



## Major agricultural activities in the selected villages under Mera Gaon Mera Gaurav

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### ABSTRACT

Mera Gaon Mera Gaurav (MGMG) programme is an endeavour towards speedy development of the selected backward villages. For sound planning and efficient execution of project in the five selected villages information pertaining to agriculture and allied sectors has been collected. Five key informants have been selected and questionnaire based information has been analysed. All the five villages were endowed with plain topography, type I soil, equipped with irrigation facilities. Important crops of all the five villages are rice, wheat, lentil, mustard, potato, tobacco and sugarcane, etc. Crop area under *Rabi* season is more than that in *Kharif* season. They have gradually extended their crop production activities in summer season as well. Lack of assured irrigation and blue bull menace are limiting factors for summer cultivation. For sustainable crop production, uninterrupted electricity, availability of quality seeds and planting materials apart from transport facility, credit and extension services are needs of the hour to boost agricultural production in the selected villages.

### KEY WORDS

Agriculture, Fisheries, Horticulture, Livestock, Mera Gaon Mera Gaurav

### INTRODUCTION

India is still country of more than 6.64 lakh villages, where more than 65 percent population is residing, and pre-dominantly depends upon agriculture and allied sectors. Majority of Indian farmers are small and marginal type having very less agricultural land holding (Sharma and Singh, 2016). Hence, participation of small and marginal farmers in Indian agriculture is very important. Small farmers put forth their desire on various forums to have timely information on investment in agriculture, loans, availability of other basic amenities, market rates, extension activities and facilities provided by different agencies, new research findings and technologies, etc (Kumar *et al.*, 2018 and Singh *et al.*, 2013). Agriculture and allied enterprise is still key of Indian economy. Contribution of agriculture in Indian economy was highest (>50%) at the time of independence. Gradually over a period of time, development has taken place and currently, contribution of agriculture and allied sectors are around 16 percent (Bharati *et al.*, 2014). In the recent past and current time, agriculture production system are facing new challenges due to decline in factor productivity, coupled with sharp declined in natural resources especially diminishing water fertility status of soil development (National Commission on Farmers, 2006).

Government of India has launched its flagship programme called Mera Gaon Mera Gaurav (MGMG) or My Village My Pride (MVMP) through the Ministry of Agriculture and Farmers Welfare. The main focus of MGMG programmes is the quick extension of technologies developed and refined by research institutes, agricultural universities, and other organisations needs to be adopted by farming communities, therefore, the awareness among farmers about the organisations and their programmes need to be created on regular basis. The objective of this scheme is to provide farmers with required information, knowledge and advisories on regular basis by adopting villages (Singh *et al.*, 2018). The programme aims to rapidly transform the districts that have shown relatively lesser progress in key social areas and have emerged as pockets of under-development, thereby posing a challenge to ensure balanced regional development (National Commission on Farmers, 2006). Program focuses on agriculture and allied sector development through technical backstopping from ICAR institute. Present programme visualizes rapid agricultural development of five selected villages which are located in Marwan block of district Muzaffarpur, of Bihar. This district is one of the thirty-eight districts of Bihar, India, and is one of the largest commercial and educational centre in North Bihar.

The average rainfall of locality is 1280 mm, and approximately 85% rain is received during monsoon period (June to September) from south-westerly monsoon. Winter rain is caused by north-easterly monsoon. Three distinct weather is experienced in the area, severe winter (November to March), very hot summer (April to June) and then by heavy downpour of monsoon (July to October) (Singh *et al.*, 2018). To enable optimum utilization of their resource in the selected villages, there is need to know the present status of agriculture and allied activities, so that technical backstopping for scaling up of their livelihood and rural economy may be provided. Keeping this in view this survey work has been conducted.

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Discussion with the farmers of Chainpura village, Marwan, Muzaffarpur (Bihar)



Discussion with the farmers of Amia Vishanpura Village, Marwan, Muzaffarpur (Bihar)



Discussion with the farmers of Parri Village, Marwan, Muzaffarpur (Bihar)



Discussion with the farmers of Jiyanpur Khurd Village, Marwan, Muzaffarpur (Bihar)



Discussion with the farmers of Mohamadpur Aima Village, Marwan, Muzaffarpur (Bihar)

