

# **Third Party Inspection & Impact Evaluation of Krishi Bhagya Yojane in Karnataka State during the years 2014-15, 2015-16 & 2016-17**

Supplement to the Report Submitted to DOA

Submitted to  
Department of Agriculture,  
Government of Karnataka, Bengaluru

By



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## **Policy inputs and Recommendations**

### **Suggestions/Policy inputs for overall improvement of the scheme.**

The Technical Committee of Karnataka Evaluation Authority(KEA) at its 44<sup>th</sup> meeting held on 17 July 2019 approved the draft Evaluation report submitted by NABCONS to the Department of Agriculture. Further, the committee advised NABCONS to submit a supplement to the report on its suggestions to the following observations made by the committee.

- i. Suggest for a policy change that the farmers without borewells to be identified as beneficiaries under the scheme.
- ii. Recommendations to include type of crops to be grown with high returns and less water consumption and focus on marketing
- iii. Recommendations should be specific evidence based and related to objectives.
- iv. In the estimation of the impact on production and income the productivity measure to be isolated from the impact made due to the existence of a borewell.
- v. Bring out the impact of Krishi Honda on ground water levels and promotion of dry land Horticulture under the scheme.

### **I - The recommendations/ suggestions covering the above aspects are furnished below:**

- i. The change in the cropping pattern after Farm Pond construction has enabled the farmers to get better returns. It is, however, observed from the field study that a large number of farmers continue to raise the same crop and only a few farmers have adopted change of cropping pattern like cultivation of Tomato and Red Chilli in place of existing crops viz., Ragi and Pulses. Such farmers could substantially increase their income and in respect of Red Chilli it was noticed that the income has actually doubled (Chapter VA - Table 16). Success Stories of farmers who have obtained higher income due to change in cropping pattern have also been furnished in the Report. Further, the various crops introduced by the farmers after construction of Farm Pond is furnished in Table 47. Hence, in places where it is suitable, farmers may be encouraged to go for short duration vegetable crops. The Department may suggest suitable changes in cropping pattern taking into account the agro-climatic conditions and use of water efficient devices viz., Drip/Sprinkler, rain fall situation in specific areas and availability of marketing/ processing facilities for the crops being suggested. The change in crops grown observed during the Field Study have been captured in the respective District profile.

- ii.** Keeping in view the objective of supporting Farm Ponds as a coping mechanism to provide critical irrigation in rain fed areas, priority may be given to the farmers who are primarily dependent on Rainfall for crop cultivation. Karnataka has been frequently facing drought & drought like situations and it was observed during the period of study, the ground water levels are depleting faster. Further, availability of power during day time was very limited and farmers who have borewells were not able to irrigate their crops during day time. In order to deal with these challenges, Farm Ponds have been provided by the Department to such farmers also. It is observed in the field that farmers having borewells who were supported for establishment of Farm Pond have been able to increase net cultivated area (Chapter VA - Table 17). Further, some of them could change their cropping pattern from field crops to more remunerative crops viz., Tomato, Chillies, Papaya, Brinjal, etc (Chapter VA – Table 16). However, in order to restrict coverage of such farmers on a large scale, eligibility may be confined to those farmers whose borewells have failed and in respect of those who have scope for bringing additional area under cultivation with the construction of farm ponds.
- iii.** The primary objective of the Farm Pond is to harvest the rainwater so as to provide supplementary irrigation for the crops taken up for cultivation and increase the average productivity of crops. The Department has provided polythene sheets to arrest percolation of collected rain water and to use it for providing critical irrigation. Therefore, the scope of the study has been confined to assess the impact of the Farm Ponds on the increase in the yields, change in cropping pattern, area brought under supportive irrigation, etc., instead of possible impact on the ground water levels. It was generally observed that some of the farmers have taken up dry land horticulture viz., mango, pomegranate, Ber, etc. also alongside their field crops. The run-off collected in the Farm Ponds was used to provide needed critical irrigation to these crops.

## II -Suggested Policy Interventions :

### **(a) Technical aspects**

#### **(i) Farm Pond**

- It is observed from the field study that site selection in many cases is not according to the watershed concept. Site selection needs to be given more focus and the related technical specifications viz., slope, radiant, direction and position of inlet and outlet pipe have to be recorded and ensured that the farmer has constructed the pond accordingly. The accountability and certification may be clearly notified in the guidelines.
- To ensure maximum storage of harvested rain water frequent desilting may be ensured. Installation of appropriate **inlet with filter** and outlet to avoid soil erosion will prevent accumulation of silt in the farm pond.
- There is a need to put in place a mechanism to ensure that proper quality of polythene sheet is supplied by vendors.
- Keeping in view the spirit behind the scheme i.e. harvesting and providing lifesaving irrigation, there is a need to replace the polythene sheet after 3 years as it is prone to damages and as a result water harvesting is affected due to percolation.
- As no support is given for polythene lining in black soil, an alternative mechanism may be supported to avoid bund/structure collapsing as observed during the field study.
- In order to address the negative externalities like increasing rates of evaporation, the farm ponds may be covered with solar paneled enclosures which can give the beneficiaries of assured power and to give reasonable returns by selling the excess power.
- Fencing of farm pond may be made mandatory. The Agriculture Department may be made accountable for its implementation strictly to avoid unfortunate incidence of human/cattle falling in to farm pond.

#### **(ii) Poly House**

- Shade nets/ poly houses are vulnerable to strong winds. Department may insist upon facilitating wind breakers by the farmers before sanction/release of subsidy.

- In places where high temperature prevails like Bellary and Koppal districts, the green shade nets were found to be useful only for nursery purpose. It is suggested to consider provision of white colour shade net in such hot climate areas.

