

Guidelines for Implementation of the Component **Promoting Cereal Hybrid Seeds** of the scheme “Development and Strengthening of Infrastructure Facilities for Production and Distribution of Quality Seeds”.

## **1. Introduction :**

Quality of seed has a direct and significant bearing on productivity. An improved variety or hybrid can make a difference to production to the extent of 45%. Hybrid seeds have significant advantage in terms of impact on seed replacement rate. Hybrid seed are to replaced every year to retain hybrid vigour, thereby having Seed Replacement rate to 100%.

Rice is a major cereal crop in the country and its consumption is increasing . India is also a net exporter of rice. However, in order to raise productivity of rice on a sustainable basis, it is necessary to promote production and use of hybrid rice seeds.

The technology for production of hybrid rice seed has not, however, been easily adopted/accepted by farmers because of intricacies of technology and practices connected with it. Various hybrids of rice suited to different agro-climatic conditions of the country have been released. These hybrids have established their superiority over other high yielding varieties. However, seed is not available to farmers due to difficulties in seed production. Seed industry in India is active and visible in high value low volume seeds and not taking required interest in low value high volume seed of cereals. Further, in India, 80-85% seeds are farm saved seeds. Therefore, it is absolutely essential to promote hybrid seed production by the farmers themselves. Subsidies on the production and distribution of hybrid seed will promote the hybrid rice seed production and use on a large scale and will contribute significantly to agricultural production.

## **2. Approach :**

A two pronged strategy has been proposed to promote production as well as distribution of hybrid rice. Subsidy will be given for production as well as distribution of the hybrid seeds. Implementing agencies will submit their production programme to the DAC. The DAC will fix production targets in consultation with the implementing agencies and will be mentioned in the sanction to be issued. The production targets may, however, vary by 10%; however, in case the variation is more than 10%, the approval of DAC will be obtained. The subsidy will be available only for the notified hybrids and will be based on the quantity of hybrid seed produced and distributed.

### **3. Implementing Agencies :**

The scheme will be implemented through State Departments of Agriculture, State Seeds Corporations, SAUs, NSC/SFCI, and Private Seed Companies. The nodal agency for implementation of the scheme will be the State Departments of Agriculture. Generally, the proposals will be routed through the nodal agencies. However, in special circumstances, the proposals can also be entertained by DAC directly. But in such cases, after the approval, it will be routed through the State Agriculture Department who will involve in implementation, monitoring etc. The Memorandum of Understanding (MoU) will also be signed between DAC and the implementing agencies (other than State Governments) for production of hybrid seeds. However, in case of private seed companies undertaking the hybrid seed production through farmers, a Memorandum of Understanding will have to be signed between the company and the concerned State Government. Further, it is mentioned that EFC while considering the scheme on "Development & Strengthening of Infrastructural Facilities for Production & Distribution of Quality Seeds", was of the view that the subsidy for the private sector should be provided primarily for low value, high volume seeds and directed that this should be incorporated in the scheme guidelines. It has, therefore, been decided that the private sector companies will be given subsidy if price structure of the seed sold by the private companies is similar to that of National Seeds Corporation, a Public Sector Organization, or State Seeds Corporations.

### **4. Rate of Subsidy :**

Production subsidy will be given @ Rs. 20/- per kg. and distribution subsidy will be given @ Rs. 25/- per kg as approved by the Government.

### **5. Payment of Subsidy :**

50% of the production subsidy will be given in advance to the implementing agencies to facilitate advance preparation for undertaking hybrid rice production programme, especially to enable them to procure sufficient quantities of seeds of parental lines, chemicals and other necessary inputs and the rest of the production subsidy can be paid immediately after the actual production figures are available from the implementation agencies. The production subsidy will be given in advance to the implementing agency. However, the subsidy for distribution can be given in advance if the implementing agencies furnish convincing reasons for the same.

### **6. Supply of Seeds :**

The concerned implementing agencies will ensure that sufficient quantity of breeder seeds/foundation seeds of inbred lines of hybrid rice are made available to them through the State Agril. University or any other agency who have developed notified hybrid suitable for a particular agro-climatic region. They will also ensure the availability of all necessary inputs including chemicals

like Gibberellic acid (GA3), etc. In case the implementing agencies face any difficulty in his regard, they may bring the same to the notice of the Seeds Division of the DAC.