**Fig.2:** Interacting with key informants farmers of selected villages

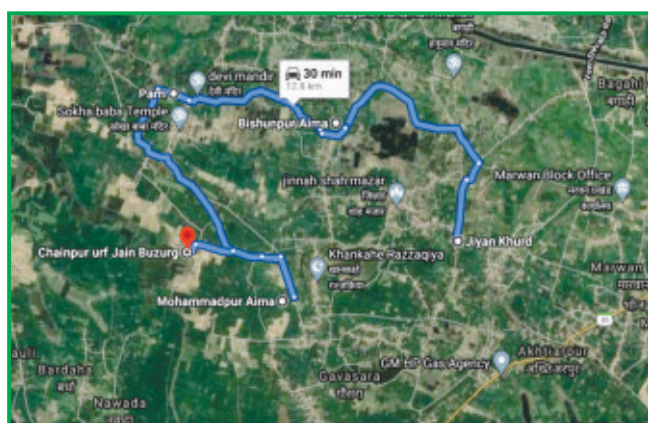
villages were selected from Marwan community development block of Muzaffarpur District of Bihar State; India and was selected during two days' visits undertaken during 26-27 September, 2015 (Singh *et al.*, 2018). Questioner has been developed for the purpose Based upon personal interactions and recommendation of resident villagers, five key informants were selected from each village selected under this scheme, and relevant information has been gathered (Sharma and Singh, 2016). Based upon their responses, data has been normalized. Dr. A K Singh, Dr. R C Bharati, Dr. N Chandra and Dr. V Dwivedi have interacted Key informants of respective village (Fig.2). For the purpose we have prepared 12 questioners and requested to provide information best on their knowledge, experience and self believes. Our questioner contains questions pertaining to (i) Area under major cropping season (ii) Farmers category (iii) Farming situations (iv) Soil type (v) Cropping System and (vi) Major crops of the selected villages.

**Results and Discussion**

Based upon two days' exhaustive interactions with key informants and old age persons, information received were analysed and normalized for presenting rough idea of the selected villages.

**MATERIALS AND METHODS**

To know the present status of major agricultural activities in the selected five villages namely Chainpur, Aima Vishanpur, Jiyan Khurd, Parri and Mohamadpur Aima (Fig.1). Two days' visit were undertaken during 15-16 January, 2016. These five



**Fig.2:** Selected village under Mera Gaon Mera Gaurav

**Area under major cropping season**

All the informants agreed that crops were grown in all the three seasons viz., *Kharif*, *Rabi* and *summer* in all the five villages as per their land allocation availability of assured irrigation facilities. Perusal of data presented in **Table 1** revealed that highest geographical area (831 ha) is with Jiyon Khurd, whereas corresponding lowest (87 ha) was with village Mohamadpur Aima. (Singh *et al.*, 2018). During *kharif* season 72-80% of total land area available for cultivation, has been sown, whereas in *Rabi* season the area under crop increases slightly and it ranges from 85 to 91 percent of total cultivable area, this might be due to heavy waterlogging during *kharif* season. However area under crop during summer is still very low and it ranged in between 6-9% of total land area available for cultivation. There is huge scope and potential for undertaking cultivation during summer season (**Table 1**).

**Table 1:** Area under major cropping seasons in selected villages under MGMG

Village Name	Geographical area (ha)	Cultivable land (ha)	Kharif (ha)	Kharif Area (%)	Rabi (Area)	Rabi Area (%)	Summer (Area)	Summer Area (%)
Chainpur	289	227	182	80	207	91	21	9
Aima Vishanpur	105	81	58	72	69	85	6	7
Jiyon Khurd	831	628	467	74	549	87	51	8
Parri	682	563	412	73	512	91	47	8
Mohamadpur Aima	87	66	51	77	59	91	4	6

**Farmer's categories**

Results presented in the **table 2** provide real farming position of selected villages under this scheme. Most of the farmers in every village are either small (12-75%) or medium 12-83 %. Maximum (18%) landless were residents of Chainpur village, followed by 14% in Parri village. Numbers of farmers having large holding size are in between 1-3 %, Maximum (3%) in case of in Chainpur village.. This situation suggest that large holdings get into medium and medium gets divided into small and so on and so forth in the process of division of land

among family members (Sharma and Singh, 2016).

**Table 2:** Farmers categories in the selected village under MGMG

Village Name	Size of Holdings				
	No of Farmers	Large (%)	Medium (%)	Small (%)	Landless (%)
Chainpur	401	3	13	69	18
Aima Vishanpur	134	1	24	73	2
Jiyon Khurd	494	1	83	12	4
Parri	406	1	12	73	14
Mohamadpur Aima	130	1	22	75	2

**Farming situations**

Situation of agriculture production in selected village are depicted in **table 3**, wherein cultivable area (ha), cropping intensity (%), irrigated area and un-irrigated/ rainfed area have been presented. Highest cultivated/ net sown area (628 ha) were found in Jiyon Khurd village and lowest 66 ha in Mohamadpur Aima village. Cultivated/ net sown area under assured irrigation ranges in between 70 to 77%, whereas percent area under unirrigated/ rainfed are somewhere in between 23-30%. Cropping Intensity is also ranged in between 145 to 155 %, this suggest ample scope of extension of irrigation facilities which will lead to improvement in cropping intensity further in big way (Kumar *et al.*, 2018 and Singh *et al.*, 2013).