## **(b) Awareness creation**

### **(i) Farm Ponds**

- In order to effectively use the Farm ponds constructed for reaping sustainable benefits in the long run, there is a need to create awareness amongst beneficiary farmers on maintaining the depth of farm pond by removing silt and not to close the farm ponds.
- Awareness may be created in areas where change in cropping pattern is possible for increasing income levels.

### **(ii) Poly House**

- One week intensive training to farmers to acquire necessary skills in maintaining the poly house and also growing of different suitable crops for cultivation is needed.
- More clarity on creating mandatory components under the poly house scheme needs to be provided at the field level.
- Creating awareness on demand for various crops, season-wise demand and supply position and also tie-up arrangement with marketing agencies (malls, processing industries, reputed hotels, etc.) so as to avoid glut in the market.
- It is observed from the field study that about 25% of farmers belonging to SC/ST category have raised local variety crops instead of cultivating high value crops in their Poly Houses which has defeated the major objective of increasing Farmers' income. Poor price realization on account of local varieties will dent the viability aspect. It is suggested that these farmers may be adequately provided training on technical aspects of crop cultivation, maintenance of Poly House and its components, marketing and exposure visits to successful models.
- There is a need to develop farmer friendly training modules by the Dept. of Horticulture for different crops grown in Poly Houses. Also, there is a need to provide practical training in management of various parameters of protected cultivation. A 'Telegram' or 'Whatsapp' group of such trained farmers involving

Agriculture and Horticulture Department crop scientists may be put in place for seeking timely guidance, experience sharing, etc.

### **III- Other Recommendations**

#### **(i) Farm Ponds**

##### **Short Term Measures**

- There have been instances of humans and animals falling in the Farm Ponds and some have lost their lives. Since the depth of the farm pond is prescribed to be 3 metres, it is prone to dangers especially during the rainy season. Therefore, it is recommended that provision of subsidy for erecting fencing may be done as that would help in saving lives.
- Provision for Diesel Pump sets with subsidy may be considered for individual farmers instead of on group/community basis as per present guidelines.
- Feasibility of including solar powered pump sets may be considered with adequate subsidy component.

##### **Long Term Measures**

- In order to ensure sustainable income to the farmers, the beneficiaries may be extended support for pursuing allied/supplementary activities through convergence of schemes like National Horticulture Mission(NHM), Mahatma Gandhi National Rural Employment Guarantee Act ( MGNREGA), Rashtriya Krishi Vikas Yojane( RKVY), etc., implemented by other Departments like, Horticulture/Forestry, Rural Development & Panchayat Raj ( RD&PR), Animal husbandry, Fisheries, etc.
- Crop planning may be advocated among the farmers to ensure proper utilisation of water and high returns.
- To ensure optimum utilization of the harvested rain water stored in the farm pond cultivation of less water consuming but high income generating crops like, Millets, Coarse cereals, Oil seeds etc. may be encouraged. Farm models may be prepared and distributed to the identified beneficiaries.
- Considering the recurring droughts in the State and vast areas cultivated under rainfed conditions, it is recommended that all farm holdings may be supported to

establish Farm Ponds along with micro irrigation systems. As per the field study data, 31% of beneficiaries have not installed micro irrigation system. Hence, adoption of Micro irrigation system like Drip/Sprinkler may be made a compulsory component of the Government support to ensure optimum utilization of water.

- Replacement of Micro Irrigation Systems may be considered after 5 years.
- Wherever it is feasible more than one farm pond may also be considered for assistance as some of the farmers genuinely need the same.
- Construction of large size farm ponds than the prescribed sizes may also be encouraged depending upon the density of rain, preference and affordability by the farmers concerned. However, the subsidy component may be restricted depending upon the availability of funds.
- For effective implementation and defect free maintenance of assets created, periodic inspection of sites is considered expedient. Hence, a structured Inspection Report may be prescribed and certification by the field functionary concerned may be introduced to fix accountability. Minimum number of Test/Surprise checks by higher officials may also be prescribed.

## **(ii) Poly House**

### **Short Term Measures**

- Insurance coverage for Poly Houses and Shade-nets may be ensured since the investment cost is high and farmers have availed bank loans.

### **Long Term Measures**

- The Government may initiate steps to identify potential areas/districts and crops for propagation of poly houses across the State.
- Establishment of Poly houses/Shade nets may be encouraged on cluster basis.
- Since the subsidy element is high and that cultivation of high value & quality crops are being taken up, there is a need to organize them into a network like Farmers Producers Organisation.
- Creation of backward and forward linkages on a cluster basis would motivate more farmers to take up Poly house cultivation and to tap the available export

potential. The GoK has been creating good storage facilities across the State. However, for Poly House farmers there is a need to consider establishing cold storage facilities for a cluster of Poly Houses. Similarly soil and water testing laboratories, quality testing for exports, etc. needs to be created. The concept of establishing Collection Centres for aggregation, grading, packing and transportation may be adopted.

- Geo tagging of poly houses established and securing details of various crops and quantity being cultivated may be made available on websites of Agriculture, Horticulture and agri-marketing Departments for improved marketing.
- For ensuring continuous supply & to fetch a good price for the Produce from Poly Houses, the Department may arrange buyer-seller meets at cluster level for better price realization by the farmers.
- The department may also prepare suitable model schemes with techno-economic parameters for different crops to facilitate flow of bank finance. The Department may organize field visits to bankers to create awareness on the Scheme and to extend financial assistance to farmers.
- State Government has formed District Regional Cooperative Organic Growers Federations to promote cultivation of Millets, Fruits and vegetables, Spices, etc. Farmers supported under Krishi Bhagya Yojane may also be brought under the umbrella of the Federations.