

No. DST/TM/WTI/WIC/2K17/93(C)  
 Government of India  
 Ministry of Science & Technology  
 Department of Science & Technology  
 TMD (Energy, Water & Others)

Technology Bhavan, New Delhi  
 Dated: 11.03.2019

Sanction Order

Subject: Financial support for project entitled "North Indian Centre for Water Technology Research in Agriculture" submitted by Dr. Ajmer Singh Brar, Punjab Agricultural University, Ludhiana

Sanction of the President is hereby accorded to the approval of the above mentioned project at a total cost Rs. 5,37,70,651/- (Rupees Five crore thirty seven lakh seventy thousand six hundred fifty one only), to Punjab Agricultural University, Ludhiana for a duration of 5 years. The detailed breakup of the grant for Capital and General Components are given below:

General Component: Rs. 4,40,31,840/-

Capital Component: Rs. 97,38,811/-

A. Budget outlay :

SNo	Item	Amount in (Lakhs)					Total
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	
A	i. Capital-Equipment						
	a) PAU, Ludhiana						
	a). Lysimeter (4 No's) (pg.111/c)	25.96000	-	-	-	-	25.96000
	b). Sunscan Plant Canopy Analyzer (pg.114/c)	5.91000	-	-	-	-	5.91000
	c). Chlorophyll meters (pg.123/c)	4.78289	-	-	-	-	4.78289
	d). Portable Plant Stress Kit (pg.118/c)	6.82422	-	-	-	-	6.82422
	e). 50 KVA Generator (pg.136/c)	4.31000	-	-	-	-	4.31000
	f). Air conditioner (pg.174/c)	-	-	-	-	-	-
	h). pH and redox meter assembly (pg.121/c)	1.35800	-	-	-	-	1.35800
	k). Work station (IT's) (pg.117/c)	2.85500	-	-	-	-	2.85500
	m). Civil work (pg.174/c)	-	-	-	-	-	-
	n). Printer (pg.112/c)	2.77600	-	-	-	-	2.77600
	q). Small tractor (15-20 HP) etc (pg.129/c)	2.65000	-	-	-	-	2.65000
	<b>Sub-total</b>	<b>57.42611</b>					<b>57.42611</b>
	b). ICAR-CSSRI, Karnal						
	a). Bore drilling for tubewell (pg.175/c)	0.35000	-	-	-	-	0.35000

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c) Micro irrigation researchable units (pg. 147/c)	1.41752					1.41752
<b>Sub-Total</b>	<b>5.00000</b>					<b>5.00000</b>
<b>e). SKUAST -J, Jammu</b>						99900
a). Soil core sampler and soil moisture, temperature & conductivity meters (pg. 170/c)	1.99900					0.23700
b). Demonstration/maintenance charges (pg. 178/c)	0.23700					0.42500
c). Microtek Online UPS 2KVA (pg. 171/c)	0.42500					0.79200
d). SMF Battery 100AH (pg. 169/c)	0.79200					0.58500
e). Hitachi AC 1.5 ton (temperature control system), five star, expandable inverter technology (pg. 178/c)	0.58500					0.07200
f). Automatic voltage stabilizer (pg. 178/c)	0.07200					0.66000
g). HP All in One Desktop, 8th generation, 4GB RAM, 1TB Hard disk (pg. 178/c)	0.66000					0.06000
h). Microtek computer UPS (pg. 178/c)	0.06000					0.17000
i). Brother fax, copier, printer coloured printer (pg. 178/c)	0.17000					
<b>Sub-total</b>	<b>5.00000</b>					
<b>Total - Capital</b>	<b>97,38811</b>					<b>97,38811</b>

1.00000	<b>Manpower:</b>						
	<b>a) PAU, Ludhiana</b>						
	a). JRF No.s 3 - @ Rs. 31,000/- + 18% HRA and SRF No.s 4 - @ Rs. 35,000/- + 18% HRA	12.94580	12.94580	14.61600	14.61600	14.61600	69.73920
	b). 5 no.s Field Worker/Helper @Rs. 15,000/- pm	9.00000	9.00000	9.00000	9.00000	9.00000	45.00000
	<b>b). ICAR-CSSRI, Karnal</b>						
	a). JRF No.s 1 - @ Rs. 31,000/- + 8% HRA and SRF No.s 1 - @ Rs. 35,000/- + 8% HRA	4.01760	4.01760	4.53600	4.53600	4.53600	21.60000
	b). 2 Field Worker/Helper @ Rs. 15,000/- pm	3.60000	3.60000	3.60000	3.60000	3.60000	18.00000
	<b>c). WTC-IARI, New Delhi</b>						

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	a). JRF No.s 1 - @ Rs. 31,000/- + 24% HRA and SRF No.s 1 - @ Rs. 35,000/- + 24% HRA	4.61280	4.61280	5.20800	5.20800	5.20800	21.84320
	b). 3 Field Worker/Helper @Rs. 15,000/- pm	5.40000	5.40000	5.40000	5.40000	5.40000	27.00000
	d). HPKV, HP						
	a). JRF No.s 1 - @ Rs. 31,000/- + 8% HRA and SRF No.s 1 - @ Rs. 35,000/- + 8% HRA	4.01760	4.01760	4.53600	4.53600	4.53600	21.64320
	b). 2 Field Worker/Helper @Rs. 15,000/- pm	3.60000	3.60000	3.60000	3.60000	3.60000	18.00000
	e). SKUAST -J, Jammu						
	a). JRF No.s 1 - @ Rs. 31,000/- + 8% HRA and SRF No.s 1 - @ Rs. 35,000/- + 8% HRA	4.01760	4.01760	4.53600	4.53600	4.53600	21.64320
	b). 2 Field Worker/Helper @Rs. 15,000/- pm	3.60000	3.60000	3.60000	3.60000	3.60000	18.00000
	<b>Sub-total</b>	<b>54.81120</b>	<b>54.81120</b>	<b>58.63200</b>	<b>58.63200</b>	<b>58.63200</b>	<b>285.51840</b>
2.00000	<b>Travel</b>						
	a). PAU, Ludhiana	1.20000	1.00000	1.00000	1.00000	0.80000	5.00000
	b). ICAR-CSSRI, Karnal	0.30000	0.30000	0.30000	0.30000	0.30000	1.50000
	c). WTC-IARI, New Delhi	0.30000	0.30000	0.30000	0.30000	0.30000	1.50000
	d). HPKV, HP	0.10000	0.10000	0.10000	0.10000	0.10000	
	e). SKUAST -J, Jammu	0.10000	0.10000	0.10000	0.10000	0.10000	0.50000
	<b>Sub-total</b>	<b>2.00000</b>	<b>1.80000</b>	<b>1.80000</b>	<b>1.80000</b>	<b>1.60000</b>	<b>9.00000</b>
3.00000	<b>Contingencies</b>						
	a). PAU, Ludhiana	9.00000	3.00000	3.00000	3.00000	2.00000	20.00000
	b). ICAR-CSSRI, Karnal	2.25000	1.50000	0.50000	0.50000	0.25000	5.00000
	c). WTC-IARI, New Delhi	2.25000	1.50000	0.50000	0.50000	0.25000	5.00000
	d). HPKV, HP	0.75000	0.75000	0.50000	0.25000	0.25000	2.50000
	e). SKUAST -J, Jammu	0.75000	0.75000	0.50000	0.25000	0.25000	2.50000
	<b>Sub-total</b>	<b>15.00000</b>	<b>7.50000</b>	<b>5.00000</b>	<b>4.50000</b>	<b>3.00000</b>	<b>35.00000</b>
4.00000	<b>Consumables</b>						
	a). PAU, Ludhiana	18.00000	12.00000	10.00000	10.00000	10.00000	60.00000
	b). ICAR-CSSRI, Karnal	4.50000	1.50000	1.50000	1.50000	1.00000	10.00000
	c). WTC-IARI, New Delhi	4.50000	1.50000	1.50000	1.50000	1.00000	10.00000
	d). HPKV, HP	1.50000	1.50000	1.00000	1.00000	0.40000	5.40000
	e). SKUAST -J, Jammu	1.50000	1.50000	1.00000	1.00000	0.40000	5.40000
	<b>Sub-total</b>	<b>30.00000</b>	<b>18.00000</b>	<b>15.00000</b>	<b>15.00000</b>	<b>12.80000</b>	<b>90.80000</b>
6.00000	<b>Overhead</b>						
	a). PAU, Ludhiana	1.80000	1.80000	1.80000	1.80000	1.80000	9.00000
	b). ICAR-CSSRI, Karnal	0.60000	0.60000	0.60000	0.60000	0.60000	3.00000
	c). WTC-IARI, New Delhi	0.60000	0.60000	0.60000	0.60000	0.60000	3.00000
	d). HPKV, HP	0.50000	0.50000	0.50000	0.50000	0.50000	2.50000
	e). SKUAST -J, Jammu	0.50000	0.50000	0.50000	0.50000	0.50000	2.50000

24.8496

51.84

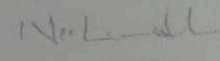
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highlighted/acknowledged in their media releases as well as in bold letters in the opening paragraph of their Annual Report.

17. It is important that the information and knowledge generated through the use of these funds are made publicly available as soon as possible. In order to achieve the aforementioned objectives, each institution is encouraged to set up its own inter-operable institutional open access repository ("IR") for its research papers and review articles published in peer reviewed journals. The Ministry of Science and Technology has set up a central harvester ([www.sciencecentral.in](http://www.sciencecentral.in)) that will harvest the full text and metadata of these publications. Kindly update the findings accordingly.

18. The organization named to **Punjab Agricultural University, Ludhiana** and partnering institutes agrees to make reservations for Scheduled Castes and Scheduled Tribes or OBC in the posts or services under its control on the lines indicated by the Government of India.

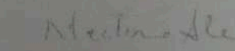
19. This issues with the concurrence of IFD Vide their Concurrence Dy. No.5821, dated.11.03.2019

  
(Dr.  
Neelima Alam)  
Scientist-E

To  
The Pay and Accounts Officer, DST, New Delhi.

Copy for information and necessary action to:

1. Cash Section (3 copies) for preparing the bill and remitting the amount to the above grantee.
2. Accounts Section, DST, New Delhi.
3. IFD, Department of Science & Technology, New Delhi.
4. Director of Audit (CW & M-II), AGCR Building, IP Estate, New Delhi.
5. **Dr. Ajmer Singh Brar**  
Punjab Agricultural University  
Ludhiana, Punjab  
**E-mail: [braras@pau.edu](mailto:braras@pau.edu)**
6. Sanction folder
7. Office Copy
8. Head- TMD (E,W&Others)

  
(Dr. Neelima Alam)  
Scie. #

No. BT/PR28199/AGII/103/990/2018  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi - 110 003  
Dated: 28.02.2019

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "Simulation of leaf curl disease dynamics in chilli for strategic management options" for a period of 3 Year 0 Month at a total cost of Rs. 15624440 (Rupees One Crores Fifty Six Lakhs Twenty Four Thousand Four Hundred and Fourty Only) on the terms and conditions detailed here under:-

**2 The Project :**

**2.1 Title :** Simulation of leaf curl disease dynamics in chilli for strategic management options

**2.2 Details of the Investigators:**

**Project Coordinator**

**Dr. Parimal Sinha**  
Division of Plant Pathology,  
Indian Agricultural Research Institute,  
New Delhi - 110012

**Principal Investigators:**

**Dr. Parimal Sinha**  
Division of Plant Pathology,  
Indian Agricultural Research Institute,  
New Delhi - 110012

**Dr. Kuldeep Singh Jadon**  
CAZRI, Jodhpur

**Dr. B. Mahesha,**  
IIHR, Bengaluru

**Dr. K Sireesha**  
YSRHU, AP Centre

**CO-PI:**

**Dr. Amalendu Ghosh,**  
Indian Agricultural Research Institute, New Delhi

**Dr. Bikash Mandal,**  
Indian Agricultural Research Institute, New Delhi

**Dr. Sandeep Mandal,**  
World Development Foundation, New Delhi

*Parimal Sinha*  
Dr. Parimal Sinha  
Principal Investigator  
Division of Plant Pathology  
Indian Agricultural Research Institute  
New Delhi - 110012 (India)

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### 2.3 Objectives:

1. To establish leaf curl disease and vector population dynamics in chilli in to four agro-ecosystems IARI, New Delhi, CAZRI, IIHR, and AP.
2. Seasonal prediction of victor abundance based on autoecological parameters with temperature effect for two locations.
3. To predict seasonal vector abundance based on autoecological and weather parameters.