**Table 3:** Farming situations in the selected villages of Marwan block of District Muzaffarpur under MGMG

Farming Situation	Villages of Marwan Block of Muzaffarpur				
	Chainpur	Aima Vishanpur	Jiyon Khurd	Parri	Mohamadpur Aima
Cultivable land (ha)	227	81	628	563	66
Cultivable land (% of total area)	78	77	76	83	75
Cropping Intensity (%)	148	145	165	150	150
Irrigated area	163	62	441	405	48
Irrigated area (%)	72	77	70	72	73
Unirrigated/ Rainfed	64	19	187	158	18
Unirrigated/ Rainfed (%)	28	23	30	28	27

**Types of soil in the selected village**

Plain topography has been noticed in all the villages, this in turn provides good fertile landscape in general, supported by sufficient rain in the locality (**Table 4**). Locality is endowed with rich fertile soil due to availability of plenty of water. Majority of soils in the selected villages are fertile soil and it was categorised under Type-I (Clay Loam fertile). Area under Type-I soil ranged in between 70-76%, whereas area under Type-II (Loam fertile) soil also found in considerable amount

and it ranges in between 23-27%, such soil are excellent for tuber crop production such as potato, onion, turmeric, carrot, radish etc. There is 5-8% area under Type-III (Sandy Loam fertile) soil, such soil can be efficiently used for tobacco, sugarcane production with little care (Singh *et al.*, 2013).

**Table 4:** Soil type in the selected village under MGMT

Soil Type	Villages of Marwan Block of Muzaffarpur				
	Chainpur	Aima Vishanpur	Jiyan Khurd	Parri	Mohamadpur Aima
Type-I (Clay Loam fertile)	76	76	72	70	71
Type-II (Loam fertile)	23	23	22	25	27
Type-III (Sandy Loam fertile)	1	1	6	5	2
Topography	Plain	Plain	Plain	Plain	Plain

**Cropping system in the selected village**

Based upon response of the key informants of their respective villages, prevailing cropping system in the selected village are presented in **table 5**, perusal of data depicted in table reveal that four major system of all the villages are same i.e. (i) Rice -Wheat, (ii) Rice -Toria -Moong, (iii) Maize-Wheat-Moong (iv) Rice- Lentil. However they grow variety of crop for their

**Table 6:** Major crops in the selected villages under MGMT

Farming Situation	Villages of Marwan Block of Muzaffarpur				
	Chainpur	Aima Vishanpur	Jiyan Khurd	Parri	Mohamadpur Aima
Major crops during <i>Kharif</i>	Rice	Rice	Rice	Rice	Rice
Area under Rice(ha)	167	54	445	398	48
Important varieties	Pioneer 71, Manson, Arise 6444 JK 401	Pioneer 71, Manson, Arise 6444 JK 401	Pioneer 71, Manson, Arise 6444 JK 401	Pioneer 71, Manson, Arise 6444 JK 401	Pioneer 71, Manson, Arise 6444 JK 401
Productivity (kg/ha)	2958	2891	2911	2924	2873
Major Problems	Crop damage from blue bull, Weed infestation	Irrigation, Labour Plant Protection	Irrigation, Labour Plant Protection	Irrigation, Labour Plant Protection	Irrigation, Labour Plant Protection
Major crops during <i>Rabi</i>	Wheat	Wheat	Wheat	Wheat	Wheat
Area under Wheat (ha)	198	56	512	457	53
Important varieties	HD 2733, PBW343, HD 2967, PBW 502	HD 2733, PBW343, HD 2967, PBW 502	HD 2733	HD 2733, PBW343, HD 2967, PBW 502	HD 2733
Productivity (kg/ha)	3285	3458	3374	3214	3192
Major problems	<i>Phaliris minor</i> infestation	Irrigation, Weed	Irrigation, Weed	Irrigation, Weed	Irrigation, Weed
Major crops during Summer	Moong & Fodder	Moong & Fodder	Fodder	Moong & Fodder	Fodder
Area under Mung & Fodder (ha)	21	6	51	47	4
Important varieties	Local Moong & MP Chari	Local Moong & MP Chari	Local Moong & MP Chari	Local Moong & MP Chari	Local Moong & MP Chari
Productivity (t/ha)	1.1 &8.9	1.0 &9.1	1.1 &8.6	1.1 &9.3	1.1 &9.1
Major Problems	Irrigation and Grazing	Irrigation and Grazing	Irrigation and Grazing	Irrigation and Grazing	Irrigation and Grazing

own domestic consumption and for animals. In case of cash crop they mainly grow tobacco, and sugarcane.

