

Research Paper

Baseline Assessment of Adopted Village, Veldurthi (V), Jagtial (D)

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ABSTRACT

A base line survey was conducted during the year 2020 in adopted village, Veldurthi of Regional Agricultural Research Station, Polasa, Jagtial for understanding the demography, cultivation practices, land holding, occupation, social status, literacy level, cropping pattern, ITKs etc. and gaps in terms of adoption of new agricultural technologies/varieties, constraints faced by the rural people in agriculture. Participatory rural appraisal techniques i.e. Social mapping, resource mapping, Venn diagram, Matrix ranking were employed with the involvement of farmers and using a structured schedule for collecting the base line survey data. Adoption index was used to identify the gap in adoption of new technologies/varieties and percentage change was also used to show the increase or decrease over the years. The study report shows that, majority of the farmers belong to marginal farmers (43.8%). The adoption index/gap is more in Turmeric (100%) followed by Paddy (81%) Vegetables (75%) Sesamum (37%). Hence, there is a need to introduce the HYVs for adoption by the farmers mostly in Turmeric and paddy followed by vegetables and sesame. It was observed that the no. of cultivators were decreased to an extent of (19%) from 2011 to 2020 due to decrease in yields and lack of remunerative agricultural income. Hence, new agricultural technologies/varieties/knowledge on remunerative cropping systems and vocational trainings must be conducted to the farmers for improvement in their socio economic status and motivate towards farming.

HIGHLIGHTS

- ① Most of the farmers (64.8%) are Marginal farmers having less than 1 ha with cultivated area of 199 ha constituting 44% of total cropped area.
- ② The area under HYVs was observed in Paddy in an area of 80 acres, Sesamum in an area of 30 acres and vegetables in an area of 10 acres before village adoption.
- ③ There was Non adoption of latest technologies in Paddy and Turmeric before village adoption due to lack of farm machinery and lack of knowledge on technical know how of the technologies of Paddy and Turmeric.
- ④ In order to address the constraints faced by the farmers of adopted village, awareness programmes, field tours, Result demonstrations must be conducted to create awareness on performance of High yielding varieties and seed production and also motivate towards formation of Farmer producer organizations (FPOs) for better access to seed/ fertilizers/pesticides by organizing training programmes and field trips to successful FPOs.

Keywords: Base line survey, Participatory rural appraisal

Rural development is currently attracting attention from policymakers, as the rural sector's backwardness would be a major hindrance to the Indian economy's overall advancement. As a result, the village adoption concept was developed and

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implemented in a number of Indian states in order to re-energize the rural economy. Village Adoption is a notion that refers to a type of development strategy that is both reflexive and socially beneficial. It entails transitioning from thought to action. During action, critical self- and other-monitoring is carried out – in terms of development principles, development ethics, and current development policy. It must result in improvement in the local situations, refinement of a local practice, and betterment in the conditions of living of the people we are working with (NIRDPR, 2020). Village adoption is one of the most effective way of showcasing the benefit of improved crop practices through effective transfer of technology within the stipulated period of adoption (Shashi Bhushan Sandarshi & Tarunendu Singh, 2015). The socio-economic characteristics of the farmers are important for better policymaking decisions (Viswanatha Reddy, 2017). Farmers should be encouraged to use such labour-saving options instead of being burdened with the social objective of protecting rural employment and being denied access to new technology (Sudhakar Goud, 2017). At the micro level, classification of farmers might be of practical use for localized technological solutions and extension support (Rupak Goswami, 2014). Extensive efforts should be made to transfer integrated farming system technology among the farmers which is technically feasible but also economically viable in Bangladesh (Mazharul Anowa, 2015). On the basis of field survey, occupational structure in the village has been categorized into following types such as Cultivator, Labourer, Government job, private job, shopkeeper and others (Kirpa Ram, 2015). Farm implements possessed by the farmers. Pooled data depicts that majority of the farmers (58.33 per cent) owned the MB plough, 39.17 per cent of the farmers possessed wooden plough, seed cum fertilizer drill was owned by the 22.50 per cent of the farmers and 16.67 per cent of the farmers had Sprayer, Least percentage of farmers (1.67 per cent) possessed Bullock cart and none of the farmers possessed Tractor (Ananthnag, 2014). KVK Kamrup has taken initiative as a first step to adopt as a poultry (Vanraja) village with the expectation that the programme would be successful and ultimately improve the income and socio-economic condition of the farm households (Mazumder, 2015). There is a need of government assistance to promote the participation of farmers,

particularly female ones in agricultural training and workshop (Shalini Raghav, 2014).

