लहलहा रही गेहूं की फसल

**मुजफ्फर | प्रतिनिधि**

निकरा कृषि विज्ञान केंद्र मुजफ्फर द्वारा संचालित परियोजना अंतर्गत समुदाय-आधारित कृषि पर राष्ट्रीय पहल (निकरा) अंतर्गत प्रथम बुरुहू में कुश्वाड़ा को गेहूं दिवार का आयोजन किया गया। इसमें मुजफ्फर, नरपटोली, बुरुहू और बेलगाड़ा के करीब 350 किसानों ने भाग लिया।

बरीर मुश्क अतिथि सीटों की पूर्ण उपाय ने करीब 120 एकड़ में गेहूं की खड़ी फसल को देख कर किसान कृषि विज्ञान केंद्र द्वारा किए जा रहे प्रयास से सदा हू। किले में पानी का सही इस्तेमाल करने में गेहूं की एक जलक इकट्टी होती देखी है। उन्होंने इस प्रकार के प्रयास के लिए किए गए संस्थान प्रबंध के प्रति लोगों में जागरूकता



गेहूं के खेतों की फसल। • हिन्दुस्तान

रावै के लिए केंद्र के प्रयासों को सराहना की। सीटों से निकरा परियोजना के तहत किसान न्याय, प्रभु, चरवा और पंच उपाय के खेत में जलक सीटों को देखा और समझा। इस जागरूकता के समन्वयक डॉ. संजय ने बताया कि यह सदा संभव हो पाए है केवल पानी के लिए उचित प्रबंधन की दिशा में किसानों के अपने और उनके अल्पक समर्थित आधारित प्रयास के चलते। किसान बारीक नदी



कुश्वाड़ा को कृषि विज्ञान केंद्र में किसानों को संचालित करते सीटों और उपस्थित कृषि वैज्ञानिक। • हिन्दुस्तान

पर रेत से बांध बनाकर करीब 2500 मीटर लंबाई की सड़क कर पानी को समझकर दूर कर यह जल दिया है कि कुछ भी आसपास नहीं है। कार्यक्रम में किसान, वैज्ञानिक और प्रशासन ने संयुक्त रूप से सीटों का अर्थ देखा। मौके पर आर्या निदेशक पंडित कुमर, प्रबंध कृषि

परिष्कारिता विकास भारती के प्रबंध भारती, तकनीकी प्रबंध प्रबंधक इंद्र प्रकाश पांडे, नीरज कुमर, सहान अतिथि मौजूद थे।

**TIMES CITY**

# Wheat farming debut in Gumla

TIMES NEWS NETWORK

**Burhat Gumla:** Toeing the line of Haryana and Punjab, farmers from four villages in Ghaghra block here have started cultivating wheat in continuous plots, 26 km off the district town of Gumla. A small canal of Masariya dam is providing water for the fields. Technical and other support is coming from the Krishi Vigyan Kendra (KVK)-Bishunpur.

About 150 farmers from Belagada, Burhu, Gonin and Jagratoli have taken up farming in 100 hectares of land while the KVK and Vikas Bharti is lending support under the National Initiative on Climate Resilient Agriculture (NICRA) of the Indian Council of Agricultural Research (ICAR).

"We have cultivated wheat with full concentration for the first time here and expect a good harvest too," said Prabhu Bhagat, a farmer from Belagada village whose 2.50 acres plot is being cultivated for wheat.

Wheat Day was also observed by the farmers from the aforesaid villages un-



Officials inspect a wheat field at Belagada village in Gumla.

der the aegis of the KVK to promote mechanized and scientific farming among them.

Agro scientist Sanjay Pandey shed light on the NICRA and new farm method requiring less water and short cultivation period-seeds, besides underlining the role of the KVK.

Other scientists like Nijraj Kumar Vaishya, AB Tiwari, Rahul and Niranjan also played their part in developing the areas under cultivation.

EDC Pansal Dragan hailed the farmers' role in bringing greenery in wheat farming while associating themselves with agro-scientists of the KVK.

He added farmers have a great role in producing grains for the country.