### 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

### 2.5 Project Cost:

The total cost of the project is Rs. 15624440/- (Rupees One Crores Fifty Six Lakhs Twenty Four Thousand Four Hundred and Fourty Only) as per details given below:

#### A. Dr. Parimal Sinha, IARI, New Delhi

Head	Year I	Year II	Year III	Total (Rs. In lakhs)
Equipment	11.97	0.00	0.00	11.97
Manpower	11.0256	11.0256	12.216	34.2672
Consumables	4.00	6.00	3.00	13.00
Travel	2.00	2.00	1.00	5.00
Contingency	0.50	0.50	0.50	1.50
Overhead	1.00	1.00	1.00	3.00
Total	30.4956	20.5256	17.716	68.7372

#### B. Dr. Kuldeep Singh Jadon, CAZRI, Jodhpur

Head	Year I	Year II	Year III	Total (Rs. In lakhs)
Manpower	4.3152	4.3152	4.872	13.5024
Consumables	2.00	4.00	4.00	10.00
Travel	2.00	1.00	0.00	3.00
Contingency	0.50	0.50	0.50	1.50
overhead	0.50	0.50	0.50	1.50
Total	9.3152	10.3152	9.872	29.5024

#### C. Dr. B. Mahesha, IIHR, Bengaluru

Head	Year I	Year II	Year III	Total (Rs in lakhs)
Manpower	4.6128	4.6128	5.208	14.4336
Consumables	2.00	4.00	4.00	10.00
Travel	1.00	1.00	0.00	2.00
Contingency	0.50	0.50	0.50	1.50
overhead	0.50	0.50	0.50	1.50
Total	8.6128	10.6128	10.208	29.4336

#### D. Dr. K Sireesha, YSRHU, AP Centre

Head	Year I	Year II	Year III	Total (Rs. In lakhs)
Manpower	4.0176	4.0176	4.536	12.5712
Consumables	2.00	4.00	4.00	10.00
Travel	2.00	1.00	0.00	3.00
Contingency	0.50	0.50	0.50	1.50
overhead	0.50	0.50	0.50	1.50
Total	9.0176	10.0176	9.536	28.5712



Details of the manpower sanctioned for the implementation of the project entitled "Simulation of leaf curl disease dynamics in chilli for strategic management options":

Annexure -II

Head	No. of Position	Year I	Year II	Year III	Total (Rs. In lakhs)
<b>1. Indian Agricultural Research Institute, Pusa Campus, New Delhi</b>					
Junior Research Fellow (2) (Rs. 31000/-+24% HRA 1 <sup>st</sup> and 2 <sup>nd</sup> year Rs. 35000/- +24% HRA 3 <sup>rd</sup> year	2	9.2256	9.2256	10.416	28.8672
Project Assistant (Rs. 15000/- per month)	1	1.80	1.80	1.80	5.40
<b>2. CAZRI, Jodhpur</b>					
Junior Research Fellow (1) (Rs. 31000/-+16% HRA 1st and 2nd year Rs. 35000/- +16% HRA 3rd year	1	4.3152	4.3152	4.872	13.5024
<b>3. IIHR, Bengaluru</b>					
Junior Research Fellow (1) (Rs. 31000/-+24% HRA 1st and 2nd year Rs. 35000/- +24% HRA 3rd year	1	4.6128	4.6128	5.208	14.4336
<b>3. YSRHU, AP Centre</b>					
Junior Research Fellow (1) (Rs. 31000/-+8% HRA 1st and 2nd year Rs. 35000/- +8% HRA 3rd year	1	4.0176	4.0176	4.536	12.5712
<b>Total</b>		<b>23.9712</b>	<b>23.9712</b>	<b>26.832</b>	<b>74.7744</b>

*Sanjay Kalia*  
(Dr. Sanjay Kalia)  
Scientist 'E'

*Sanjay Kalia*  
Principal Scientist  
Division of Plant Pathology  
Indian Agricultural Research Institute,  
New Delhi - 110 012 (India)

No. BT/PR30887/BIC/101/1176/2018

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi- 110 003  
Dated: 17 / 3 / 2019

#### ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled: "**Chromosomal localization and fine mapping of Aegilops speltoides Tausch derived novel leaf rust resistance in bread wheat stock Selection 2427**" for a period of 3 Year 0 Month at a total cost of Rs. **5446794** (Rupees Fifty Four Lakhs Fourty Six Thousand Seven Hundred and Ninety Four Only) on the terms and conditions detailed here under:-

#### 2 The Project :

2.1 Title : "**Chromosomal localization and fine mapping of Aegilops speltoides Tausch derived novel leaf rust resistance in bread wheat stock Selection 2427**"

#### 2.2 Details of the Investigators:

**Dr. Niranjana Murukan**  
Scientist  
Division of Genetics  
Indian Agricultural Research  
Institute  
Room No. 32, Division of Genetics,

#### CO-PI:

**Dr. Vinod Vinod**  
Principal Scientist  
Genetics  
Indian Agricultural Research Institute, Pusa  
Campus, New Delhi  
Division of genetics, IARI, Pusa, New Delhi -  
110012, Delhi

#### 2.3 Objectives:

1. Cytogenetic localization and mapping of Ae. speltoides introgression(s) in Selection 2427 by GISH/FISH
2. Molecular mapping of gametocidal gene(s) using SSR and SNP markers
3. Elimination of gametocidal gene(s) in Selection 2427 by mutagenesis and induction of homeologous pairing and identification of best recombinants with high levels of leaf rust resistance lacking gametocidal activity
4. Development of high resolution map of leaf rust resistance (LrS2427) using PCR based markers from SNP genotyping in Selection 2427

#### 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.



### 2.5 Project Cost:

The total cost of the project is Rs. **5446794/-** (Rupees Fifty Four Lakhs Fourty Six Thousand Seven Hundred and Ninety Four Only) as per details given below :

Budget Head	Year I	Year II	Year III	Total(Rs.)
Equipment	1613136.00			<b>1613136.00</b>
Manpower	581280.00	581280.00	640800.00	<b>1803360.00</b>
Contingency	20000.00	20000.00	20000.00	<b>60000.00</b>
Consumables	191490.00	191490.00	600000.00	<b>982980.00</b>
Overhead	23149.00	23149.00	64000.00	<b>110298.00</b>
Travel	20000.00	20000.00	20000.00	<b>60000.00</b>
SNP based Whear Genotyping Array (100 samples) and Primer Designing (260 samples)	408510.00	408510.00		<b>817020.00</b>
<b>Total (Rs.)</b>	<b>2857565.00</b>	<b>1244429.00</b>	<b>1344800.00</b>	<b>5446794.00</b>

### 2.6 Equipment:

The details of the equipment sanctioned for the implementation of the project at **Annexure-I**

### 2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at **Annexure-II**

### 3. Head of Account:

The **Non-Recurring** expenditure involved is debitale to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.35	Grants for creation of capital assets

The **Recurring** expenditure involved is debitale to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.31	Grants-in-Aid General

**Copy to:**

- 1 The Principal Director of Audit (Scientific Departments), DACR Building, New Delhi- 110 002.
- 2 The Director, Indian Agricultural Research Institute, Pusa, New Delhi - 110012, Delhi
- 3 Dr. Niranjana Murukan, Scientist, Division of Genetics, Indian Agricultural Research Institute, Room No. 32, Division of Genetics, ICAR-Indian Agricultural Research Institute, Pusa, New Delhi - 110012, Delhi
- 4 Dr. Vinod Vinod, Principal Scientist, Genetics, Indian Agricultural Research Institute, Pusa Campus, New Delhi, Division of genetics, IARI, Pusa, New Delhi - 110012, Delhi
- 5 Cash Section, DBT (2 copies).
- 6 Sanction Folder.
- 7 File Copy.

**(Dr. Suraksha S. Diwan)**  
**Scientist 'E'**

BT/PR30865/KIS/123/5/2019  
Government of India  
Ministry of Science & Technology  
Department of Biotechnology

Block-2, 6-8<sup>th</sup> Floors,  
CGO Complex, Lodi Road,  
New Delhi – 110003

Dated: 27.02.2019

**ORDER**

Sanction of the President is hereby accorded under Rule 18 of the Delegation of Financial Powers Rules, 1978, for implementation of the Project entitled "Establishment of Biotech-KISAN Hub at Chitrakoot by ICAR-Indian Agricultural Research Institute, New Delhi" at a total cost of ₹ 152.83 lakhs (Rupees One crore Fifty Two lakhs Eighty Three thousand only) at ICAR-Indian Agricultural Research Institute, New Delhi on the terms and conditions detailed here under:

**2.0 The Project:**

**2.1 Title:** Establishment of Biotech-KISAN Hub at Chitrakoot (by ICAR-Indian Agricultural Research Institute, New Delhi)

**2.2 Investigator:**

**Name and Address of the Hub Facilitator:** Dr. J. P. Sharma  
Joint Director (Extension & Research), ICAR-Indian Agricultural Research Institute, New Delhi

**Name(s) and address(s) of the Principal Investigators and partner institutions:** Dr. Chandramani Tripathi  
Head, KVK, Chitrakoot, Ganiwan, P.O. Ganiwan Via Pahari,  
Chitrakoot – 210206

**2.3 Project Objectives:**

**AGRO-CLIMATIC ZONE: CENTRAL PLATEAU REGION**

**OBJECTIVES:**

The project intends to develop Biotech-KISAN Hub at Chitrakoot as the farmers of the region are perpetually ridden with poverty and malnutrition. In 2006 the Ministry of Panchayati Raj had named Chitrakoot one of the country's 250 most backward district (out of a total of 640). Now Chitrakoot is one the 101 aspirational districts identified by NITI Ayog in 2018. Biotech-KISAN Hub approach will provide impetus to the development of agriculture as well as strengthening of livelihood of farmers in Chitrakoot. The outcome of the project could be a model hub approach for development interventions in the challenged Bundelkhand region. The Hub will create a network by developing strong linkages with top quality scientific institutions like Indian Agricultural Research Institute, New Delhi; National centre for Integrated Pest management, New Delhi; Central Agro-forestry Research Institute, Jhansi; KVK, Chitrakoot, and KVK, Satna. Biotech-KISAN Hub will have a tinkering laboratory. The core activities of the Hub will include:

- Participatory diagnosis of problems of farmers through participatory rural appraisal, focus group discussions and household surveys;
- Scouting for available technologies and solutions to problems of farmers in the region;

## 2.6 Project Cost:

The year-wise estimated cost of the project is as under:

### Budget for Main KISAN Hub at Chitrakoot (by ICAR-IARI, New Delhi)

S. No.	Item	Amount (₹ in lakh)		
		Year I	Year II	Total
<b>A.</b>	<b>Nonrecurring</b>			
1.	Equipment Items	9.40	9.73	19.13
<b>B.</b>	<b>Recurring</b>			
1.	Recurring cost of tinkering laboratory	10.00	10.00	20.00
2.	Cost for implementing one activity at farmers level @ ₹ 2.50 lakhs for each activity (4 activities)	10.00	10.00	20.00
3.	Fellowship programmes for farmers (including special fellowships for women farmers)	6.00	6.00	12.00
4.	Travel Cost	2.00	2.00	4.00
5.	Farmers Training / Workshop / Awareness Programme / Kisan Meelas etc.	5.00	5.00	10.00
6.	Contingencies	1.00	1.00	2.00
7.	Communication Cell	3.00	3.00	6.00
<b>Total (A+B):</b>		<b>46.40</b>	<b>46.73</b>	<b>93.13</b>

### Budget for Partnering Institution (DRI, Chitrakoot)

S. No.	Item	Amount (₹ in lakh)		
		Year I	Year II	Total
<b>Recurring:</b>				
1.	Manpower (2 Nos. @₹ 25,000.00 per month)	6.00	6.00	12.00
2.	Consumables	1.00	1.00	2.00
3.	Travel	2.00	2.00	4.00
4.	Contingencies (Computer, printer, stationary)	1.50	1.50	3.00
5.	Training	8.00	8.00	16.00
<b>Total (A+B):</b>		<b>18.50</b>	<b>18.50</b>	<b>37.00</b>

### Budget for Farmers' Training Programme (DRI, Chitrakoot)

S. No.	Item	Amount (₹ in lakh)		
		Year I	Year II	Total
1.	Travel cost of farmers and trainers including exposure visits to demonstration farms (minimum 10 farmer trainees and 2 Scientists /Trainers)	2.50	2.50	5.00
2.	Training cost for each activity @₹ 50,000/- (minimum 4 activities to be included in the training programme)	5.00	5.00	10.00
3.	Contingencies (including stationaries, printing etc.)	0.50	0.50	1.00
<b>Total (A+B):</b>		<b>8.00</b>	<b>8.00</b>	<b>16.00</b>

### Budget for Scientists' Training Programme (ICAR-IARI, New Delhi)

S. No.	Item	Amount (₹ in lakh)		
		Year I	Year II	Total
1.	Honorarium for each Scientist Trainee @₹ 1,000/- per day for 5 days	0.25	0.25	0.50
2.	Travel cost of scientist trainees	1.00	1.00	2.00
3.	Training cost for activities in farm (@₹ 10,000/- each activity)	2.00	2.00	4.00
4.	Contingencies (including stationaries, printing etc.)	0.10	0.10	0.20
<b>Total (A+B):</b>		<b>3.35</b>	<b>3.35</b>	<b>6.70</b>

7. This issues under the powers delegated to this Department and with the concurrence of IFD, DBT, vide their SAN No. 102/IFD/SAN/4655/2018-2019 dated 27.02.2019.