PRA is a way of learning from and with community members to investigate their need assessment, analyze and evaluate constraints and opportunities and find out priorities in the area of agriculture, small scale rural enterprises and any other social and economic development programs addressed to village development (Narinder Paul, 2014). The most distinguishing feature of PRA is its emphasis on participation. In this context, Before adopting the village a base line survey was conducted using PRA tools i.e. Social mapping, resource mapping, Venn diagram, Matrix ranking for understanding the demography, cultivation practices, land holding, occupation, social status, literacy level, cropping pattern, ITKs etc and gaps in terms of adoption of new agricultural technologies/varieties, constraints faced by the rural people in agriculture.

Objectives

The major objective of the study is to conduct base line survey of the village by adopting techniques of PRA i.e. Social mapping, resource mapping, Venn diagram, Matrix ranking with the involvement of farmers and using a structured schedule for collecting the base line survey data for eliciting information on independent variables i.e. population, land holding, occupation, education, irrigation source, cropping pattern

Methodology

Veldurthi village was selected for the present study. Survey Research design was employed for collecting the data. The primary data was collected from farmers (50 farmers) regarding the data i.e. cultivation of crops, resources, village institutions and infrastructure, constraints faced by the farmers in procuring seed, fertilizer, pesticides and in adoption of new agricultural technologies/varieties/ITKs and source of seed/fertilizers/pesticides through Participatory rural approach technique through venn diagrams, social mapping, resource mapping and matrix ranking and secondary data was collected i.e. on land holding, cropping pattern, adoption of latest varieties, crop wise application of manures/fertilizers etc from village revenue and agriculture officials of Veldurthi village, Jagtial Mandal and district through a structured

schedule and adoption index was used to identify the gap in adoption of new technologies/varieties and percentage change was also used to show the increase or decrease over the years.

RESULTS AND DISCUSSION (The key findings of the base line survey were shown as detailed)

(a) Location and approach

The village is easily accessible in all the seasons. The village is well connected by the public transport system to the district head quarters i.e. (5 Km). The village is about 8 km from the research station thus the farmers can get easy access to the services of the research station in procuring the information related to inputs i.e. seed/fertilizer/pesticides. At a distance of 6 km National Highway No. 37 runs parallel to the region.

| Sl. No. | Item | Distance from the village (km) |
|---------|---------------------------------------|--------------------------------|
| (i) | Revenue division headquarters | 5 km |
| (ii) | Mandal headquarters | 5 km |
| (iii) | District headquarters | 5 km |
| (iv) | Primary health centre / Hospital | 1.5 km |
| (v) | Post office / Telegraph office | 1.5 km |
| (vi) | Railway station / RTC bus station | 5 km |
| (vii) | All weather motorable road | 5 km |
| (viii) | Primary / middle school | 2 km |
| (ix) | High school / College | 5 km |
| (x) | Godown / ware house | 5 km |
| (xi) | Commercial bank / Regional Rural Bank | 5 km |
| (xii) | Primary Agril. Co-op. Credit Society | 5 km |
| (xiii) | Agricultural market yard | 5 km |
| (xiv) | Any other important centre (specify) | 5 km |

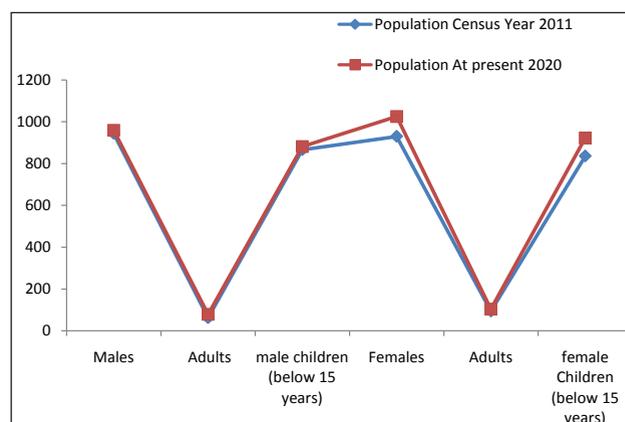
(b) Population

As per the survey no. of women were more in the village which indicates need for literacy programmes, self-employment programmes and vocational training programmes in the village.

