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An Empirical Assessment of Agriculture Diversification Programme in Tribal Areas in Gujarat

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Abstract: The Agriculture Diversification Programme (ADP) provided tools for modern farming, such as seeds, fertilizer, and training to STs (Tribals) with meager land holdings. According to the Government of Gujarat (2017), in 2016-17, 36,604 STs marginal farmers provided Rs. 26.18 crore assistance in Gujarat state. The objective of the study is to evaluate ADP impacts on Tribal marginal farmers' agricultural livelihood changes such as cultivation areas, cropped areas, crop production, days of employment, income, cropping pattern, and migration in the Tribal areas, a total of 251 beneficiaries have selected in 17 villages of Kaprada and Uchchhal Tehsils from the Valsad and Tapi districts. The study found that due to a lack of irrigation infrastructure, the respondents depended on monsoon season, engaged in traditional farming, and had meager land holdings, which did not provide full employment and income from agriculture. After getting the assistance, they could take more vegetable crop production, helping to generate a day of employment and income. However, more than the assistance of modern farming was needed for the household's livelihood. They depended on agricultural labor, other non-agricultural sources, and migration for employment and income. After getting the assistance, they skipped traditional oilseed crops, and productivity increased, while migration remained the same in the study areas.

Keywords: ADP, agricultural change, migration, livelihood, Valsad, Tapi, Gujarat

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1. Introduction

Recognizing the importance of constitutional safeguards to improve the quality of life for Scheduled Tribes (STs) need to be backed with financial provisions, the concept of Tribal Area Sub Plan was introduced in 1974, in which financial allocations at the Central and State level were made in proportion to the population of tribal

communities (Govt of Gujarat, 2020). The Agriculture Diversification Programme (ADP) has been implemented since 2011 under the Gujarat Vanbandhu Yojana to generate resources of livelihood, increase double income, and reduce migration of STs in the Tribal (Scheduled) areas (Govt. of Gujarat, 2011). This Scheme provided tools for modern farming to STs with meager land holdings. According to the Government of Gujarat (2017), in 2016-17, 36,604 STs marginal farmers provided Rs. 26.18 crore assistance in tribal areas in Gujarat state.

At the village level, seeds of vegetables, fertilizer, and agricultural training are given as assistance. Vegetable crops like Corn, Ladyfingers, Tomatoes, Bitter gourd, and Brinjal are provided as assistance; hybrid seeds of the vegetables Corn-8 kg, Eggplant-60gm, Tomatoes- 65 gm, Bitter gourd-600 gm, and Ladyfinger 4 kg are distributed per household. In fertilizer, mainly urea, di-ammonium phosphate, and muriate of potash are distributed, and the Agricultural Science Centre imparts training. The beneficiary is provided agricultural assistance only once a year under this Programme (Govt. of Gujarat, 2011). The ADP has three essential components: the assistance of vegetable seeds, fertilizers, and training in modern farming techniques. Under this Programme, the Gujarat government assisted 8,88,123 STs small-marginal farmers from 2012 to 19 in tribal areas in Gujarat State.

Table 1: Number of beneficiaries covered under the ADP in Tribal Areas in Gujarat during 2012-19

Year	*Total No. of beneficiaries*	*% of total beneficiaries*	*% of beneficiaries of the total S.T. population in Gujarat*	*AGR%*
2012-13	210000	23.64	2.36	-
2013-14	223000	25.11	2.50	6
2014-15	136487	15.37	1.53	-63
2015-16	105370	11.86	0.12	-30
2016-17	36604	4.12	0.41	-188
2017-18	85649	9.65	0.96	57
2018-19	91013	10.25	1.02	6
Total	888123	100.0	89,17000	-

Source: Govt of Gujarat, http#dsg.gujarat.gov.in/agriculture-diversification-project. Accessed 27/12/2019. Population 2011.

From 2012 to 2019, 8.88 lakh marginal farmers living Below the Poverty Line were assisted under this program. In 2013-14, the maximum number of beneficiaries have been covered. Then, the number of beneficiaries decreased. In 2016-17, assistance for seeds and fertilizers provided to the beneficiaries in various tribal belts was shown as under financial expenditure. Calculated program expenditure in monetary terms

in different regions of tribal areas in 2017. In 2017, 36604 families were assisted. Assistance for average seeds of vegetables and fertilizer were respectively Rs. 5173.34 and Rs 1980.85.