*Mohd. Aslam.*

(Dr. Mohd. Aslam)  
Scientist 'G'

To,

The Pay & Accounts Officer,  
Department of Biotechnology,  
Ministry of Science & Technology,  
CGO Complex, Lodhi Road, New Delhi – 110003

**Copy to:**

1. The Director of Audit (Scientific Departments), AGCR Building, New Delhi—110002
2. Cash Section, DBT (2 copies)
3. IFD, DBT
4. Sanction Folder
5. Dr. J. P. Sharma, Joint Director (Extension & Research), ICAR-Indian Agricultural Research Institute, Pusa, New Delhi – 110012
6. The Director, ICAR-Indian Agricultural Research Institute, Pusa, New Delhi – 110012

*Mohd. Aslam.*

(Dr. Mohd. Aslam)  
Scientist 'G'

No. BT/PR23640/AGIII/103/1043/2018  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi- 110 003  
Dated:06/02/2019

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules ,1978 , for the implementation of the project entitled "**Global perspective of transcriptome, proteome and metabolome of root-knot nematode effectors conferring host specificity and host response to them during disease development**" for a period of 3 Year 0 Month at a total cost of Rs. **16465200** (Rupees One Crores Sixty Four Lakhs Sixty Five Thousand Two Hundred Only) on the terms and conditions detailed here under:-

**The Project :**

**2.1 Title :** Global perspective of transcriptome, proteome and metabolome of root-knot nematode effectors conferring host specificity and host response to them during disease development

**2.2 Details of the Investigators:**

**Project Cordinator**

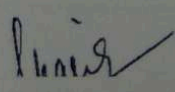
**Dr. Uma Rao**  
Principal Scientist, Department of Nematology  
Indian Agricultural Research Institute, New Delhi 110012

**Principal Investigators:**

**Dr. Uma Rao**  
Principal Scientist, Department of Nematology  
Indian Agricultural Research Institute, New Delhi-110012

**Dr. Ashok Prabhakar Giri**  
Principal Scientist  
Biochemical Sciences  
CSIR-National Chemical Laboratory  
Dr. Homi Bhabha Road  
Pune, Maharashtra-411008

**Prof. Manu Agarwal**  
PI  
Department of Botany  
University of Delhi, North Campus,  
Delhi-110007



**5 Project Cost:**

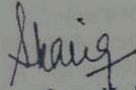
The total cost of the project is Rs. **16465200/-** (Rupees One Crores Sixty Four Lakhs Sixty Five Thousand Two Hundred Only) as per details given below:

Institute	Year I	Year II	Year III	Total Cost (Rs.)
1. IARI, New Delhi	2296000	2196000	2239600	<b>6731600</b>
2. National Chemical Laboratory	1540000	1240000	1286800	<b>4066800</b>
3. University of Delhi, North Campus	2940000	1340000	1386800	<b>5666800</b>
<b>Total (Rs.)</b>	<b>6776000</b>	<b>4776000</b>	<b>4913200</b>	<b>16465200</b>

Institute wise details are:

Budget Head	Year I	Year II	Year III	Total (Rs.)
<b>1. Indian Agricultural Research Institute</b>				
Manpower	996000.00	996000.00	1089600.00	<b>3081600.00</b>
Contingency	50000.00	50000.00	50000.00	<b>150000.00</b>
Travel	50000.00	50000.00	50000.00	<b>150000.00</b>
Consumables	1150000.00	1050000.00	1000000.00	<b>3200000.00</b>
Overhead	50000.00	50000.00	50000.00	<b>150000.00</b>
<b>Total (Rs.)</b>	<b>2296000.00</b>	<b>2196000.00</b>	<b>2239600.00</b>	<b>6731600.00</b>
<b>2. University of Delhi, North Campus</b>				
Equipment	1500000.00			<b>1500000.00</b>
Manpower	390000.00	390000.00	436800.00	<b>1216800.00</b>
Overhead	50000.00	50000.00	50000.00	<b>150000.00</b>
Contingency	50000.00	50000.00	50000.00	<b>150000.00</b>
Travel	50000.00	50000.00	50000.00	<b>150000.00</b>
Consumables	900000.00	800000.00	800000.00	<b>2500000.00</b>
<b>Total (Rs.)</b>	<b>2940000.00</b>	<b>1340000.00</b>	<b>1386800.00</b>	<b>5666800.00</b>
<b>3. National Chemical Laboratory</b>				
Equipment	300000.00			<b>300000.00</b>
Manpower	390000.00	390000.00	436800.00	<b>1216800.00</b>
Consumables	700000.00	700000.00	700000.00	<b>2100000.00</b>
Overhead	50000.00	50000.00	50000.00	<b>150000.00</b>
Contingency	50000.00	50000.00	50000.00	<b>150000.00</b>
Travel	50000.00	50000.00	50000.00	<b>150000.00</b>
<b>Total (Rs.)</b>	<b>1540000.00</b>	<b>1240000.00</b>	<b>1286800.00</b>	<b>4066800.00</b>

- 3 The Institute/Agency will keep the whole of the grant in a Bank Account earning interest, and the interest so earned should be reported to DBT in the Utilization Certificate and Statement of Expenditure. The Interest so earned will be treated as created to the institute/Agency and shall be adjusted towards further installment of the grant and or at the time of Final Settlement of Accounts.
5. No International Travel will be undertaken from the sanctioned project grant unless specified otherwise.
6. The Director, Indian Agricultural Research Institute, New Delhi, Delhi and The Director, National Chemical Laboratory, Pune, Maharashtra and The Registrar, University of Delhi, North Campus, Delhi, Delhi would be responsible for submission of Statements of Expenditure (SoE), utilization certificates (UC), Assets Certificates, Manpower staffing & expenditure details in prescribed DBT formats to DBT in respect of grants released in this project from time to time.
7. PI's of DBT sponsored projects can consider appointment of JRF from Category-II merit list of DBT-BET exam so that candidates can be paid fellowships at par with NET/GATE/BET qualified candidates as per DST OM No. A.SR/S9/Z-09/2012 dated 21 Oct 2014. However, there is no compulsion on PI's to select candidates for JRF in their projects from Category-II of DBT-BET.
8. As per Rule 236 (1) of GFR 2017, the accounts of all Grantee Institutions or Organizations shall be open to inspection by the sanctioning authority and audit, both by the Comptroller and Auditor General of India under the provision of CAG (DPC) Act 1971 and internal audit by the Principal Accounts Office of the Ministry or Department, whenever the Institution or Organizations is called upon to do so.
9. If the Research Project involves biological resources, the obligations under the Biological Diversity Act 2002 as applicable shall be complied with by the Project Investigator, the details of such obligations can be accessed at [www.nbaindia.org](http://www.nbaindia.org)
10. This issues, under the power delegated to this Department and with the concurrence of IFD vide their **SAN No.102/IFD/SAN/4314/2018-2019** dated **05/02/2019**.
11. This sanction order has been noted at serial no. 243 in the Register of Grants.

  
(Dr. Sanjay Kalia)  
Scientist 'E'



Agro/662 dt 13/8/18

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16/8/2018

No. BT/PR27680/BCE/8/1434/2018  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi- 110 003  
Dated:30.07.2018

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "Study on the changes in microbial community structure and function in organic farming vs. conventional farming" for a period of 3 Year 0 Month at a total cost of Rs. 7156800 (Rupees Seventy One Lakhs Fifty Six Thousand Eight Hundred Only) on the terms and conditions detailed here under:-

**The Project :**

2.1 Title : Study on the changes in microbial community structure and function in organic farming vs. conventional farming

2.2 Details of the Investigations:

**Project Coordinator**

**Dr. Shilpi Sharma**  
Associate Professor,  
Biochemical Engineering & Biotechnology,  
Indian Institute Of Technology, Hauz Khas,  
New Delhi - 110016, Delhi

**Principal Investigators:**

**Dr. Shilpi Sharma**  
Associate Professor,  
Biochemical Engineering & Biotechnology,  
Indian Institute Of Technology, Hauz  
Khas, New Delhi - 110016, Delhi

**Dr. Anil Choudhary**  
Senior Scientist,  
Department of Agronomy,  
Indian Agricultural Research Institute,  
Pusa Campus, New Delhi  
IARI, Pusa, Delhi - 110012

Submitted to office for n/o, please.  
13/8/18

(Anil Choudhary)  
Page No. (1 / 7)

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14/8

Forwarded to Director PMB (cell)  
for further necessary action.

### 2.3 Objectives:

#### Overall Objectives:

1. To assess the impact of organic and conventional farming on structure and function of microbial communities in rhizosphere of *Cajanus cajan* with focus on prevalence of antibiotic resistance genes

#### Institute wise Objectives:

##### Indian Agricultural Research Institute, Pusa Campus, New Delhi

1. To assess the influence of agricultural management practice (organic vs conventional) on plant physiological and agronomic parameters vis-à-vis nutrient dynamics in soil-plant system.

##### Indian Institute Of Technology, Delhi

1. To evaluate the impact of agricultural management practice (organic vs. conventional) on structural and functional diversity of microbial community diversity in plots under organic and conventional farming
2. To quantify the persistence of genes and transcripts associated with antibiotic resistance in soil in organic and conventional farming, with repeated treatments of manure and recommended dosage of fertilizers

### 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

### 2.5 Project Cost:

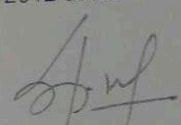
The total cost of the project is Rs. **7156800/-** (Rupees Seventy One Lakhs Fifty Six Thousand Eight Hundred Only) as per details given below:

Institute	Year I	Year II	Year III	Total Cost(Rs.)
1. Indian Agricultural Research Institute, Pusa Campus, New Delhi	915600	630000	644400	<b>2190000</b>
2. Indian Institute Of Technology, Delhi	2840000	1040000	1086800	<b>4966800</b>
<b>Total (Rs.)</b>	<b>3755600</b>	<b>1670000</b>	<b>1731200</b>	<b>7156800</b>

of the manpower sanctioned for the implementation of the project titled "Study on the roles in microbial community structure and function in organic farming vs. conventional farming":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
<b>1. Indian Agricultural Research Institute, Pusa Campus, New Delhi</b>					
<b>Project Attendant</b> @ Rs. 11500/- PM + 20% HRA for 1st year, Rs. 12500/- PM + 20 % HRA for 2nd & Rs. 13500/- PM + 20% HRA for 3rd year	1	165600.00	180000.00	194400.00	540000.00
<b>Total(Rs.)</b>		<b>165600.00</b>	<b>180000.00</b>	<b>194400.00</b>	<b>540000.00</b>
Emolument, educational qualification or eligibility criteria of Technical Assistant will be as per Indian Agricultural Research Institute norms					
<b>2. INDIAN INSTITUTE OF TECHNOLOGY, DELHI</b>					
<b>Junior Research Fellow</b> @ Rs. 25,000 pm + 30% HRA for 1st and 2nd year	1	390000.00	390000.00	436800.00	1216800.00
<b>Senior Research Fellow</b> @ Rs. 28,000 pm + 30% for 3rd year		390000.00	390000.00	436800.00	1216800.00
<b>Total(Rs.)</b>		<b>390000.00</b>	<b>390000.00</b>	<b>436800.00</b>	<b>1216800.00</b>

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No. SR/S9/Z-09/2012 dated 21.10.2014.

  
Dr. Onkar N Tiwari  
(Scientist 'E')

No. BT/PR27727/AGIII/103/989/2018  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi- 110 003  
Dated: 13.09.2018

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "Identification of QTL(s) for Fruit Quality Trait(s) in Mango (*Mangifera indica* L)" for a period of 3 Year 0 Month at a total cost of Rs. 7610800 (Rupees Seventy Six Lakhs Ten Thousand Eight Hundred Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : Identification of QTL(s) for Fruit Quality Trait(s) in Mango (*Mangifera indica* L)

2.2 Details of the Investigators:

Dr. Manish Srivastav  
Indian Agricultural Research Institute, Pusa  
New Delhi - 110012

CO-PI:

Dr. Sanjay Kumar Singh  
Head and Principal Scientist  
Division of Fruits & Horticultural Technology  
Indian Agricultural Research Institute, Pusa  
New Delhi - 110012

Dr. Nagendra Kumar Singh  
Director  
Functional Genomics  
National Research Centre On Plant Biotechnology  
New Delhi - 110012, Delhi

Dr. Nimisha Sharma  
Scientist  
Indian Agricultural Research Institute, Pusa  
New Delhi - 110012

Dr. Rakesh Singh  
Principal Scientist  
Division of Genomic Resources  
National Bureau of Plant Genetic Resources  
New Delhi - 110012, Delhi

2.3 Objectives:

1. QTL mapping for fruit quality trait(s) in mango.

2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

2.5 Project Cost:

The total cost of the project is Rs. 7610800/- (Rupees Seventy Six Lakhs Ten Thousand Eight Hundred Only) as per details given below

Budget Head	Year I	Year II	Year III	Total (Rs.)
Equipment	750000.00			750000.00
Manpower	1053600.00	1053600.00	1053600.00	3160800.00
Consumables	1500000.00	1000000.00	500000.00	3000000.00
Contingency	50000.00	50000.00	50000.00	150000.00
Overhead	200000.00	100000.00	100000.00	400000.00
Travel	50000.00	50000.00	50000.00	150000.00
Total (Rs.)	3603600.00	2253600.00	1753600.00	7610800.00

2.6 Equipment

The details of the equipment sanctioned for the implementation of the project at Annexure-I

2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at Annexure-II

3. Head of Account:

The Non-Recurring expenditure involved is debitable to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.35	Grants for creation of capital assets

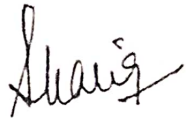
The Recurring expenditure involved is debitable to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.31	Grants-in-Aid General

Details of the manpower sanctioned for the implementation of the project titled "Identification of QTL(s) for Fruit Quality Trait(s) in Mango (*Mangifera indica* L)":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
Field Helper (Rs 15000/- consolidated)	1	180000.00	180000.00	180000.00	540000.00
Senior Research Fellow Rs. 28000/- +30% HRA	2	873600.00	873600.00	873600.00	2620800.00
<b>Total(Rs )</b>		<b>1053600.00</b>	<b>1053600.00</b>	<b>1053600.00</b>	<b>3160800.00</b>

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No.SR/S9/Z-09/2012 dated 21.10.2014.