| Sl. No. | Population | Number | | Percent increase / decrease over 2011 |
|---------|-------------------------------|------------------|-----------------|---------------------------------------|
| | | Census Year 2011 | At present 2020 | |
| (i) | Males | 944 | 959 | 1.6% |
| | (a) Adults | 62 | 78 | 25.8% |
| | (b) Children (below 15 years) | 866 | 881 | 1.73% |

| | | | |
|-------------------------------|------|------|-------|
| Sub-total | 944 | 959 | 1.73% |
| (ii) Females | 930 | 1025 | 10.2% |
| (a) Adults | 94 | 103 | 9.57% |
| (b) Children (below 15 years) | 836 | 922 | 10.28 |
| Sub-total | 930 | 1025 | 10.2% |
| Grand Total | 1874 | 1984 | 5.86% |

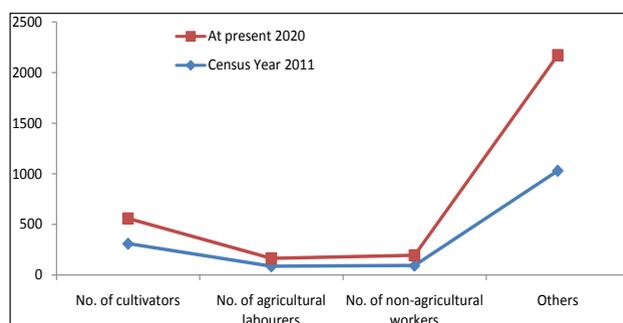
Sex ratio (Females per 1000 males)



(a) Occupational distribution

As per the survey no. of cultivators and other communities are 250 No.s in the village. Awareness programmes on crops, latest technologies, profitable cropping system, integrated farming systems coupled with IPM, INM may be conducted and also farmers has to be encouraged towards seed production, mechanization and IFS technologies.

| Sl. No. | Particulars | Census At Year 2011 | At present 2020 | Percent increase / decrease over 2011 |
|---------|---------------------------------|---------------------|-----------------|---------------------------------------|
| (i) | No. of cultivators | 310 | 250 | 19.35% |
| (ii) | No. of agricultural labourers | 87 | 79 | 9.1% |
| (iii) | No. of non-agricultural workers | 94 | 102 | 8.51% |
| (iv) | Others | 1031 | 1141 | 10.7% |

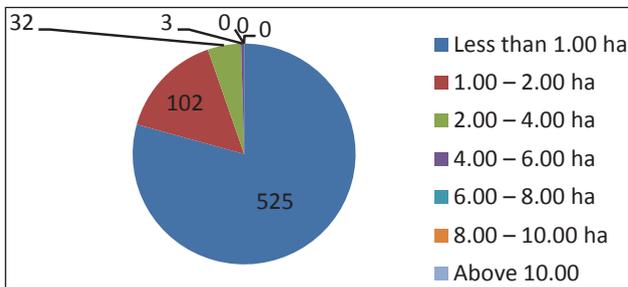


(b) Structural distribution of holdings

As per the survey marginal and small farmers are more in the village. Mostly the needs of marginal and small farmers expressed were:

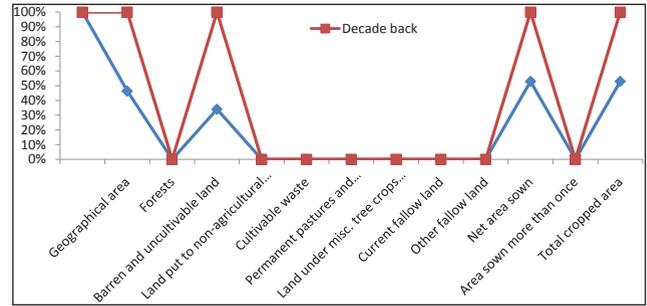
- ◆ Need for training on improved HYVs & their characters.
- ◆ Plant protection and disease control measures.
- ◆ Awareness on weed management.