**Table 5:** Cropping System in the selected villages under MGMT

Village Name	Cropping System 1	Cropping System 2	Cropping System 3
Chainpur	Rice -Wheat	Rice -Toria - Moong	Maize-Wheat-Moong
Aima Vishanpur	Rice -Wheat	Rice -Toria - Moong	Maize-Wheat
Jiyan Khurd	Rice -Wheat	Rice -Toria - Moong	Maize-Wheat
Parri	Rice -wheat	Rice -Toria - Moong	Maize-Wheat
Mohamadpur Aima	Rice -wheat	Rice -Toria - Moong	Maize-Wheat

**Major crops in the selected villages**

During our discussion with key informants of respective villages, were asked about major crop during *Kharif*, *Rabi* and *summer* seasons, approximate area under major crops, important varieties, productivity, and major problems during particular season. Several information were gathered and based upon frequency of particular crop, variety, productivity, data have been prepared and presented in **Table 6**. Perusal of information it can be easily pointed out that rice,

**Table 7:** Major Problems of the identified village under MGMG

Village	General Problem	Agriculture Problem
Chainpur	Lack of good road, Hospital, Quality education, Sanitation	Crop damage from Blue bull, Lack of irrigation & water logging Lack of labour, quality seeds and other inputs
Aima Vishanpur	Road, Hospital, quality education, Sanitation	Irrigation, water logging, Labour, quality seeds and inputs
Jiyan Khurd	Lack of good road Hospital, Quality education, Sanitation	Crop damage from Blue bull, Lack of irrigation & waterlogging Lack of labour, quality seeds and other inputs
Parri	Lack of good road Hospital, Quality education, Sanitation	Irrigation, water logging, Labour, quality seeds and inputs
Mohamadpur Aima	Lack of good road Hospital, Quality education, Sanitation	Crop damage from Blue bull, Lack of irrigation & waterlogging Lack of labour, quality seeds and other inputs

wheat, toria maize moong sorghum fodder are the major or important crops of during Kharif, Rabi and summer season respectively. Areas under crops were more during *Rabi* as compared to *Kharif* and vary comparatively very less during *summer* season. Area under wheat is more as compare to rice in each village. With reference to important varieties, Pioneer 71, Manson, Arise 6444, JK 401, HD 2733, PBW343, HD 2967, PBW 502, Local Moong & MP Chari etc. Majority of farmers grow rice, wheat and sorghum fodder respectively during *Kharif*, *Rabi* and summer. Major problem faced by farmers during *Kharif* season are irrigation, labour and plant protection, with production of 2873 to 2958kg/ha. Similarly, in case of *Rabi* season irrigation and weed are important problems with production over 3000kg/ha. During summer, due to irrigation and grazing problem, only fodder sorghum, (MP Chari) and few summer vegetables are grown in the 5-8% cropped area.

#### Major general and agriculture problems faced by villagers

In the process of interaction, some time, we asked varieties of questions which was not listed in our questioner, we also requested to enumerate important problems face in day to day in agriculture and in general as well, and Pandora box upend, our team listen patiently and as per the weightage we listed following problem under general and specific to agriculture (Table 7). All five villages are facing similar problems as they belong to same community development block (CDB). Our Key informants priorities and ranked electricity is top most problem, followed by transport, credit,

extension service and need based training under general problem category, whereas in case of agriculture specific problem, they listed irrigation as top most problem, followed by improved varieties, quality seeds and planting material, plant protection and blue bull menace. Most of the problem were related to developmental issue, however they were interlinked and associated with each other, for example electricity and irrigation, improved variety and quality seeds and planting material etc.

#### CONCLUSION

With the help of questionnaire-based-information provided by important key informants, overall agricultural production of all the five adopted villages has been analysed. Information has been obtained for whole crop year as well as individual cropping season. It was noticed that due to extension of assured irrigation facilities area under *Rabi* season has been more as compare to *Kharif* season. Utilization of agricultural land for crop production during summer is very limited due to lack of irrigation and menace of blue bull. For sustainable improvement in crop production and to boost agricultural economy as a whole, there is urgent need to intervene for improving electricity situation *vis-a-vis* strengthening and extension of irrigation facilities, followed by supply of improved variety of agricultural commodities and their quality seeds and planting materials. Transport, credit, extension service are other sectors that need to be strengthened in phased manner for boosting agricultural production in the selected villages.

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