Dr. Sanjay Kalia  
(Scientist 'E')

No. BT/PR25929/SPD/24/822/2017  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors  
CGO Complex, Lodhi Road,  
New Delhi- 110 003  
Dated: **03.10.2018**

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled: "**Skill Building in Nutrition Sensitive Agriculture (NSA) for Empowerment of Rural Women**" for a period of 3 Year 0 Month at a total cost of Rs. **5461222** (Rupees Fifty Four Lakhs Sixty One Thousand Two Hundred and Twenty Two Only) on the terms and conditions detailed here under:-

**2 The Project :**

**2.1 Title :** "**Skill Building in Nutrition Sensitive Agriculture (NSA) for Empowerment of Rural Women**"

**2.2 Details of the Investigators:**

**Dr. V Sangeetha**

Scientist  
Division of Agricultural Extension  
Indian Agricultural Research Institute  
IARI, PUSA campus, New Delhi-110012

**CO-PI:**

**Dr. Satya Priya**

Principal Scientist  
Division of Agriculture Extension  
Indian Agricultural Research Institute (IARI), Pusa Campus, New Delhi - 110012

**Dr. Premlata Singh**

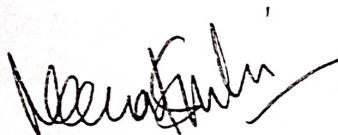
Head & Principal Scientist( School Co-ordinator, Social Sciences)  
Division of Agriculture Extension  
Indian Agricultural Research Institute (IARI), Pusa Campus, New Delhi - 110012

**Dr. Sudipta Paul**

Scientist  
Division of Agriculture Extension  
Indian Agricultural Research Institute (IARI), Pusa Campus, New Delhi - 110012

**Dr. Venkatesh P**

Scientist  
Division of Agriculture Extension  
Indian Agricultural Research Institute (IARI), Pusa Campus, New Delhi - 110012



### 2.3 Objectives:

1. To assess the gaps in skills and required competencies of rural women in nutrition sensitive agriculture
2. To demonstrate agri-nutri based interventions in operational areas to bridge the gaps in nutrition sensitive agriculture
3. To develop skills of rural women in nutrition sensitive agriculture for enhancing nutritional security
4. To study the impact of interventions and based on which innovative extension strategies will be suggested.

### 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

### 2.5 Project Cost:

The total cost of the project is Rs. **5461222/-** (Rupees Fifty Four Lakhs Sixty One Thousand Two Hundred and Twenty Two Only) as per details given below :

Budget Head	Year I	Year II	Year III	Total (Rs.)
Equipment	493822.00			493822.00
Manpower	880800.00	880800.00	880800.00	2642400.00
Consumables	50000.00	50000.00	50000.00	150000.00
Overhead	150000.00	150000.00	100000.00	400000.00
Travel	50000.00	50000.00	50000.00	150000.00
Contingency	50000.00	50000.00	25000.00	125000.00
Training & Demonstration	600000.00	600000.00	300000.00	1500000.00
<b>Total (Rs.)</b>	<b>2274622.00</b>	<b>1780800.00</b>	<b>1405800.00</b>	<b>5461222.00</b>

### 2.6 Equipment:

The details of the equipment sanctioned for the implementation of the project at **Annexure-I**

### 2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at **Annexure-II**

### 3. Head of Account:

The **Non-Recurring** expenditure involved is debitable to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.35	Grants for creation of capital assets

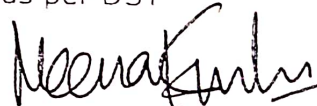


## Annexure -II

Details of the manpower sanctioned for the implementation of the project titled "Skill Building in Nutrition Sensitive Agriculture (NSA) for empowerment of Rural Women":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
Field Assistant Field Assistant (one) @Rs. 15,000 pm (fixed)	1	180000.00	180000.00	180000.00	540000.00
Project Assistant Project Assistant (one) @Rs. 22000/- pm (fixed)	1	264000.00	264000.00	264000.00	792000.00
Senior Research Fellow SRF - (One) @Rs. 28,000/- pm + 30% HRA	1	436800.00	436800.00	436800.00	1310400.00
<b>Total(Rs.)</b>		<b>880800.00</b>	<b>880800.00</b>	<b>880800.00</b>	<b>2642400.00</b>

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No.SR/S9/Z-09/2012 dated 21.10.2014.

  
(Dr. Meenakshi Munshi)  
Adviser/Scientist 'G'

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "Characterization, Race Profiling and Genetic Analysis of Wheat Powdery Mildew Pathogen (*Blumeria graminis* f. sp. tritici (DC) Speer (Syn. *Erysiphe graminis* DC f. sp. tritici) in India." for a period of 3 Year 0 Month at a total cost of Rs. 7063075 (Rupees Seventy Lakhs Sixty Three Thousand and Seventy Five Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : Characterization, Race Profiling and Genetic Analysis of Wheat Powdery Mildew Pathogen (*Blumeria graminis* f. sp. tritici (DC) Speer (Syn. *Erysiphe graminis* DC f. sp. tritici) in India.

2.2 Details of the Investigators:

Project Coordinator

Dr. P Nallathambi

Project Coordinator

Principal Scientist (Plant Pathology)

IARI Regional Station, Wellington - 643231

Tamilnadu,

Principal Investigators:

Dr. P Nallathambi

Principal Scientist (Plant Pathology)

IARI Regional Station, Wellington - 643231

Tamilnadu,

Dr. Saharan M S

Principal Scientist

Plant Pathology

DIRECTORATE OF WHEAT RESEARCH,

KARNAL, Box No 158, Shimla - 132001

Himachal Pradesh

Dr. Santosh Watpade

Scientist

Plant Pathology

Indian Agricultural Research Institute,

Shimla - 171001 Himachal Pradesh

CO-PI:

Dr. Vikas Gupta

Scientist

DIRECTORATE OF WHEAT RESEARCH, KARNAL, Box No 158,  
Shimla - 132001 Himachal Pradesh

Dr. Uma Maheswari C

Principal scientist

Plant Pathology

IARI Regional Station, Wellington - 643231 Tamilnadu

Dr. Jayaprakash P

Senior scientist

Plant Pathology

IARI Regional Station, Wellington - 643231 Tamilnadu

### 2.3 Overall Objectives:

1. Collection, conservation and phenotypic characterization of wheat powdery mildew (*Bgt-Blumeria graminis f. sp. tritici*) population from different agro-climatic zones of India.
2. Constitution of differential sets for the analysis of pathogenic variability, virulence pattern and designation of new races/pathotypes of *B. graminis f. sp. tritici*.
3. Generation of high quality genome sequences for the genetic analysis of elite virulent and avirulent races of *B. graminis f. sp. tritici* from India.
4. Shortlisting and validation of location specific *Bgt* races to use in seedling (SRT) tests in wheat against powdery mildew as model system in India.

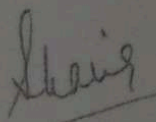
### 2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

### 2.5 Project Cost:

The total cost of the project is Rs. 7063075/- (Rupees Seventy Lakhs Sixty Three Thousand and Seventy Five Only) as per details given below:

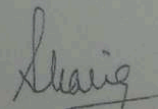
Institute	Year I	Year II	Year III	Total Cost(Rs.)
1. DIRECTORATE OF WHEAT RESEARCH, KARNAL	455000	455000	494600	1404600
2. Indian Agricultural Research Institute	2823875	1224000	863600	4911475
3. Indian Agricultural Research Institute, Shimla	249000	249000	249000	747000
Total (Rs.)	3527875	1928000	1607200	7063075



Annexure -II  
 Details of the manpower sanctioned for the implementation of the project titled "Characterization, Race Profiling and Genetic Analysis of Wheat Powdery Mildew Pathogen (*Blumeria graminis* f. sp. *tritici* (DC) Speer {Syn. *Erysiphe graminis* DC f. sp. *tritici*) in India.":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
<b>1. DIRECTORATE OF WHEAT RESEARCH, KARNAL</b>					
Junior Research Fellow @ Rs. 25000/- + 10% HRA pm for 1st and 2nd years and Senior Research Fellow @ 28000/- + 10% HRA for 3rd year	1	330000.00	330000.00	369600.00	1029600.00
<b>2. Indian Agricultural Research Institute</b>					
Junior Research Fellow Junior Research Fellow @ Rs. 25000/- + 10% HRA pm for 1st and 2nd years and Senior Research Fellow @ 28000/- + 10% HRA for 3rd year	1	330000.00	330000.00	369600.00	1029600.00
Other 1 Lab/ Field Technician @Rs. 12,000/- p.m. Consolidated	1	144000.00	144000.00	144000.00	432000.00
<b>Total(Rs.)</b>		<b>474000.00</b>	<b>474000.00</b>	<b>513600.00</b>	<b>1461600.00</b>
<b>3. Indian Agricultural Research Institute, Shimla</b>					
Lab Technician Rs 12,000 per month (Consolidated)	1	144000.00	144000.00	144000.00	432000.00
<b>Total(Rs.)</b>		<b>144000.00</b>	<b>144000.00</b>	<b>144000.00</b>	<b>432000.00</b>

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No.SR/S9/Z-09/2012 dated 21.10.2014.



Dr. Sanjay Kalia  
(Scientist 'E')

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978 for the implementation of the project entitled "QTL mapping of black rot (*Xanthomonas campestris* pv. *campestris*) resistance (race-4) genes in cauliflower" for a period of 3 Year 0 Month at a total cost of Rs. 5037352 (Rupees Fifty Lakhs Thirty Seven Thousand Three Hundred and Fifty Two Only) on the terms and conditions detailed here under

**2 The Project :**

2.1 Title : QTL mapping of black rot (*Xanthomonas campestris* pv. *campestris*) resistance (race-4) genes in cauliflower

**2.2 Details of the Investigators:**

**Dr. Shyam Sundar Dey**  
Scientist  
Division of Vegetable Science,  
Indian Agricultural Research Institute, Pusa  
Campus, New Delhi- 110012, Delhi

**CO-PI:**

**Dr. Dinesh Singh**  
Principal Scientist  
Plant Pathology  
Indian Agricultural Research Institute, Pusa Campus, New  
Delhi- 110012, Delhi

**Dr. Reeta Bhatia**  
Scientist  
Division of Floriculture and Landscaping,  
Indian Agricultural Research Institute, Pusa Campus, New  
Delhi- 110012, Delhi

**2.3 Objectives:**

- 1 QTL mapping of Xcc4 resistance genes in cauliflowers
- 2 To study the inheritance of the Xcc4 resistant in cauliflower genotypes.
- 3 To develop doubled haploid/F2-3 based mapping population for molecular characterization of resistance to race 4 of *X. campestris* pv. *campestris* (Xcc4).



2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order

2.5 Project Cost:

The total cost of the project is Rs. 5037352/- (Rupees Fifty Lakhs Thirty Seven Thousand Three Hundred and Fifty Two Only) as per details given below:

Budget Head	Year I	Year II	Year III	Total (Rs.)
Equipment	798000.00			798000.00
Manpower	584184.00	584184.00	630984.00	1799352.00
Overhead	100000.00	100000.00	100000.00	300000.00
Contingency	30000.00	30000.00	30000.00	90000.00
Travel	50000.00	50000.00	50000.00	150000.00
Consumables	300000.00	300000.00	300000.00	900000.00
Outsourcing of SNP work		1000000.00		1000000.00
Total (Rs.)	1862184.00	2064184.00	1110984.00	5037352.00

2.6 Equipment

The details of the equipment sanctioned for the implementation of the project at Annexure-I

2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at Annexure-II

3. Head of Account:

The Non-Recurring expenditure involved is debitible to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.35	Grants for creation of capital assets

The Recurring expenditure involved is debitible to:

## Annexure -II

Details of the manpower sanctioned for the implementation of the project titled "QTL mapping of black rot (*Xanthomonas campestris* pv. *campestris*) resistance (race-4) genes in cauliflower":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
Junior Research Fellow Rs. 25000/-+30% HRA 1st and 2nd year Rs. 28000/- +30% HRA 3rd year	1	390000.00	390000.00		780000.00
Junior Research Fellow Rs. 25000/-+30% HRA 1st and 2nd year Rs. 28000/- +30% HRA 3rd year	1			436800.00	436800.00
Skilled Helper (Rs. 9000/- consolidated)	1	194184.00	194184.00	194184.00	582552.00
<b>Total(Rs.)</b>		<b>584184.00</b>	<b>584184.00</b>	<b>630984.00</b>	<b>1799352.00</b>

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST CM No.SR/S9/Z 09/2012 dated 21.10.2014.