| Sl. No. | Farm size (hectares) | Number | %tage to total | Area (hectares) | %tage to total |
|---------|----------------------|--------|----------------|-----------------|----------------|
| i) | Less than 1.00 | 162 | 64.8 | 198.8 | 43.8 |
| ii) | 1.00 – 2.00 | 52 | 20.8 | 151.2 | 33.4 |
| iii) | 2.00 – 4.00 | 33 | 13.2 | 80 | 17.6 |
| iv) | 4.00 – 6.00 | 3 | 1.2 | 23.04 | 5.09 |
| v) | 6.00 – 8.00 | — | — | — | — |
| vi) | 8.00 – 10.00 | — | — | — | — |
| vii) | Above 10.00 | — | — | — | — |



(c) Land utilization (area in acres)

| Sl. No. | Particulars | Area in acres Current year 2020 | Decade back | Difference |
|---------|---|---------------------------------|-------------|------------|
| (i) | Geographical area | 1504.38 | 1739 | 234.62 |
| (ii) | Forests | 0 | 0 | 0 |
| (iii) | Barren and uncultivable land | 379.32 | 737 | 357.68 |
| (iv) | Land put to non-agricultural use | 0 | 0 | 0 |
| (v) | Cultivable waste | 0 | 0 | 0 |
| (vi) | Permanent pastures and other grazing land | 0 | 0 | 0 |
| (vii) | Land under misc. tree crops and groves | 0 | 0 | 0 |
| (viii) | Current fallow land | 0 | 0 | 0 |
| (ix) | Other fallow land | 0 | 0 | 0 |
| (x) | Net area sown | 1128 | 1002 | 123 |
| (xi) | Area sown more than once | 0 | 0 | 0 |
| (xii) | Total cropped area | 1128 | 1002 | 126 |



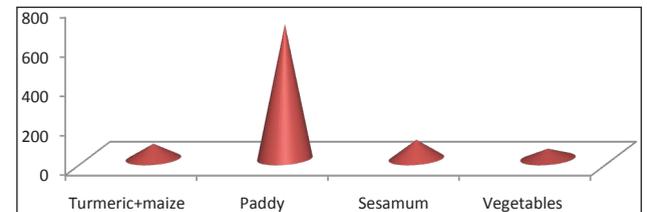
(d) Irrigation (Source – wise)

| Sl. No. | Source | Number | Area (acres) |
|--------------------------|----------------|--------|----------------------|
| (i) | Canals | 1 | 53.22 ^{1/2} |
| (ii) | Tanks | 1 | 50 |
| (iii) | Wells | 182 | 0 |
| (iv) | Tube wells | 3 | 0 |
| (v) | Others (Ponds) | 2 | 0 |
| Total net area irrigated | | 189 | 798 |
| Total area irrigated | | | 1002 |

(e) Cropping pattern

Paddy is cultivated in an area of 680 acres on an average, Sesamum in 95 acres Turmeric + Maize + beans + chilli in 75 acres. Farmers are undertaking profitable cultivation of vegetables i.e. bottle gourd, brinjal, bhendi, lettuce, tomato etc as backyard and in agricultural lands in an area of 50 acres.

| Crop | Kharif | Rabi | Late Rabi/ Summer | Year round |
|-----------------------------------|--------|------|-------------------|------------|
| Turmeric + Maize + Beans + Chilli | 75 | 0 | 0 | |
| Paddy | 740 | 660 | 0 | 0 |
| Sesamum | 0 | 0 | 95 | 0 |
| Vegetables | 0 | 0 | 0 | 50 |

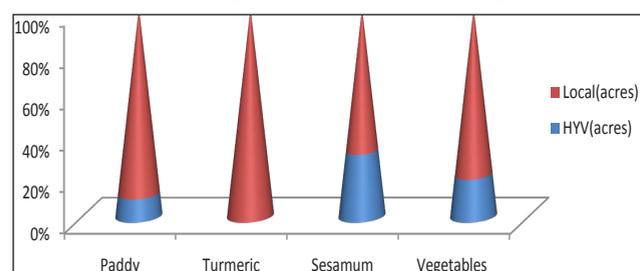


(f) Extent of area covered under HYV and Local varieties

As per the survey, farmers are cultivating local varieties in all the crops. So, it is felt there is a need to replace the local varieties with high yielding varieties by organizing field days and awareness programmes.