रांची, 21 मार्च 2013

## गुमला जागरण

### निकरा परियोजना से आई गेहूं क्रांति : पुनई

**गुमला :** जिला कृषि विज्ञान केन्द्र बिसुनपुर द्वारा संचालित जलवायु समुत्पन्नशील कृषि विषय पर बुरहू गांव में गेहूँ दिवस का आयोजन किया गया। उपस्थित किसानों को संबोधित करते हुए, उप विकास आयुक्त पुनई उरांव ने कहा कि निकरा परियोजना के तहत किसानों द्वारा की गई खेती से गेहूँ क्रांति आ गई है। कहा कि गांव में किसानों द्वारा एक स्थान पर काफी भू क्षेत्र में गेहूँ की फसल उन्होंने इस क्षेत्र में पहले नहीं देखी थी।

उन्होंने कृषि कार्य के लिए कृषि विज्ञान केन्द्र के अधिकारियों द्वारा किसानों को प्रेरित करने के कार्य की सराहना की। उप विकास आयुक्त ने निकरा परियोजना के तहत किसान नारायण, प्रभु, चरवा एवं चंदा उरांव द्वारा किए गई खेती का स्वल निरीक्षण किया एवं काफी प्रभावित हुए। इस अवसर पर केन्द्र के समन्वयक डॉ. संजय पांडेय, मोहित कुमार, महेंद्र भगत, चंद्र प्रताप पांडेय, नीरज कुमार, शिला कुमारी सहित काफी किसान उपस्थित थे।

**हिन्दुस्तान** • रांची • मंगलवार • 05 मार्च 2013

4

**हलचल**



सोमवार को मसरिया नहर की साफ-सफाई करते ग्रामीण। • हिन्दुस्तान

### ग्रामीणों ने मसरिया नहर की सफाई की

**गुमला।** बेलागड़ा में कृषि प्रदर्शनी गुमला और विकास भारती द्वारा संचालित निकरा परियोजना के तहत सोमवार को मसरिया नहर की सफाई की गई। किसानों के सहयोग से 1500 मीटर नहर की सफाई हुई। नहर में घास और अन्य अवरोध के कारण फसल के लिए समुचित जलापूर्ति नहीं हो रही थी। नहर की सफाई होने से लगभग सौ एकड़ भूमि सिंचित होगी। मौके पर वैज्ञानिक अटल बिहारी तिवारी के साथ ग्रामीण जीतराम उरांव, राम किशुन भगत, सिद्धेश्वर उरांव, विष्णु उरांव ने इस कार्य में सराहनीय भूमिका निभाई और प्राकृतिक संसाधनों के उपयोग के गुर सीखे।

राजी, सोमवार  
4 मार्च, 2013

06

प्रभात खबर

गुमला-सिमडेगा

## श्रमदान कर नहर की सफाई की

**घाघरा ■** कृषि विज्ञान केंद्र गुमला व विकास भारती बिशुनपुर के सहयोग से निकरा परियोजना के तहत बेलागड़ा गांव के ग्रामीणों ने श्रमदान कर मसरिया नहर की सफाई की. गांव के किसानों ने 1500 मीटर नहर की सफाई की. नहर में घास व अन्य



सफाई अभियान में शामिल ग्रामीण. फोटो | प्रभात खबर

पौधों के उग जाने से नहर से जलापूर्ति नहीं हो रही थी. 1500 मीटर नहर से सफाई होने से करीब एक सौ एकड़ खेतों में पानी आसानी से पहुंचे. मौके पर कृषि वैज्ञानिक अटल बिहारी तिवारी, किसान प्रभु उरांव, जितराम उरांव, रामकिशुन भगत, सिद्धेश्वर उरांव, विष्णु उरांव, लोदरो भगत, सनिया उरांव, इंदुवा उरांव गठित बढी संख्या में ग्रामीणों ने श्रमदान किया.

प्रभात खबर

गुमला

राजी, सोमवार, 22 अक्टूबर, 2012 07

## श्रमदान कर रेत बांध का निर्माण किया

तीस हेक्टेयर में लगी धान की फसल बरबाद होने से बचेगी

प्रतिनिधि ■ गुमला

घाघरा प्रखंड स्थित मुनिया गांव में मसरिया नदी पर श्रमदान कर ग्रामीणों ने 25 मीटर रेत बांध का निर्माण कर दिया. इस कार्य में गांव के लगभग 50 ग्रामीण सुबह से लगे हुए थे.