Dr. Sanjay Kalia  
(Scientist 'E')

BT/PBD/26/SP24418/2017  
GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8<sup>th</sup> Floors  
CGO Complex, Lodhi Road  
New Delhi- 110 003  
Dated: August 27<sup>th</sup>, 2018

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "DBT-TERI Center of Excellence Project Integrated Production of Advanced Biofuels and Biocommodities" for a period of 3 Years 0 Months at a total cost of ₹ 11,03,21,600/- (Rupees Eleven Crores Three Lakhs Twenty One Thousand Six Hundred Only) on the terms and conditions detailed here under:-

2.1 Title: "DBT-TERI Center of Excellence Project Integrated Production of Advanced Biofuels and Biocommodities"

2.2 Details of the Investigators: ---

Project Coordinator:

Dr. Vibha Dhawan

Senior Director

TERI, New Delhi 110 003

Project Investigator-I:

Dr. Sanjukta Subudhi

Fellow & Area Convenor

TERI, New Delhi 110 003

Project Investigator-II:

Prof. Sunil Pabbi

Professor

ICAR- Indian Agricultural Research Institute

New Delhi 110 012

Project Investigator-III:

Dr. Vimal Katiyar

Assistant Professor

IIT Guwahati, Assam 781 039

Project Investigator-IV:

Mr. Amitabh Tandon

Director

Transtech Green Power Private Limited

Jaipur, Rajasthan 302 001

Kiangil

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Planning (PME)  
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दिनांक 4/10/2018



### 2.3 Overall Objectives for all four Institutes:

1. To demonstrate production of algal biofuels and biohydrogen integrated with development of value addition Biocommodities for overall economic viability
2. To demonstrate improved productivity of algal biomass at a scale (100,000 L) suitable for development of integrated production of biofuels and Biocommodities.
  - a. To set up an indigenously developed algal growth system with a harvest method for above
  - b. To develop a method to produce refined CO<sub>2</sub> from emission sources
  - c. To address water evaporation-related salinity raise challenge in outdoor algal growth systems
  - d. To conduct algal growth physiology studies for new interventions for outdoor adoption
3. To demonstrate collection and preparation of new second-generation feedstock for hydrogen production
4. To develop a viable method to recovery lipids from wet algae without the energy-intensive drying
5. To demonstrate pyrolytic transport fuels from wet algae and deoiled algal biomass
6. To demonstrate production of hydrogen from pre-treated new second-generation and deoiled algae feedstock through select microbes, process optimization and scale-up
7. To develop value-addition Biocommodities from the by-products of biofuel processes for overall economic viability — —
  - a. To demonstrate scaled-up production of industrial platform chemicals, 2,3-butanediol and acrolein (to acrylate polymers) from crude glycerol by-product of algal lipid biodiesel conversion process
  - b. To enhance production of algal nutraceuticals along with biofuel lipids in algae
  - c. To demonstrate development of animal feed and aquaculture feed from the deoiled algal biomass by-product from biofuel production
  - d. Pilot scale production of cellulose nanocrystals (base for Biocommodities) and development of food-packaging bioplastics from deoiled algal biomass by-product
8. To scope the land availability for algal biofuel production in India
9. To evaluate the techno-economic viability of integrated production of biofuels and Biocommodities
  - a. Including life cycle analysis and socio-economic and environment assessments.

### 2.4 Time Schedule:

The duration of the project is 3 Years 0 Months from the date of this Sanction Order.

### 2.5 Project Cost:

The total cost of the project is ₹ 11,03,21,600/- (Rupees Eleven Crores Three Lakhs Twenty One Thousand Six Hundred Only) as per details given below:

Institute	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	Total
TERI, New Delhi	4,56,11,600	2,37,58,400	1,99,52,000	8,93,22,000
IIT Guwahati	84,74,000	14,74,000	14,74,000	1,14,22,000
IARI, New Delhi	30,76,800	16,01,800	16,48,600	63,27,200
Transtech, Jaipur	9,16,800	14,16,800	9,16,800	32,50,400
Total	5,80,79,200	2,82,51,000	2,39,91,400	11,03,21,600

*K. S. Angil*

4. Transtech Green Power Private Limited, Jaipur

Head		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	Total (₹)
1	SRF (1)(@₹ 28,000/ p.m+ 30% HRA)	4,36,800	4,36,800	4,36,800	13,10,400
Total		4,36,800	4,36,800	4,36,800	13,10,400

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No.SR/S9/Z-09/2012 dated 21.10.2014.

  
(Dr. Sangita Kasture)  
Scientist 'E'

श्री. ए. ए. सिंह  
 निदेश संख्या  
 दिनांक 8/52  
 9/4

DST/CCP/MRDP/144/2018 (G)  
 Government of India  
 Ministry of Science & Technology  
 Department of Science & Technology  
 (SPLICE- Climate Change Programme)

Technology Bhavan, New Delhi  
 Dated, the 26.03.2018

ORDER

Sub Financial assistance to R&D project titled "Agricultural productivity in climate change scenarios: impacts and adaptation pathways (A National Facility for Capacity Building on Simulation Modelling in Agriculture)" to be implemented at ICAR-Indian Agricultural Research Institute, New Delhi -110012 (PI- Dr. S. Naresh Kumar) under the National Mission for Strategic Knowledge on Climate Change (NMSKCC) – Approval of the proposal and release of grants for the first year.

Sanction of the President is hereby accorded to the approval of the above-mentioned project at a total cost of ₹2,32,45,695/- [Rupees two crore thirty-two lakhs fourty-five thousand six hundred ninety-five only] for a duration of five years. The detailed breakup of the grant for General as well as Capital Components and the items of expenditure as approved are given as below:-

General Component: Rs. 2,01,81,200

Capital Component: Rs. 30,64,495

Items of expenditure as approved:

Head	I Yr	II Yr	III Yr	Total
Non- Recurring	₹	₹	₹	₹
Non-Recurring Total (A)	3064495	0	0	3064495
Recurring	₹	₹	₹	₹
SRF (04 Posts) as per DST norms	1747200	1747200	1747200	5241600
RA @ 36k-38k-40k + 30% HRA	561600	592800	624000	1778400
Young Professional (4 Posts) @25000/month (consolidated)	1200000	1200000	1200000	3600000
Skilled labour (2 Posts) @13350/ month (consolidated)	320400	320400	320400	961200
Travel	250000	200000	150000	600000
Consumables	250000	225000	225000	700000
Other Costs (workshop, field interventions, software purchase, printing, contingency, etc)	1800000	2000000	2000000	5800000
Sub-total	6129200	6285400	6266600	18681200
OH charges	500000	500000	500000	1500000
Recurring Total (B)	6629200	6785400	6766600	20181200
Grand Total (A+B)	9693695	6785400	6766600	23245695

वर्क वॉर्म/डायरी नं. 234  
 दिनांक/दिनांक 10/4/2018

Rohit

Rohit

(M)

2. The sanction of the President is also accorded to the release of ₹66,29,200/- (Rupees sixty six lakhs twenty-nine thousand two hundred only) being the first instalment of grants under General Head for implementation of the above mentioned project.

3. This sanction is subject to the condition that the grantee organization will furnish to the Department of Science & Technology, financial year wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017 and audited statement of expenditure (SE) along with up to date progress report at the end of each financial year duly reflecting the interest earned/accrued on the grants received under the project. This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and project completion report within one year from the scheduled date of completion of the project.
4. The grantee organization will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division. The subsequent/final installment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS.
5. If the grant has been released under capital head through separate sanction order under the same project for purchase of equipment (s), separate SE/UC has to be furnished for the released Capital head grant.
6. The grant-in-aid being released is subject to the condition that
- transparent procurement procedure in line with the Provision of General Financial Rules 2017 will be followed by the Institute/Organisation under the appropriate rules of the grantee organization while procuring capital assets sanctioned for the above mentioned project and a certificate to this effect will be submitted by the Grantee organization immediately on receipt of the grant;
  - while submitting Utilization Certificate/Statement of Expenditure, the organization has to ensure submission of supporting documentary evidences with regard to purchase of equipment/capital assets as per the provisions of GFR 2017. Subsequent release of grants under the project shall be considered only on receipt of the said documents.
7. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. The interest earned/accrued should be reported to DST (financial year wise) while submitting the Statement of Expenditure/Utilization Certificate. The interest thus earned will be treated as a credit to the grantee organization, which will be adjusted towards future release of grant.
8. DST reserves sole rights on the assets created out of grants. Assets acquired wholly or substantially out of government grants (except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in GFR 2017), shall not be disposed of without obtaining the prior approval of DST.
9. In case the scheme provides for payment of honorarium/ remuneration/ fellowship/scholarship to the PI, a para may suitably be incorporated in the DSO to the effect that "PI is not drawing any emolument/salary/fellowship from any other project either supported by DST or by any other funding agency.
10. The account of the grantee organization shall be open to inspection by the sanctioning authority and audit (both by C&AG of India and Internal Audit by the Principal Account Office of the DST), whenever the organization is called upon to do so, as laid down under Rule 236(1) of the General Rules 2017.

Rohit S

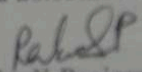
11. Due acknowledgement of technical support/ financial assistance resulting from this project grant should mandatorily be highlighted by the grantee organization in bold letters in all publication/ media releases as well as in the opening paragraphs of their Annual Reports during and after the completion of the project.
12. Failure to comply with the terms and conditions of the Bond will entail full refund with interest in terms of Rules 231 (2) of GFR 2017.
13. The expenditure involved is debitable to Demand No. 84, Department of Science and Technology for the year.

3425	Other Scientific Research (Major Head)
60	Other (Sub Major Head)
60.200	Assistance to other Scientific bodies (Minor Head)
69.00	Research and Development (SPLICE- Climate Change Program)
69.00.31	Grant in aid General for the year 2017-18 (Previous: SPLICE-CCP - 3425.60.200.56.04.31)

14. The amount of ₹66,29,200/- (Rupees sixty-six lakhs twenty-nine thousand two hundred only) under "Grant-in-aid General" will be drawn by the Drawing & Disbursing officer, DST and will be disbursed to the "Director, IARI, PUSA, New Delhi". The bank details for electronic transfer of funds through RTGS are given below:

Name of the Account Holder	Director, IARI, PUSA New Delhi
Name of the Bank & Branch	Syndicate Bank, Pusa Branch, IARI Campus
Bank A/C Number	90293050000040
IFSC Code	SYNB0009029
MICR Code	110025041

15. As per Rule 234 of GFR 2017, this sanction has been entered at S. No. 118 in the register of grants maintained in the Division for the scheme SPLICE-Climate Change Program
16. This issues with the concurrence of IFD vide their Concurrence Dy No. 5914 dated 26.03.2018

  
(Rabindra K Panigrahy)  
Sc. 'C', Ph: 26590441

To  
Pay and Accounts Officer,  
Department of Science and Technology, New Delhi

Copy for information and necessary action to: -

1. The Director (CW&MII), AGCR Building, IP Estate, New Delhi-110 002
2. Section Officer (Cash), DST (3 copies)
3. Integrated Finance Division, DST
4. Sanction folder, SPLICE
5. Director, IARI, PUSA, New Delhi -110012
6. Dr. S. Naresh Kumar. ICAR-Indian Agricultural Research Institute, PUSA, New Delhi -110012

**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "**Marker-Assisted Breeding and Mapping of QTLs for Drought Tolerance in Wheat**" for a period of 3 Year 0 Month at a total cost of Rs. **12089200** (Rupees One Crores Twenty Lakhs Eighty Nine Thousand Two Hundred Only) on the terms and conditions detailed here under:-

**2 The Project :**

**2.1 Title : Marker-Assisted Breeding and Mapping of QTLs for Drought Tolerance in Wheat**

**2.2 Details of the Adviser, Project Investigators & Co-PI:**

**Project Adviser**

**Prof. Pushendra Kumar Gupta**  
Chaudhary Charan Singh University  
F-119 Shastri Nagar, Meerut, Uttar Pradesh, 250004

**Project Coordinator:**

**Dr. Gyanendra Pratap Singh**  
Director, ICAR-Indian Institute of Wheat & Barley Research, Post Box-158,  
Karnal PIN: 132001, Haryana.

**Project Investigators:**

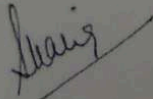
**Dr. Gyanendra Singh**  
Principal Scientist (Plant Breeding) Crop Improvement,  
ICAR-Indian Institute of Wheat and Barley Research,  
Post Box-158, Karnal- 132001, Haryana

**Dr. Pradeep Kumar Sharma.**  
Professor & Head, Genetics and Plant Breeding, Chaudhary Charan Singh University,  
Meerut-250004, Uttar Pradesh.

**Dr. Pardeep K Singh**  
Senior Scientist, Division of Genetics, Indian Agricultural Research Institute  
PUSA complex-110012, New Delhi.

**CO-PI:**

**Dr. Sonia Sheoran**  
Scientist, ICAR-Indian Institute of Wheat and Barley Research,  
Post Box-158, Karnal- 132001, Haryana.



**Table 1. Ch. Charan Singh, University, Meerut:** QTLs, QTL-linked marker, PVE due to QTL, trait(s) controlled by QTL, donor and recipient genotypes, base line trait values of recipient genotypes and the expected trait values of the improved genotypes.