Agriculture diversification is the first step in transforming traditional agriculture into dynamic, commercial agriculture, which has great potential to accelerate the growth rate of agricultural production by shifting towards higher-yielding crops (Johir, 2000). Vyas (1998) states that when we talk about diversification in agriculture or replacing one crop for another, diversification is a significant method for economic development. However, diversification relies upon opportunities for the farmers to respond to the conventional skill of the local farmer and absolute freedom in the requirements. Agriculture diversification includes several benefits for individual farmers, depending on many aspects. In such circumstances, if several farmers adopt the same changes, the market or production price shall automatically decrease. Which results in the supply of particular production. A higher-level benefit is earned in agriculture diversification if few people are involved. However, profit becomes limited generally if several people adopt agriculture diversification.

According to Chaplin (2000), many economists view agriculture diversification as a disaster management method. It is a strategy where more than one act is carried on at any time. There is a threat to production, and efforts are made to minimize those threats. Lone argues (2013) that the process of agriculture diversification starts with the availability of the modified rural infrastructural Facility, the development of speedy technology in agriculture, and the changed pattern of demand for grain. Hence, the diversification process towards crops with higher prices will accelerate agricultural development and create a new era of entrepreneurship with the development of the agricultural industry in rural areas and generate novel opportunities for employment. India has a vital scope for agriculture diversification towards the crops with higher prices. Goletti (1999) states that agricultural diversification does not mean only growing more than one crop.

Nevertheless, it means covering a holistic rural economy and extending income resources. Crops, new markets, and agricultural and industrial activities are also included in this process. Various studies supporting agricultural diversification indicate that it increases productivity, employment, and income. Let us check studies on economic changes resulting from agricultural diversification.

Datta (2015) writes in the study on livelihood diversification given improving economic conditions with a sample of 110 households of 11 villages of two blocks of the Dibrugarh district of Assam that 65.5% of people have improved their life

standard and livelihood with the diversification of agriculture. Bishvajit (2017) has found in the study that 20 % of farmers earned an average monthly Rs. 36,241 due to agricultural diversification. Tribal farmers have to utilize hybrid seeds along with conventional crop seeds. Chakravati (2009) found in a study of Panchmahals and Dahod districts in Gujarat that the Sunshine Project states that the distribution of assistance for fertilizer and seeds is not actual diversification. Farming requires water; in Dahod, the farmers must pay more for irrigation. Hence, the tribals of this area cannot get double production. In the study with a sample of 500 tribal beneficiaries on agriculture of hybrid corn by the tribal people of Dahod district under Sunshine Project (GIDR,2009). The study found that Dahod witnessed a decrease in migration after implementing the Sunshine project.

According to Anand University (2009), hybrid corn seeds grow more crops than indigenous seeds in terms of productivity and monetary; indigenous corn per acre was Rs. 9990, whereas hybrid corn earns Rs. 14656 per acre. Desai (2011) studied ADP Jivika-2 with a sample size of 1895 farmers of 163 villages of 5 talukas of Surat district and found the farmer earned Rs. 27000 per acre with modern cropping pattern than the conventional method, the earning increases. This program resulted in imprudent income and life standards. Asha (2012) found in the study on 74 farmers of 10 villages of tribal districts that 40 farmers believe indigenous seed grows 14 quintiles per acre in a typical year. In contrast, hybrid seeds grow 16 to 20 quintiles of production. The farmers have gained a net 46.71 % profit from hybrid corn seeds. It was found by 74 farmers that hybrid seeds increased crops more than indigenous seeds after the Sunshine Project.

Small farmers can save 30% of water with conventional irrigation methods. The advanced drop irrigation method saves 60% water (Shivkumar, 2005). Traditional agriculture depends on irrigation and environmental factors, making sudden and adverse changes possible. In traditional farming, only 20% of the total water for farming reaches up to crop, and the remaining water becomes waste (Vivela, 2008). Traditional crops are not grown by several farmers because there is no facility to store the crops grown traditionally (Supreme, 2013).

Agricultural diversification has proved more fruitful. Agricultural diversification is significant for specific reasons: it increases the income of small and marginal farmers and reduces malnutrition and hunger. It ensures income resources and generates employment (Govt. of India,2020; Govt. of Orissa, 2010). However, the negative aspect of the green revolution is that the cropping pattern of tribal farmers is not fit for the new farming method given the environment. The rural areas are witness to deficient

production and productivity. More fertilizers are needed to yield quality crops. The water level is going down the low line, crop diversity is reduced, and there is no doubt that new technology like advanced tools, fertilizers, pesticides, improved types of seeds, irrigation facilities, etc., in the agricultural field have increased production. However, at the same time, many issues, such as land corrosion and degraded forests, have occurred (Thakur, 2010). Pathak (2002) gives two factors for agricultural diversification: diversification of cropping patterns and diversification of agricultural activities.