यह कार्यक्रम कृषि विज्ञान केंद्र गुमला के सहायक निदेशक के सहयोग से तैयार किया गया है. इस बांध के निर्माण से गांव में तीस हेक्टेयर में लगी धान की फसल की बरबाद होने से बचाया जा सकता है. रबी फसल के लिए भी यह पानी उपयुक्त होगा. जल संचयन से जल संचयन की नीचे जाने से बचाया जा सकता है.

उल्लेखनीय है कि गत वर्ष मसरिया नदी पर एक सौ मीटर बीस अंजी बांध श्रमदान से किया गया था. इसका परिणाम यह रहा कि करीब 50 हेक्टेयर जमीन पर गेहू की फसल लगायी गयी. ग्रामीण बांध की उपयोगिता को देखकर कर अटल स्वामी पर इस तरह के बांध बनाने.



श्रमदान करते लोग.

फोटो | प्रभात खबर

इसमें मन्का, गरमा धान व सब्जी की खेती कर आय के स्रोत का सृजन किया. इस क्षेत्र के ग्रामीणों में खेती के प्रति जागरूकता देखी जा रही है.

इस मौके पर केंद्र के वैज्ञानिक सुनील कुमार, अमल शिवरी, नीरज कुमार शेरव, डॉ राजेश पंडित, सहित ग्रामीणों में सोमा भगत, उप मुखिया मुकेश उरांव, रंजीत उरांव, मुनिया उरांव,

सुरका उरांव, नारायण उरांव, साधव उरांव, साधर उरांव, बंधन उरांव, जगन्नाथ उरांव आदि ग्रामीणों ने श्रमदान किया.

इस संबंध में केंद्र के कार्यक्रम समन्वयक डॉ राजेश कुमार ने बताया कि निकरा परियोजना के उद्देश्यों को लेकर ग्रामीणों का सहयोग मिल रहा है. अब लोग खेती की महत्व की समझ रहे हैं.

4 | दैनिक जागरण रांची, 30 जून 2012

## महामारी रोकने में केविके का रहा योगदान



**बिरुनपुर में बीमार पशुओं का टीकाकरण करते विज्ञानकार**

गुमला, सोनभद्रा : बिरुनपुर प्रखंड में पशुओं की निरत हो रही मौत पर रोक के लिए कृषि विज्ञान केन्द्र द्वारा सफल प्रयास किया गया। प्रखंड के तहत बीमार पशुओं का टीकाकरण एवं किसानों को पशु की देखभाल के तरीकों की जानकारी दी गई।

चार टीकों का सहज कार अलग-अलग मोटों में बल्बक पैमाने पर टीकाकरण अधिकांश प्रभाव्य गया है।

जिला कृषि विज्ञान केन्द्र के सहायक ड्रा सहाय कुमार ने बताया कि बिरुनपुर के कई गांवों में 24 जून से पशुओं को मौत आरंभ बीमारों में होने लगी थी। यहाँ 25 जून को पशुओं की मौत सबसे अधिक

हुई। इसके बाद क्षेत्र के हकजान, कुमारी, निचरी, गोबर, गेलु, जमरी, सोरठा, तालकावा, बरिया जहाँ गांवों तक प्रथम कर पशुओं में टीका करण किया गया। उन्होंने बताया कि अब तक पूरे क्षेत्र में 2266 पशुओं में टीका करण किया गया है। उन्होंने पशुमालकों से अपील की है कि अपने पशु को घरे में टांग विकारण। पहले के लिए नहीं छोड़े और टीका अवश्य करावाएँ। उन्होंने कहा कि बरतल में घोसम का उपमान में अभावक निषेध और जहाँ बचने के कारण तब गहूडा बीम का विकार पशुओं के मृत्यु का कारण हो सकता है।