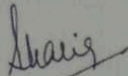
Markers linked to QTL and donor genotype	PVE (%) due to QTL	Traits controlled by QTL	Recipient genotype	Base line trait value of recipient genotype	Expected trait value after improvement
QTL: Qyld.csdh.7AL Markers (Chromosome arm): Xpsp3094.1, Xwmc273.3 (7AL) (Quarrie et al. 2005, 2006) Donor genotype: SQ1	20	Grains /spike, grain weight per spike/yield per plant, flag leaf width and flag leaf chlorophyll content	1. DBW88 2. HD2967	Drought sensitive and high yielding under optimum conditions	Drought tolerant with enhanced yield under drought stress conditions

**Table 2. (ICAR-IARI), New Delhi :** QTLs, QTL-linked marker, PVE due to QTL, trait(s) controlled by QTL, donor and recipient genotypes, base line trait values of recipient genotypes and the expected trait values of the improved genotypes.

Markers linked to QTL and donor genotype	PVE (%) due to QTL	Traits controlled by QTL	Recipient genotype	Base line trait value of recipient genotype	Expected trait value after improvement
QTL: QYLD.mci-7A, (Chromosome arm): Xbarc121(7AL) McIntyre et al. (2010) Pinto et al.2010 Donor genotype: BABAX/DBW43/HI1500/C306/RAC875	10-20	Grain yield, and 1000-grain weight	1. HD3086 2. GW322	Drought sensitive and high yielding under optimum conditions	Drought tolerant with enhanced yield under drought stress conditions
QTL: QTKW.pin-3B Markers (chromosome arm): Xbarc147 (3BS) Pinto et al (2010) Donor genotype: BABAX/DBW43/HI1500/C306 /RAC875	10-20	1000-grain weight	1. HD3086 2. GW322	Drought sensitive and high yielding under optimum conditions	Drought tolerant with enhanced yield under drought stress conditions

*Sharma*

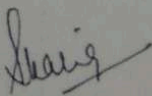
8. As per Rule 236 (1) of GFR 2017, the accounts of all Grantee Institutions or Organizations shall be open to inspection by the sanctioning authority and audit, both by the Comptroller and Auditor General of India under the provision of CAG(DPC) Act 1971 and internal audit by the Principal Accounts Office of the Ministry or Department, whenever the Institution or Organization is called upon to do so.
9. If the Research Project involves biological resource, the obligations under the Biological Diversity Act 2002 as applicable shall be complied with by the Project Investigator, the details of such obligations can be accessed at [www.nbaindia.org](http://www.nbaindia.org)
10. This issues under the power delegated to this Department and with the concurrence of IFD vide their SAN No. **102/IFD/SAN/5307/2017-18** dated **26.03.2018**
11. This sanction order has been noted at serial no. 125 in the Register of Grants.

  
Dr. Sanjay Kalia  
(Scientist 'E')

To,  
The Pay & Accounts Officer,  
Department of Biotechnology,  
New Delhi - 110 003.

**Copy to:**

- 1 The Principal Director of Audit (Scientific Departments), DACR Building, New Delhi- 110 002.
- 2 Prof. PK Gupta(Project Adviser), Department of Genetics & Plant Breeding, Ch. Charan Singh University, Meerut- 250004
- 3 The Director, Indian Agricultural Research Institute, Pusa, New Delhi - 110012, Delhi
- 4 The Dr. Gyanendra Pratap Singh, Indian Institute of Wheat and Barley Resaerch, Agrasain Marg, Kunjpura Road, Karnal - 132001 Haryana.
- 5 The Registrar, Chaudhary Charan Singh University, CCS University, Meerut - 250004, Uttar Pradesh
- 6 Dr. Gyanendra Singh, Principal Scientist (Plant Breeding), Crop Improvement, ICAR-Indian Institute of Wheat and Barley Research, Karnal, Post Box-158, Karnal-132001, Haryana.
- 7 Dr. Pradeep Kumar Sharma, Professor & Head, Genetics and Plant Breeding, Ch. Charan Singh University, Meerut - 250004, Uttar Pradesh
- 8 Dr. Pardeep K Singh, Principal Scientist, Division of Genitics, Indian Agricultural Research Institute, PUSA complex, New Delhi - 110012, Delhi
- 9 Dr. Sachin Kumar, Assistant Professor, Genetics & Plant Breeding, Ch. Charan Singh University, Meerut - 250004, Uttar Pradesh
- 10 Dr. Sindhu Sareen, Principal Scientist, Crop Improvement, ICAR-Indian Institute of Wheat and Barley Research, Post Box-158, Karnal - 132001, Haryana
- 11 Dr. Sonia Sheron, Scientist, Crop Improvement, ICAR-Indian Institute of Wheat and Barley Research, Post Box-158, Karnal - 132001, Haryana
- 12 Dr. BS Tyagi, Principal Scientist, ICAR-Indian Institute of Wheat and Barley Research, Post Box-158, Karnal- 132001, Haryana.
- 13 Mr. Harikrishanan, Scientist, Division of Genetics, ICAR-IARI, New Delhi-110012.
- 14 Cash Section, DBT (2 copies).
- 15 Sanction Folder.
- 16 File Copy.

  
Dr. Sanjay Kalia  
(Scientist 'E')



**ORDER**

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "Establishment of thrips cell line to identify the factors responsive to tospovirus transmission" for a period of 3 Year 0 Month at a total cost of Rs. 7734576 (Rupees Seventy Seven Lakhs Thirty Four Thousand Five Hundred and Seventy Six Only) on the terms and conditions detailed here under:-

**2 The Project :**

**2.1 Title :** Establishment of thrips cell line to identify the factors responsive to tospovirus transmission

**2.2 Details of the Investigators:**

Dr. Amalendu Ghosh  
Scientist Senior Scale  
Division of Plant Pathology  
Indian Agricultural Research Institute  
New Delhi 110012.

**CO-PI:**

Dr. Basavaraj YB  
Scientist  
Plant Virology  
Indian Agricultural Research Institute  
Advanced Centre for Plant Virology, IARI, Pusa campus,  
New Delhi - 110012, Delhi

Dr. Bikash Mandal  
Principal Scientist  
Plant Virology  
Indian Agricultural Research Institute  
Advanced Centre for Plant Virology  
Division of Plant Pathology  
IARI, New Delhi - 110012, Delhi

**2.3 Objectives:**

**Overall Objectives:**

1. To establish a permanent epithelial cell line of Thrips palmi (melon thrips, Thysanoptera: Thripidae).
2. To study the localization, replication, and interactions of groundnut bud necrosis virus (GBNV, tospovirus) in cells of its insect vector, Thrips palmi.

*Shaiq*

*Amalendu Ghosh*

2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

2.5 Project Cost:

The total cost of the project is Rs. 7734576/- (Rupees Seventy Seven Lakhs Thirty Four Thousand Five Hundred and Seventy Six Only) as per details given below:

Institute	Year I	Year II	Year III	Total Cost (Rs.)
1. Indian Agricultural Research Institute	3478192	2278192	1978192	7734576
Total (Rs.)	3478192	2278192	1978192	7734576

Institute wise details are:

Budget Head	Year I	Year II	Year III	Total (Rs.)
1. Indian Agricultural Research Institute				
Equipment	1000000.00			1000000.00
Manpower	1278192.00	1278192.00	1278192.00	3834576.00
Contingency	50000.00	50000.00	50000.00	150000.00
Consumables	700000.00	700000.00	500000.00	1900000.00
Travel	50000.00	50000.00	50000.00	150000.00
Overhead	200000.00	200000.00	100000.00	500000.00
outsourcing for GBNV protein antibodies	200000.00			200000.00
Total (Rs.)	3478192.00	2278192.00	1978192.00	7734576.00

2.6 Equipment

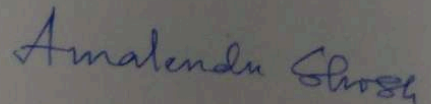
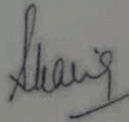
The details of the equipment sanctioned for the implementation of the project at Annexure-I

2.7 Manpower:

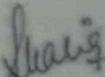
The details of the manpower sanctioned for the implementation of the project at Annexure-II

3. Head of Account:

The Non-Recurring expenditure involved is debitable to:



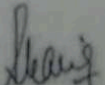
9. If the Research Project involves biological resource, the obligations under the Biological Diversity Act 2002 as applicable shall be complied with by the Project Investigator, the details of such obligations can be accessed at [www.nbaindia.org](http://www.nbaindia.org)
10. This issues under the power delegated to this Department and with the concurrence of IFD vide their SAN No. 102/IFD/SAN/2097/2018-19 dated 10.09.2018.
11. This sanction order has been noted at serial no. 106 in the Register of Grants.

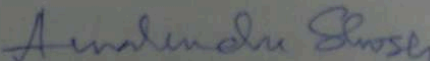
  
Dr. Sanjay Kalia  
(Scientist 'E')

To,  
The Pay & Accounts Officer,  
Department of Biotechnology,  
New Delhi - 110 003.

Copy to:

- 1 The Principal Director of Audit (Scientific Departments), DACR Building, New Delhi- 110 002.
- 2 Dr Amalendu Ghosh(Project Co-ordinator), Advanced Centre for Plant Virology, Division of Plant Pathology, Pusa campus, New Delhi 110012
- 3 The Director, Indian Agricultural Research Institute, Pusa, New Delhi - 110012, Delhi
- 4 Dr. Amalendu Ghosh, Scientist Senior Scale, Division of Plant Pathology, Indian Agricultural Research Institute, Room No 55, Advanced Centre for Plant Virology, Division of Plant Pathology, IARI, New Delhi 110012, New Delhi - 110012, Delhi
- 5 Dr. Basavaraj YB, Scientist, Plant Virology, Indian Agricultural Research Institute, Advanced Centre for Plant Virology, IARI, Pusa campus, New Delhi - 110012, Delhi
- 6 Dr. Bikash Mandal, Principal Scientist, Plant Virology, Indian Agricultural Research Institute, Advanced Centre for Plant Virology, Division of Plant Pathology, IARI, New Delhi - 110012, Delhi
- 7 Cash Section, DBT (2 copies).
- 8 Sanction Folder.
- 9 File Copy.

  
Dr. Sanjay Kalia  
(Scientist 'E')





सत्यमेव जयते

भारत सरकार  
GOVERNMENT OF INDIA  
कृषि मंत्रालय  
MINISTRY OF AGRICULTURE & FARMERS WELFARE  
कृषि अनुसंधान एवं शिक्षा विभाग  
DEPARTMENT OF AGRICULTURAL RESEARCH &  
EDUCATION  
कृषि भवन नई दिल्ली - 110 001  
KRISHI BHAVAN, NEW DELHI - 110 001

F.No.GA-07/17/2018-IC-IV

Dated the 7<sup>th</sup> December, 2018

**OFFICE MEMORANDUM**

**Subject:** Collaborative Research Project entitled: *Application of Next-Generation Breeding, Genotyping, and Digitalization Approaches for Improving the Genetic Gain in India Staple Crops* -Approval regarding.

The undersigned is directed to convey the approval of the competent authority for taking up Collaborative Research Project proposal entitled: *"Application of Next-Generation Breeding, Genotyping, and Digitalization Approaches for Improving the Genetic Gain in India Staple Crops."*

2. The collaborators of the aforesaid projects are ICAR-IARI (Lead Institute) and Bill and Melinda Gates Foundation (BMGF), USA along with IIMR, Hyderabad, IIPR, Kanpur, CPRI, Shimla, NRRI, IIRR, IIWBR, ICAR-Chickpea (AICRP), ICAR-Pearl Millet (AICRP), ICAR, CPRI (AICRP), ICAR, IASRI from ICAR side and CGIAR Collaborators, ICRISAT, EIB CIMMYT.

3. As per the financial terms and conditions, the financial details/total cost of the project are given as under:

S.No.	Name of the ICAR Institutes	ICAR-IARI(Lead Institute), IIMR, Hyderabad, IIPR, Kanpur, CPRI, Shimla, NRRI, IIRR, IIWBR, ICAR-Chickpea (AICRP), ICAR-Pearl Millet (AICRP), ICAR, CPRI (AICRP), ICAR, IASRI.
1.	Name of the Partner/Collaborator/ Sponsorer	Bill & Melinda Gates Foundation (BMGF).
2.	Total Project Cost:	Total Rs.2799.84 lakh + 2334.11=5133.95 lakh
3.	Cost to be borne by Partner/Collaborator/Sponsorer	By Bill and Melinda Gates Foundation Rs.2799.84 lakh, out of which Rs.1703.66 lakh is actually been granted to ICAR whereas Rs. 760 lakh have been sub award to ICRISAT, India and Rs.336 lakh sub award to CIMMYT [Rs.2799.84=Rs.1703.66 lakh + Rs.760 lakh +Rs.336 lakh].
4.	Cost to be borne by ICAR	In-Cash: Rs.1000 lakh (from EMF funds) over a period of four years In-Kind: Rs.1078.56 lakh for salary of staff + Rs.255.55 lakh as OH expenses.

- v) Prior approval from the Department will be obtained for the foreign visit of Indian scientists or for the visits of foreign scientists/nationals of participating countries while visiting India.
- vi) The compliance of Biological Diversity Authority/NBA including Notification dated 8<sup>th</sup> November, 2006 of Ministry of Environment and Forests regarding guidelines for International Collaboration Research Projects Involving Transfer or Exchange of Biological Resources or Information relating thereto between Institutions including government sponsored institutions and such institutions in other countries should be followed.