## 7. Training :

Hybrid Rice Production Programme is a scientific and complex process. While undertaking hybrid rice production programme by the implementing agencies through the contract growers/farmers/growers, there may be need for imparting training to the seed growers for hybrid rice production. There may be two to three such trainings organized one at the time of/before sowing, second during flower initiation stage and third before/at the time of harvesting, if necessary. For this purpose, the financial assistance may be provided as per details given below:

Sl.No.	Items	Amount (Rs.)
1.	For 50 participants one Lunch and tea, biscuits twice a day for 3 days @ Rs.50/- per day per participant (50 X 3 X50)	7,500
2.	Stationery / Publicity material @ Rs.10 per participant to be supplied in local languages (50 X10X3)	1,500
3.	Lump sum management charges for implementing agency	4,500
4.	Honorarium to resource person @ Rs.300/- per day for 3 days	900
5.	Other contingency charges	600
	<b>Total</b>	<b>15,000</b>

However, the training cost may increase proportionately depending upon the number of participants.

## 8. Submission of Proposals

Proposals will be required to be submitted by the implementing agencies in the prescribed proforma.

## 9. Monitoring of the Scheme :

The scheme will be monitored by the Seeds Division of the DAC. The implementing agencies will be required to send their quarterly progress report as per the Proforma prescribed in **Annexure-I**.

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**PROFORMA FOR SUBMISSION OF QUARTERLY PROGRESS  
REPORT**

1. Name & Address of the Implementing Agency.
2. Total area involving hybrid seed production (in Blocks & Districts in which the area is located).
3. Seed rate per acre.
4. Total quantity of seed produced
5. Amount of subsidy :
  - (i) Production subsidy @ Rs. 20/- per kg.
  - (ii) Distribution Subsidy @ Rs. 25/- per kg
6. Cost of other inputs with details.
7. Number of trainings proposed to be conducted/conducted and cost as per guidelines.
8. Any other information.

## Details of Notified Hybrid Rice Varieties available in India

S.No.	Name of the Hybrid	S.O. No. & Date	Sponsoring Authority	Parentage	Adaptability	Features
1.	Karnataka Rice Hybrid – 1	1 (E) dated 1.1.1996	University of Agricultural Sciences, Bangalore, Karnataka	IR 58025 A X IR 9761 – 19 – IR	Recommended for Southern Karnataka in tank and canal irrigated areas	Long slender grain, early maturity (120-125 days), average yield 6.5 – 7.5 t/ha.
2.	CORH-1	360 (E) dated 1.5.1997	Tamil Nadu Agril. University, Coimbatore, Tamil Nadu	IR-62829 A X IR – 10198-66-2	Recommended for Tamil Nadu in May to June planting	Medium slender grain, early maturity (110-115 days), average yield 6 t/ha (Potential yield 10155 kg./ha).
3.	APHR-1	662 (E) dated 17.9.1997	Agril. Research Station, Maruteru, A.P.	IR 58025 A X VARJAM 'R'	Recommended for Rayalseema and Telengana regions (Semi arid regions) of AP	Long slender grain, medium maturity (130-135 days)
4.	APHR-2	662 (E) dated 17.9.1997	Agril. Research Station, Maruteru, A.P.	IR 62829 A X MTU 9992 R	Recommended for Rayalseema and Telengana regions (Semi arid regions) of AP	Long slender grain, medium maturity (120 days), average yield 8 – 8.5 t/ha.
5.	DRRH - 1	401 (E) dated 15.5.1998	Directorate of Rice Research, Hyderabad	IR 58025 AX IR 40750 – 82-2-2-3 R	Recommended for irrigated areas of Andhra Pradesh States	Long slender grain, medium maturity (125 -130 days), average yield 6.5 – 7.0 t/ha.
6.	Karnataka Rice Hybrid - 2	40 (E) dated 15.5.1998	University of Agril. Sciences, Bangalore, Karnataka	KMR – 3 R	Southern Karnataka in tank and canal irrigated areas	Long duration (135 days) average yield 8-9 t/ha.
7.	CORH-2	425 (E) dated 8.6.1999	Tamil Nadu Agri. University, Coimbatore, Tamil Nadu	IR 58025 A X C20R	Recommended for Tamil Nadu in July – Oct. sowing	Medium duration average yield 6 t./ha.
8.	ADTRH-1 (ADRH-4)	425 (E) dated 8.6.1999	Tamil Nadu Rice Research Institute, Aduthurai, T.N.	IR 58025 A X IR 66 R	Recommended for Tamil Nadu in irrigated conditions during April – July sowing	Long slender grain, early maturity (110-123 days), average yield 6.4 t/ha.
9.	Pant Sankar Dhan-1	425 (E) dated 8.6.1999	GB Pant University of Agril. and Technology	UPRI 95 – 17A X UPR1 92 – 133 R	Recommended for irrigated areas of UP	Long slender grain, early maturity (120-122 days), average yield 6.5 – 7.5 t/ha.
10.	Narendra Sankar Dhan-2	425 (E) dated	Narendra Dev University of Agri. &	IR 58025 A X NDR 3026-3-	Recommended for UP in assured irrigated areas	Long Slender grain, early maturity (120-130 days),