गुमला दैनिक भास्कर

## कैंप लगाकर बीमार पशुओं का हो रहा टीकाकरण

पंचायतों में सात जुलाई तक चलेगा टीकाकरण

भास्कर नगर | बिरुनपुर



बिरुनपुर प्रखंड के बरतल क्षेत्र में पशु महामारी से निपटने के लिए विशेष लगाकर पशुओं का टीकाकरण किया जा रहा है। इस संघर्ष में कृषि विज्ञान केन्द्र, गुमला विकास भारती ये टीप गठित कर मास कैप लगाते आरंभ कर दिया है। चार अलग अलग टीप बल्बक पैमानों की टीप गांव में बीमार पशुओं का टीकाकरण कर रही है। वैज्ञानिकों की सलाह के कारण पशुओं को मृत्युदर तक गया।

केन्द्र के सहायक डॉक्टर संजय पांडेय, डॉक्टर निरजन कुमार, सहाय कुमार, जीतेश्वर जॉय व भारतीय किसान मोर्चा के उपस्थित धिपारी भाग के नेतृत्व में प्रभावित क्षेत्रों में कैप लगाकर टीकाकरण दिया जा रहा है। इससे ग्रामीणों में उल्लास भी रहता ही है। पशु वैज्ञानिक निरजन कुमार ने बताया कि बरतल के बाद अत्यान्त तापमान व उदरद धरने के कारण मृत्युदर में वृद्धि हुई थी।

महान के पके हुए फल का विकल्प खाने से पशुओं की स्थिति और भी मजबूत होती चली गई। पशुओं में मृत्यु का मुख्य कारण का यह लगने हुए पशुओं का खून, गोबर, फसल का नमूदा लेकर

जहाँ हेतु स्वाम स्वीक रिपॉर् सेक्टर रांची भेजा गया है। जब तक जॉय रिपोर्ट नहीं आती है तब तक किसान पशुओं को खाने में घरे के लिए नहीं छोड़ें। बीमारों का टीकाकरण हर हाल में करावे और हुए जानवर को जमीन में गाड़ दें। वैज्ञानिकों द्वारा हकजान, कुमारी, निचरी, सोरठोला, जमरी, बाराहा, तालकावा, बरिया आदि गांवों का घमण कर मृत्यु का जायज लेने हुए निरीक्षणय सुविधा उपलब्ध कराएँ।



पर्यावरण दिवस पर किसानों के बीच पौधा का वितरण करते डा. संजय।

## सहजन का एक पौधा अवश्य लगाएं : डा. संजय

गुमला, निज संचाददाता : विश्व पर्यावरण दिवस के अवसर पर जिला कृषि विज्ञान केन्द्र द्वारा प्राथम प्रखंड के गुनिया गांव में कार्यक्रम का आयोजन किया गया। इस अवसर पर उपस्थित ग्रामीणों को संबोधित करते हुए कृषि विज्ञान केन्द्र के कार्यक्रम समन्वयक डा. संजय कुमार ने सभी ग्रामीणों से सहजन का एक पौधा अवश्य लगाने की अपील की। उन्होंने कहा कि पर्यावरण को संतुलित बनाए रखने के लिए पौधा लगाना आज की जरूरत हो गई है। भारतीय कृषि अनुसंधान परिषद नई दिल्ली के द्वारा संपादित परिषदजना के अंतर्गत किसानों को सहजन का पौधा लगाने का आह्वान किया गया है। केन्द्र की शीला कुमारी ने महिलाओं को सहजन की डाली देकर उसे लगाने के बारे में जानकारी दी। इस अवसर पर काफी ग्रामीण उपस्थित थे। यहाँ दूसरी और प्राथम प्रखंड के ही खडिया गांव में आयोजित कार्यक्रम में कल्याणकारी मानव विकास संस्थान के सचिव अनिरुद्ध चौबे ने कहा कि पौधा पर्यावरण संरक्षण के सर्वश्रेष्ठ माध्यम होते हैं। फलदार वृक्ष लगाने से भविष्य में उससे लाभ भी अर्जित किया जा सकता है। इस अवसर पर विजय डगंग, चक्रु साहू, लालदेव साहू, खूदी साहू, महाबीर साहू सहित काफी किसान उपस्थित थे।