(Prem Prakash Maurya)  
Under Secretary to the Govt. of India  
Ph. No. 2338 2786/23046521

1. Deputy Director General (CS), ICAR, Krishi Bhawan, New Delhi.
2. Director, ICAR-Indian Agricultural Research Institute, New Delhi. It may be ensured that the funding for the project has been approved from the funding agency. If yes, a copy of approval letter from funding agency along with one (1) more copies each of the project document, project checklist and project summary in the prescribed proforma duly signed and stamped may be sent to this department for further action please.

(Prem Prakash Maurya)  
Under Secretary to the Govt. of India  
Ph. No. 2338 2786/23046521



भारत सरकार

GOVERNMENT OF INDIA

कृषि एवं किसान कल्याण मंत्रालय

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

कृषि अनुसंधान एवं शिक्षा विभाग

DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

कृषि भवन नई दिल्ली- 110 001

KRISHI BHAVAN, NEW DELHI-110 001

F. No. J-11/1/2018-- IC-CG

Dated the 22<sup>nd</sup> June, 2018

To

The Deputy Director General (Crop Science),  
Indian Council of Agricultural Research,  
Krishi Bhawan, New Delhi-110001

**Sub:** Project proposal entitled "Enhancing resource use efficiency and farmer's income through Conservation Agriculture (CA) Technologies in Pulses under different rainfed cropping systems" in collaboration with ICAR-IARI, New Delhi and ICARDA" -Approval - regarding.

Sir,

I am directed to convey the approval of the Competent Authority of this Department to the collaborative research project entitled "Enhancing resource use efficiency and farmer's income through Conservation Agriculture (CA) Technologies in Pulses under different rainfed cropping systems" in collaboration with ICAR-Indian Agricultural Research Institute (IARI), New Delhi and International Centre for Agricultural Research in the Dry Area (ICARDA).

2 The terms and condition for the aforesaid project will be governed as under:

(a) **Collaborators:**

The aforesaid collaborative research project will be implemented in collaboration with International Centre for Agricultural Research in the Dry Area (ICARDA) and ICAR-Indian Agricultural Research Institute (IARI), New Delhi.

(b) **Duration:**

The duration of the aforesaid project will be five years with effect from the date of signing of the Research Collaborative Agreement.

(c) **Budget:**

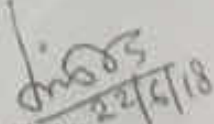
The project cost will be as under:

1	Name of the ICAR Institutes	ICAR-IARI, New Delhi
2	Name of the partner/Collaborator	ICARDA
3	<b>Total Project cost</b>	
	(a) Cost to be borne by ICAR Institutes	In-cash: Nil In-kind: Rs. 6.41 Lakh
	(b) Cost to be borne by ICARDA	US\$ 84530.00 or Rs. 54,09,920/- to be met from Window-III funding to ICARDA by ICAR.

Cont.../

3. The respective Subject Matter Division viz. Crop Science Division has examined the proposal and the same has been recommended/cleared from technical, essentiality angle. The terms and conditions of the Research Project Collaborative Agreement are acceptable to the SMD. The project has also been examined from security sensitivity angle in accordance with the procedure and guidelines on the subject. The project has also been cleared by Spl. Secy. & Financial Advisor, M/o Rural Development (L.O.) from financial angle [vide Dy. No. 12/F dated 02.01.2018] and also by Assistant Director General (IP & TM) from IPR angle.
4. Subject matter Division/Institute is now requested to take further necessary action as per procedure in respect of above project. A copy of the 'Research Collaborative Agreement', duly signed may also be sent to this Department for information/record. The following issues may be addressed by the PI/Institute/SMD while implementing the project:
- The Institute will also follow the guidelines/instructions issued by the Finance Division of the ICAR relating to the maintenance of the accounts of the project and get them audited as per prescribed procedure.
  - The Parties shall manage all intellectual assets if any, and/or related IPRs created as a result of the activities carried out under this Agreement in a way that is consistent with the CGIAR Principles on the Management of Intellectual Assets ("CGIAR IA Principles"). All tangible and intangible results arising from this Agreement shall be international public goods. All intellectual assets generated under this Agreement shall be made available and accessible free-of-charge. Besides, if additional Sub-Agreements are to be developed between the project partners, while developing the formal Agreements, the IPR issues (including IP ownership), commercialization, data management and publication issues may be taken care of by the PI/Institute as per the ICAR guidelines for IP management and technology transfer/commercialization with foreign collaborator and duly approved by the competent authority
  - All generic material (germplasm and breeding material) transfers from the Lead Centre under this project will be through Standard Material Transfer Agreement (SMTA) approved by the Governing Body of ITPGRFA and the Lead or Participating Centre's MTA for Lead and Participating Centre - developed material.
  - Statutory and other regulatory compliance in respect of National Biodiversity Authority/BDA particularly related to transfer of genetic material/biological resources should be ensured by the SMD/Institute.
5. Approval of the Department will be obtained for foreign visit of Indian scientists or for the visits of foreign scientists/nationals of participating countries while visiting India, if any.
6. The payment shall be made in the name of Secretary, Indian Council of Agricultural Research (ICAR) payable at Delhi.
7. This has the approval of Secretary DARE & DG ICAR.

Yours faithfully,

  
(J. Misra)

Under Secretary (CG)  
Tele-fax No. 011-23070821  
Email: uscg.icar@nic.in

**Copy for information:**

- Regional Director-South Asia, ICARDA, NASC Complex, New Delhi;
- Director, ICAR- IARI, New Delhi;
- Guard file/Spare copy (02).



Tele : 040 - 24002314  
Fax : 040 - 24002324  
Mobile : +91 8790814166  
+91 9391091071  
e-mail : regrpjtsau@gmail.com

**PROFESSOR JAYASHANKAR TELANGANA STATE AGRICULTURAL UNIVERSITY**  
Administrative Office, Rajendranagar, Hyderabad - 500 030, Telangana State, India.

**Dr. S. SUDHEER KUMAR**  
M.Sc. (Ag.), Ph.D.

REGISTRAR

To  
The Director  
ICAR-Indian Agricultural Research Institute  
Pusa, New Delhi - 110 012.

Lr.No. 280/UL/PJTSAU/NAHEP/2018, dated 27-03-2018

Sir,

Sub: ICAR - NAHEP research project "National Knowledge Management Centre for Agricultural Education and Research" sanctioned by the ICAR, New Delhi - Reg.

Ref: F.No.NAHEP/IG/2017-18 dated 21.03.2018 of the National Director,  
NAHEP, ICAR, New Delhi - 110 012 (enclosed).

\*\*\*\*\*


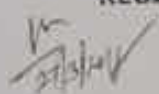
Professor Jayashankar Telangana State Agricultural University, Hyderabad has submitted a concept note for research project entitled "**National Knowledge Management Centre for Agricultural Education and Research**" to the ICAR for consideration under National Agricultural Higher Education Project (NAHEP) funded by World Bank during November 2017 and the same was approved by the PMC. In which the following institutes are identified as contributing partners and Consortium Co-Principal Investigators.

1. **ICAR - Indian Agricultural Research Institute, New Delhi**  
Dr. Amreder Kumar, Principal Scientist, AKMU, ICAR-IARI, New Delhi.
2. **Tamil Nadu Veterinary and Animal Sciences University, Chennai**  
Dr.G.Rathinasabapathy, University Librarian, TANUVAS, Chennai (TN).
3. **ICAR - Indian Veterinary Research Institute, Izat Nagar**  
Dr.K.N.Kandpal, Chief Information Officer, NLVS, IVARI, Izatnagar (UP).

The ICAR has approved the project and sanctioned that **Dr. K. Veeranjanyulu**, University Librarian & Professor, PJTSAU, Hyderabad - 500 030, Telangana State shall be the Principal Investigator and above mentioned institutes are as other collaborative partners under Innovation Grant of NAHEP vide reference cited.

Therefore, I request that **Dr. Amreder Kumar, Principal Scientist, AKMU, ICAR-IARI, New Delhi - 110 012**, may please be permitted to collaborate as CCPI in the above mentioned project. The CCPI is responsible for carryout the project work from their respective centre.

Yours faithfully,

  
REGISTRAR 27/3  


Copy to Dr. Amreder Kumar, Principal Scientist, AKMU, ICAR-IARI, New Delhi - 012





भारतीय कृषि अनुसंधान परिषद  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
कृषि अनुसंधान भवन-II, पूसा, नई दिल्ली-110012  
Krishi Anusandhan Bhawan-II, Pusa, New Delhi - 110 012

डॉ. पी. एस. पाण्डेय  
Dr. P. S. PANDEY  
सहायक महानिदेशक (शिक्षा नियोजन एवम् गृह विज्ञान)  
Asstt. Director General (Education Planning & Home Science)

Phone : 011-25841559  
Fax : 011-24841559  
Email : adgephs@gmail.com  
Website : www.icar.org.in

F. No. Edn. 5(21)/2017-EP&HS

Dated: 07.02.2019

SANCTION ORDER

To

The Director  
ICAR-Indian Agricultural Research Institute,  
Pusa-110012, New Delhi

Subject: Sanction of the research proposal on "Risk assessment of metals and metalloids in water-soil-plant continuum under basmati growing areas of northern India", under the Niche Area of Excellence (NAE) Programme of ICAR at IARI, New Delhi regarding

Sir,

The approval of the Competent Authority of ICAR for the research project entitled "Risk assessment of metals and metalloids in water-soil-plant continuum under basmati growing areas of northern India" is hereby conveyed. The project has been sanctioned for three years, starting from January 2019 to December 2021 with a total budget provision of Rs. 336.10 lakh (Rupees Three crore thirty six lakh ten thousand only). The year-wise allocation of fund is given in the table.

1. The project is approved for ICAR-Indian Agricultural Research Institute, New Delhi. The location of the project will be at **Division of Soil Science and Agricultural Chemistry, ICAR-IARI, New Delhi**. The Principal Investigator of the project will be **Dr. S.P. Datta**, Principal Scientist (Division of Soil Science and Agricultural Chemistry), IARI, New Delhi. The details of Project Team is given in **Annexure I**
2. The head-wise and year-wise budget is given in **Annexure II**.
3. The approved list of equipment and contractual details, workshops, trainings for capacity building etc. are given in **Annexure III and Annexure IV** respectively.
4. The sanction will be subject to the following conditions :
  - i. The observations made by the screening committee have been incorporated in the revised proposal.
  - ii. The Principal Investigator has the overall responsibility of carrying out the work assigned and shouldering other responsibility as per the guidelines of Niche Area of Excellence programme of ICAR.
  - iii. The entire grant-in-aid is governed by the schedule of terms and conditions governing such grants of ICAR from time to time and as available
  - iv. on website/Education Portal of ICAR.
  - v. Prior approval of the council is required for procurement of any equipment costing more than Rs. 5.00 lakhs. The civil work costing above Rs.10.00 lakhs must also be vetted by the council for which the proposal to be submitted to the Education Division, ICAR.
  - vi. The amount sanctioned under each head/sub head is the maximum budgetary limit for that item and the expenditure shall be made following the ICAR rates/norms wherever prescribed, such as TA/DA, workshops, refreshments etc. The utilization of funds and subsequent reporting, audit etc. would be governed as per ICAR procedure/ guidelines.

- vii. The expenditure on the approved items under the scheme need to be restricted to the amount sanctioned under each head subject to the final settlement in due course on the basis of the Audit Utilization Certificate (AUC) furnished by the organization.
  - viii. **In no case the expenditure be incurred on the items not approved by the ICAR.**
  - ix. The programme can also be concluded prior to the approved duration, if the progress is not found to be satisfactory by the Expert Committee or the provision for the sufficient budget is not provided in the next plan.
  - x. Detailed accounts and records in respect of all transactions must be maintained separately in a classified manner so that Statements of Expenditure in the prescribed formats could be submitted to Education Division at a regular interval.
  - xi. The research staff under contractual services approved for the project is to be engaged as per the circular and guidelines of ICAR. The Council will have no liability whatsoever, for any contractual positions including Junior Research Fellow (JRF)/Senior Research Fellow (SRF)/ Research Associate (RA) recruited under the project. **All the staff engaged under the project will be on temporary basis and coterminous with the project.** The performance of RA/SRF engaged in the project must be reviewed annually by a team comprise of PI and Director(R). Accordingly the extension of their term will be given on annual basis.
  - xii. Principal Investigator will submit the head-wise half-yearly Statement of Expenditure (SoE) and Annual Audited Utilization Certificate (AUC) in the prescribed format of GFR 12A & 12C as per requirement of the council.
  - xiii. Principal Investigator will also submit a Half-Yearly Report/ Annual Report/ Completion Report on the progress of the project as and when required. The draft Final Report of the project must be submitted three months before the expiry of the project period. The Final Report of the project after the peer review need to be submitted in the prescribed template in the bounded form.
  - xiv. No fund will be utilized in abroad visit.
  - xv. One day annual workshop will be organized every year by the centre/where in Internal Review Committee constituted by the Council will review the progress of the work with prior information to the undersigned.
5. Receipt of this letter may be acknowledged and acceptance of the same may be conveyed.
  6. NAE Centers are required to send the Utilization Certificate by 15<sup>th</sup> April and Audit Utilization Certificate by June of every year duly signed by the CA/State Auditors to the Council.
  7. All the publications, correspondences, press releases, communications, acknowledgements etc. relating to the project should clearly and prominently reflect that the work is funded by the ICAR under the NAE programme.
  8. For Intellectual Property (IPR) management in the project, the PI will adhere to the ICAR guidelines especially Patent Application will be filed through the guidelines of ICAR. PI may contact ADG (IPTM) for filing of Patents with intimation to the Education Division, ICAR.