The adoption index/gap is more in Turmeric (100%) followed by Paddy (81%) followed by vegetables (75%) followed by Sesamum (37%). Hence, there is a need to introduce the HYVs for adoption by the farmers in Turmeric and paddy mostly followed by vegetables and sesame.

| Sl. No. | Crop | HYV (acres) | Local (acres) | Adoption index (%) |
|---------|------------|-------------|---------------|--------------------|
| 1 | Paddy | 80 | 680 | 81 |
| 2 | Turmeric | 0 | 75 | 100 |
| 3 | Sesamum | 30 | 65 | 37 |
| 4 | Vegetables | 10 | 40 | 75 |



(i) Manures and fertilizers

| Crop | Manure | | Fertilizer | | | | Total cost | | |
|----------|---------------------------------------|----------------------|------------------|-------------|-----------------|----------|-----------------|---------|------|
| | Quantity | Price | Quantity | Price | Quantity | Price | | | |
| | | | | | | | | N | P |
| Paddy | Green manure 20 kg /acre | 1600/acre | (Urea) 2 bags | 268/ bag | (DAP) 2 bags | 1125/bag | (MOP) 1 bag | 850/bag | 5236 |
| Turmeric | 10 Tones livestock manure /acre | 500/50 kg bag | (Urea) 3 bags | 268/ Bag | SSP (3 bags) | 300/bag | (MOP) 2 bags | 850/bag | 8404 |
| Maize | 2 tonnes/acre | 3000 | (Urea) 3 bags | 268/ Bag | (DAP) 2 bags | 1125/bag | (MOP) 2 bags | 850/bag | 5243 |
| Sesamum | 0.5 tonnes / acre | 500/50 kg bag | (Urea) 1bag | 268/ Bag | (DAP) 1/2bag | 300/bag | (MOP) ½ bag | 850/bag | 7093 |
| Chilli | 10 Tones livestock manure | 3000/tractor load | (Urea) 1 bag | 268/bag | (DAP) 1 bag | 1125/bag | (MOP) 1 bag | 850/bag | 5243 |

(j) Indigenous Technical Knowledge adopted for plant protection, if any

| Crop | ITK | Acreage |
|-------|---|----------|
| Maize | Tying of old/ used sarees and nets for monkeys and wild boars problem. Installing locally made noise making fans and sounding mikes that makes noise to avoid wild boars | 50 acres |

(g) Source from which HYV seed obtained

| Crop | Agency / Institution | Quantity obtained | Area covered |
|----------|---|-------------------|--------------|
| Paddy | RARS, Polasa, Jagtial, Private traders Jagtial | 147 Q | 740 acres |
| Turmeric | Previous seed | 1600 Q | 75 acres |
| Sesamum | RARS, Polasa, Jagtial, Private traders Jagtial | 52.5 kgs | 95 acres |
| Chilli | Private Traders, Jagtial | 156 kgs | 12 acres |

(h) Difficulties faced by the farmers in getting HYV seed

1. Lack of Awareness on Source of Seed
2. High Cost of seeds

To overcome the constraints faced by the farmers awareness must be created on seed production aspects and take up seed production in the farmer fields and also motivate the farmers to form a society to cut down the cost on seeds, input cost and marketing cost etc.