		8.6.1999	Technology, Faizabad	I-R		average yield 6.7 t/ha.
11.	6201 (PA-103) (Private hybrid)	92 (E) dated 2.2.2001	Hybrid Rice International Hyderabad Ltd., Hyderabad	6 CO <sub>2</sub> X 6 MBO 1	Recommended for Eastern UP, Bihar, West Bengal, Orissa, Tripura, AP and Karnataka under irrigated conditions.	Medium maturity (125-130 days), Average yield 6.2 t/ha.
12.	Hybrid – 6444 (HRI-120) (Private hybrid)	1134 (E) dated 15.11.2001	Hybrid Rice International Hyderabad Ltd., Hyderabad	6 CO <sub>2</sub> / 6 MO 5	Recommended for Telangana region of AP, South Karnataka and Konkan region of Maharashtra, eastern UP, irrigated areas of Orissa and Tripura and plain areas of Uttaranchal.	Medium maturity (135-130 days), average yield 6-8 t/ha.
13.	Pusa RH-10	1134 (E) dated 15.11.2001	IARI, New Delhi	Pusa 6A x PRR 78	Recommended for North Western plains including Tarai areas of Uttaranchal, Western UP, Delhi and Haryana under irrigated transplanted conditions	Medium early maturity (120 – 125 days), average yield 4.4 t/ha.
14.	PHB-71 (Private hybrid)	647 (E) dated 9.9.1997	Pioneer Overseas Corporation, Hyderabad	RF 1301 X RM 1401	Recommended for Haryana, Karnataka, Tamil Nadu and Eastern UP	Long slender, Medium group (130-135 days), average yield 8.75 t/ha.
15.	Sahyadri	821 (E) dated 13.9.2000	Regional Research Station, Karjat	IR-58025 A X BR-827-35-3- 1-1-1-R	Recommended for medium soil and rainfed lowlands in Maharashtra	Long slender grain, medium maturity, average yield 6 – 6.5 t/ha
16.	RH-204 (EXPH-204) (Private hybrid)	283 (E) dated 12.3.2003	Parry Monsanto Seeds Ltd., Bangalore	F-32 X M-11	Recommended for Telangana and coastal region of AP, South Karnataka and Coimbatore Distt. Of Tamil Nadu, Kaul and Karnal in Haryana, Kota area of Rajasthan Pant Nagar region of Uttaranchal under irrigated condition	Medium maturity group, average yield 7.5 – 8.0 t/ha.
17.	Suruchi – 5401 (MPH-5401) (Private hybrid)	122 (E) dated 2.2.2005	Maharashtra Hybrid Seeds Company Ltd., Aurangabad	PMS 79 X PR 319	Recommended for Maharashtra, AP, Karnataka under well drained irrigated transplanted condition in Kharif season	Medium maturity (130-135 days), averaged yield 7 – 8 t/ha.
18.	Ajay (CRHR-7) (IET – 18166)	1572 (E) dated 20.9.2006	CRRI, Cuttuck	CRMS 31 A x IR 42266 – 29-3R	Irrigated lands of Orissa in both Kharif and Rabi season.	Long slender transculant grains. 125 -130 days duration. Average yield under normal condition Kharif - 6-6.5 t/ha

						Rabi – 7 – 7.5 t./ha.
19.	Rajalaxmi (CRHR-5)	1572 (E) dated 20.9.2006	CRRI, Cuttuck	CRMS 32A x IR 42266-29- 3R	Irrigated lands of Orissa in both Kharif and Rabi season.	Long slender translucent grains. 125 -130 days duration. Average yield under normal condition Kharif - 5.5-6 t/ha Rabi – 6.5 – 7 t./ha.