**This issues with the approval the Secretary, DARE and Director General, ICAR.**

Yours faithfully

  
(P.S. Pandey)

**Copy for information and necessary action to:**

- 1) Principal Investigator, ICAR-Indian Agricultural Research Institute, Pusa-110012, New Delhi
- 2) The Nodal Officer, ICAR-Indian Agricultural Research Institute, Pusa-110012, New Delhi



INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
KRISHI BHAWAN, NEW DELHI

F. No. 18(5)/2018-O&P

Dated: 20<sup>th</sup> Nov, 2018

To,

The Director  
ICAR-Indian Institute of Wheat & Barley Research  
Karnal, Haryana-132001

**Subject:- Sanction of the Extramural Research Project entitled "Characterization of heat-linked QTLs and Enzymes associated with starch biosynthesis pathway in wheat"- regarding.**

Sir,

I am directed to convey the sanction of the Council for the EMR project entitled "Characterization of heat-linked QTLs and Enzymes associated with starch biosynthesis pathway in wheat" which has been approved by the Competent Authority with a total budget outlay of Rs. 458.792 lakhs (Rupees four core fifty eight lakhs seventynine thousand and two hundred only) for a period of 3 years (2018-19 to 2020-21) as detailed in Annexure.

It is requested to kindly send the letter of acceptance to the Council. The other terms and conditions shall be applicable as per the approved guidelines of Extramural Research Projects which is also available at Council's website.

Yours faithfully

  
(R.K. Singh)

Assistant Director General (CC&FFC)

Enclosed: As above

NATIONAL AGRICULTURAL SCIENCE FUND  
(Indian Council of Agricultural Research)  
Room No. 707, KAB -I, Pusa, New Delhi -110012

F. No. NASF/SS-6034/2018-19

Dated: 29.10.2018

To,

The Director,  
ICAR-IARI,  
New Delhi-110012

Subject: Sanction letter for the Research project entitled, "ICT based extension strategies for nutrition sensitive agriculture in the states of UP and Odisha" under the National Agricultural Science Fund (NASF)

Sir,

The Empowered Committee (EC) of the NASF, considered the proposal on "ICT based extension strategies for nutrition sensitive agriculture in the states of UP and Odisha." in its thirty fifth meeting held on 11<sup>th</sup> October, 2018 and approved the proposal for implementation under the NASF. The total cost of this project is ₹ 142.94440 Lakh (Rupees one crore forty two lakh ninety four thousand four hundred and forty only) for a period of three years (November 2018 to October 2021). The financial sanction of the competent authority for the project is now being accorded for the period from 1<sup>st</sup> November 2018 to 31<sup>st</sup> March 2020. The sanction for the period from 1<sup>st</sup> April 2020 till the end of the project i.e. 31<sup>st</sup> October 2021 will be conveyed later. The release of fund will be through PFMS/FMS-MIS and the funded centre need to comply accordingly.

1. Name of the Lead Centre and address

ICAR-Indian Agricultural Research Institute, New Delhi-110012

Name & Designation of the Principal Investigator

Dr. Premlata Singh Head (Acting) & PS Division of Agril. Extension, IARI, New Delhi

2. Names of Cooperating Centres and addresses

- i. ICAR-Indian Agricultural Statistics Research Institute, New Delhi-110012
- ii. ICAR-ATARI Zone IV, GT Road Nawabganj, Kanpur-208002
- iii. OUAT, Unit 8, Near post Office, Surya Nagar, Bhubaneswar-751003

Name & Designation of the Cooperating Centre Principal Investigators


- i. Dr K.N. Singh Head, Division of Forecasting and Agriculture Systems Modeling, ICAR-IASRI, New Delhi
- ii. Dr Shantanu Dubey, Principal Scientist, ICAR-ATARI Zone IV, Kanpur
- iii. Dr P J Mishra, Joint Director Extension, Directorate of Extension Education OUAT, Bhubaneswar

The details of the project are given in the project document in Annexure I. The head-wise and year-wise budget (both consolidated and for each partner) are given in the Annexures II to VII.

- (v) Whereas a minimum price for the intellectual properties is to be evaluated, it may not be rigidly adhered to; and the offers made by different parties shall be given due consideration in consultation with the Empowered Committee on the basis of recommendations of ICAR. The spirit behind this should be to commercialize the intellectual properties in the best interest of the investment.
- (vi) If one or more of the partners (i.e., the Lead or Cooperating Centre) of the Project is (are) interested to commercialize the intellectual properties, it may be given preference over other parties at mutually agreed terms and conditions between the interested partner and the ICAR.
- (vii) The ICAR will hold the right to use the intellectual property for non-commercial purposes in public interest.
- (viii) The services of the inventor(s) rendered subsequent to the transfer of intellectual property may entail earning of charges/fees etc., distribution of which will be as per the clause stated in para 4(ii) above.
- (ix) It will not be incumbent upon the ICAR to protect every Intellectual Property (IP) generated from the Project. On refusal by the ICAR to own the IP, the inventor(s) shall be free to protect it at their own cost provided ICAR has no objection to it in public interest.
6. The PI and the CCPI will not be removed/ transferred from the project without the prior consent of the Empowered Committee of the NASF.
- 7 The decision of the Empowered Committee of the NASF will be final in all matters of the project.

Receipt of this letter may please be acknowledged. The PI is requested to make copies of the sanction letter along with all the Annexures and distribute the same to the CCPI(s) and the heads of the Lead and Cooperating Centres.

Yours faithfully,

  
25.10.18  
(P.K. Agrawal)  
ADG (NASF)

**Copy for information and necessary action to:**

- (i) PI/CCPIs of the project
- (ii) Director, IIMR, Ludhiana
- (iii) Heads of Cooperating Centres
- (iv) F&AO, NASF Secretariat
- (v) Office copy



NATIONAL AGRICULTURAL SCIENCE FUND  
(Indian Council of Agricultural Research)  
Room No. 707, KAB-I, Pusa, New Delhi - 110012

F. No. NASF/ABP-7021/2018-19

Dated: 31.07.2018

To,

The Director,  
ICAR-National Institute of Biotic Stress Management,  
Raipur-493225

Subject: Sanction letter for the Research project entitled, "Identification of host factors responsible for infection and development of nano-particle based dsRNA delivery system for imparting resistance to begomoviruses" under the National Agricultural Science Fund (NASF)

Sir,

The Empowered Committee (EC) of the NASF, considered the proposal on "Identification of host factors responsible for infection and development of nano-particle based dsRNA delivery system for imparting resistance to begomoviruses" in its thirty fourth meeting held on 5<sup>th</sup> July, 2018 and approved the proposal for implementation under the NASF. The total cost of this project is ₹ 275.10470 Lakh (Rupees two crore seventy five lakh ten thousand four hundred and seventy only) for a period of three years (August 2018 to July 2021). The financial sanction of the competent authority for the project is now being accorded for the period from 1<sup>st</sup> August 2018 to 31<sup>st</sup> March 2020. The sanction for the period from 1<sup>st</sup> April 2020 till the end of the project i.e. 31<sup>st</sup> July 2021 will be conveyed later. The release of fund will be through PFMS/EMS-MIS and the funded centre need to comply accordingly.

1. Name of the Lead Centre and address

ICAR-National Institute of Biotic Stress Management, Raipur-493225

Name & Designation of the Principal Investigator

Dr. P.N. Sivalingam, Senior Scientist, Agricultural Biotechnology, ICAR-NIBSM, Raipur

2. Names of Cooperating Centre and addresses

- i. National Institute of Plant Genomic Research, New Delhi-110067
- ✓ ii. ICAR-Indian Agricultural Research Institute, New Delhi-110012
- iii. Indian Institute of Technology Delhi-110016

Name & Designation of the Cooperating Centre Principal Investigators

- i. Dr. Senthil-Kumar, Muthappa Staff Scientist-IV, NIPGR, New Delhi
- ✓ ii. Dr. Bikash Mandal, Principal Scientist, ICAR-IARI, New Delhi
- iii. Dr. Neetu Singh, Assistant Professor, IIT, Delhi

- (vi) Whereas a minimum price for the intellectual properties is to be evaluated, it may not be rigidly adhered to; and the offers made by different parties shall be given due consideration in consultation with the Empowered Committee on the basis of recommendations of ICAR. The spirit behind this should be to commercialize the intellectual properties in the best interest of the investment.
- (vii) If one or more of the partners (i.e., the Lead or Cooperating Centre) of the Project is (are) interested to commercialize the intellectual properties, it may be given preference over other parties at mutually agreed terms and conditions between the interested partner and the ICAR.
- (viii) The ICAR will hold the right to use the intellectual property for non-commercial purposes in public interest.
- (ix) The services of the inventor(s) rendered subsequent to the transfer of intellectual property may entail earning of charges/fees etc., distribution of which will be as per the clause stated in para 4(i) above.
- (x) It will not be incumbent upon the ICAR to protect every Intellectual Property (IP) generated from the Project. On refusal by the ICAR to own the IP, the inventor(s) shall be free to protect it at their own cost provided ICAR has no objection to it in public interest.
6. The PI and the CCPI will not be removed/ transferred from the project without the prior consent of the Empowered Committee of the NASF.
7. The decision of the Empowered Committee of the NASF will be final in all matters of the project.

Receipt of this letter may please be acknowledged. The PI is requested to make copies of the sanction letter along with all the Annexures and distribute the same to the CCPI(s) and the heads of the Lead and Cooperating Centres.

Yours faithfully,



(P.K. Agrawal)  
ADG (NASF)

**Copy for information and necessary action to:**

- (i) PI/CCPIs of the project.
- (ii) Heads of Cooperating Centres
- (iii) I&AO, NASF Secretariat
- (iv) Office copy



NATIONAL AGRICULTURAL SCIENCE FUND  
(Indian Council of Agricultural Research)  
Room No. 707, KAB -I, Pusa, New Delhi - 110012

F. No. NASF/ABP-7016/2018-19

Dated: 27.07.2018

To,

The Director,  
ICAR- Indian Agricultural Research Institute,  
New Delhi-110012

Subject: Sanction letter for the Research project entitled, "Epigenomics of Drought Acclimatization and Stress Memory in Rice" under the National Agricultural Science Fund (NASF)

Sir,

The Empowered Committee (EC) of the NASF, considered the proposal on "Epigenomics of Drought Acclimatization and Stress Memory in Rice" in its thirty fourth meeting held on 5<sup>th</sup> July, 2018 and approved the proposal for implementation under the NASF. The total cost of this project is ₹ 277.37360 Lakh (Rupees two crore Seventy seven lakh thirty seven thousand three hundred and sixty only) for a period of three years (August 2018 to July 2021). The financial sanction of the competent authority for the project is now being accorded for the period from 1<sup>st</sup> August 2018 to 31<sup>st</sup> March 2020. The sanction for the period from 1<sup>st</sup> April 2020 till the end of the project i.e. 31<sup>st</sup> July 2021 will be conveyed later. The release of fund will be through PFMS/FMS-MIS and the funded centre need to comply accordingly.

1. Name of the Lead Centre and address

ICAR-Indian Agricultural Research Institute, New Delhi-110012

2. Name & Designation of the Principal Investigator

Dr. Suresh Kumar, Principal Scientist, Division of Biochemistry, IARI, New Delhi

The details of the project are given in the project document in Annexure I. The head-wise and year-wise budget (both consolidated and for each partner) are given in the Annexures II to VII.

**The Sanction will be subject to the following conditions:**

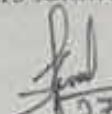
1. The Principal Investigator (PI) and the Lead Centre will have the overall responsibility of carrying out the work shown in the project as given in Annexure I. Each Cooperating Centre Principal Investigator (CCPI) and the Cooperating Centre will have the responsibility for work assigned to the Centre under the project by the competent authority of NASF and the centre will fully cooperate with the Lead Centre and the NASF authorities.
2. All the Centres and the scientists will follow the rules and regulations of the ICAR set for the operation of the projects sanctioned under NASF.



- (viii) The services of the inventor(s) rendered subsequent to the transfer of intellectual property may entail earning of charges/fees etc., distribution of which will be as per the clause stated in para 4(ii) above.
- (ix) It will not be incumbent upon the ICAR to protect every Intellectual Property (IP) generated from the Project. On refusal by the ICAR to own the IP, the inventor(s) shall be free to protect it at their own cost provided ICAR has no objection to it in public interest.
6. The PI and the CCPI will not be removed/ transferred from the project without the prior consent of the Empowered Committee of the NASF.
7. The decision of the Empowered Committee of the NASF will be final in all matters of the project.

Receipt of this letter may please be acknowledged. The PI is requested to make copies of the sanction letter along with all the Annexures and distribute the same to the CCPI(s) and the heads of the Lead and Cooperating Centres.

Yours faithfully,

  
27.7.18  
(P.K. Agrawal)  
ADG (NASF)

**Copy for information and necessary action to:**

- (i) PI/CCPIs of the project.
- (ii) Heads of Cooperating Centres
- (iii) F&AO, NASF Secretariat
- (iv) Office copy