(k) Survey on Constraints faced by the farmers

| Sl. No. | Seed | Adoption Of Farm Mechanization | Institutional Credit | Plant Protection Chemicals | Adoption of New Technologies/Varieties |
|---------|---|---|------------------------|--|--|
| 1 | High Cost | Low income of the farmers | Low income of farmers | High Cost | Lack of awareness on the technical knowhow of technologies/varieties |
| 2 | Lack of awareness on proper chemical to be sprayed. | Lack of awareness of farmers on mechanization | High rate of interest | Lack of awareness on proper chemical to be sprayed | Lack of access to quality HYV seed |
| 3 | | Small holdings | Non repayment capacity | | Fear of failure of technology |
| 4 | | Lack of availability of the machinery | Fear of crop failure | | Lack of availability of the farm machinery for adopting the new technologies |
| 5 | | Lack of knowledge on operating the machinery | | | |

CONCLUSION

As per the study it is concluded that base line survey plays a crucial role in planning the village adoption programme as the data regarding the farmers living in the village can be obtained in all the aspects i.e. population statistics, education, farm size, cropping pattern, source of agricultural inputs etc. By collecting these information before planning a village for development the initial scenario of the village can be obtained and it will be useful to evaluate the socio economic condition of the village after completion of the village adoption programme. By the study it is indicated that farmers are cultivating traditional varieties in all the major crops of the village i.e. Paddy, Turmeric, Sesamum and vegetables and farmers are facing difficulty in procuring seed/ fertilizers/pesticides. In order to address these issues, awareness programmes, field tours, Result demonstrations must be conducted to create awareness on performance of High yielding varieties and seed production and also motivate towards formation of Farmer producer organizations(FPOs) for better access to seed/ fertilizers/pesticides by organizing training programmes and field trips to successful FPOs.

Limitations

- ♦ The success of the village adoption programme depends on the people’s participation. Hence at every stage village people should be involved.
- ♦ Implementing the village adoption plan within

a period of 3 years so as to have socio-economic impact on the lives of the village community is quite challenging.

FUTURE STUDIES

- ♦ To study on enhancement of adoption of latest technologies in agriculture in adopted village among the small and marginal farmers.
- ♦ To study the factors influencing the farmers in shifting towards adoption of new technologies in adopted village.
- ♦ To study the strengthening of the farmer producer organizations through digitization in adopted villages.

REFERENCES

Ananthnag, K., Mahatab Ali, K. and Vinaya Kumar, H.M. 2014. A Study on Socio Economic Status of Farmers Practicing Organic Farming in Eastern Dry Zone of Karnataka, *Online J. BioSci. and Informatics*, **1**(2): 75-82.

Goswami, R., Chatterjee, S. and Prasad, B. Farm types and their economic characterization in complex agro-ecosystems for informed extension intervention: study from coastal West Bengal, India, *Agric. Food and Econ., a Springer Open J.*, **2**(5): 1-24.

http://nirdpr.org.in/nird_docs/sb/doc6.pdf

https://www.researchgate.net/publication/271530707_Participatory_Rural_Appraisal_PRA_report_of_Village_Kursari_Tehsil_Bhaderwah_District_Doda_JK

Kirpa Ram, 2015. Socio-economic Analysis (A Case Study of Village Chaudhariwali), *Int. J. Res. and Scientific Innovation*, **2**(12) : 61-65.

- Mazharul Anowara, M.D., Aktari Parveenb, Zannatul Ferdousa, M.D., Abdullah Hel Kafi and Ehsanul Kabird, M.D. 2015. Base line survey for farmer livelihood improvement at farming system research and development, Lahirirhat, Rangpur. *Int. J. Bus. Manag. Soc. Res.*, **02**(01): 92-104.
- Mazumder, D.K. 2015. Benchmark survey of Rajapanichandra village in Rani Block of Kamrup District in Assam. *Econ. Aff.*, **60**(2): 237-241.
- Raghav, S. and Sen, C. 2014. Socio-economic Status of Farmers and Their Perception About Technology Adoption: A Case Study, *Int. J. Econ. and Busin. Rev.*, **2**(13): 7-13.
- Sandarshi, S.B. and Singh, T. 2015. Village adoption boosts the rural economy, *Kurukshetra*, **63**(8): 26-29.
- Sudhakar Goud, R., Anuradha, T., Kamraju, M. and Vani, M. 2017. Socio-economic conditions of farmers – a case study of Warangal District, *Int. J. Engine. Res.-Online*, **5**(4): 158-163.
- Viswanatha Reddy, K., Mahajan G.R., Paramesh, V. and Singh, N.P. 2017. Socio-economic Status of Livestock Farmers of Ibrahimpur Village, North Goa District: A Benchmark Analysis, *Econ. Aff.*, **62**(2): 335-340.