Due to the overuse of fertilizers, pesticides, and hybrid seeds, farmers face irretrievable losses in advanced farming, which decreases the fertility of the land. Moreover, modern technology consumes more energy. With the arrival of modern agriculture, food-grain needs have been fulfilled in many regions of the world. However, these methods lead to environmental loss. Pollution of the groundwater and loss of biodiversity by converting the forest area into an agricultural area is included. Modern farming is responsible for the consumption of pesticides. Thus, the indigenous crop species utilized in traditional farming have less capacity for transformation, whereas modern agriculture causes loss. Thus, traditional agriculture may be better than farming with hybrid seeds (Fedoroff, 2010). According to Fernandez (2017), the State's motive was to increase the benefit of modern farming for the tribal areas to improve their livelihood and remove poverty. Thus, the tribal community engaged in traditional farming used fewer tools and depended on self-sufficing sustainable agriculture, and the green revolution did not impact increasing their agricultural productivity. The tribal farmers of the tribal belt of Madhya Pradesh think that modern farming is not fit for tribal agriculture.

Inadequate land resources, limited capital, and other inputs are the main obstacles in the agriculture sector, which do not provide livelihood security. Hence, STs (tribals) are engaged in agricultural labor, migration, and odd laborious jobs, sources of low irregular income. Shrinkage in agricultural holdings, declining new investments in agriculture, and increasing degradation of natural resources (Joshi & Others, 2004). In 2011-12, 45.6 % of STs were below the poverty line, with 45.3 % in rural areas at the national level (Planning Commission, 2011). The State has been introducing various programs to improve their livelihood resources; the Agriculture Diversification Programme is one part of the Tribal-sub plan policy in India. The diversified and accelerated agricultural growth would enhance food security, improving the livelihood of people experiencing poverty.

According to the 2011 Census in Gujarat, the tribal population is 89.17 lakh of the total population, which consists of 14.75 % of the total population of the State. In

Gujarat, the tribals mainly reside in 14 districts in scheduled areas. 18 % of the total Scheduled area of the State is under Tribal Sub Plan. The State consists of 11 major tribal groups. 47.89 % of the total tribal population is Bhil. The State also consists of five primitive tribal groups that are incredibly vulnerable (Census, 2011). In Gujarat, 89.96 % of tribes reside in rural areas; according to the Agricultural Census 2014-15 report, 9.3 % of STs farmers have only 9.6 land holdings in the Gujarat state. The land is generally inhabited by tribals, hilly, uneven areas, irrigation, and other infrastructural services, which need to be improved in the state (Joshi, 2009). Due to the lifestyle of this community, agriculture and forests are the primary sources of their livelihood. Hence, modern farming methods are used less in their cultivation (FAO, 2019).

This study's objective is to analyze the impact of the Agriculture Diversification Programme in Tribal Areas of Gujarat state, such as employment, income, migration, crop productivity, and crop patterns; the study also incorporates the experiences of modern farming. The ST farmers have been used to traditional, natural farming practices that connected their household needs for the year. After adopting modern seeds and fertilizer-based farming, the impacts have been analyzed on primary data of two districts in the Tribal Scheduled areas in Gujarat.

Methodology

A field-based study employed mixed research methods. The primary data was collected systematically from the Valsad and Tapi districts. The Valsad and Tapi districts with maximum beneficiaries under ADP in 2016-17 in Gujarat were selected, and the same criteria were applied to the selection of two tehsils and 17 villages in the study areas. The 251 beneficiaries were selected as 20 % of the total 1251 beneficiaries. The primary data was collected through a closed-scheduled interview technique and observations; the primary data was classified into tables, averages, percentages, charts, growth rate, and Likert scale. In comparison, the secondary information was collected from various public and private published reports, papers, books, etc. The impacts of the Agriculture Diversification Programme are assessed by the before and after method in the study areas covered from 2015 to 2018. Three years are divided as 2015-16 (pre-benefit year), 2016-17 (of-benefit year), and 2017-18 (post-benefit year). The agricultural expenditure is calculated from the input cost of the cultivation method (A1, A2, B1, B2, C1, C2, and C3). The outcomes, such as total cultivation area, production, productivity, crop pattern, annual income, days of employment, and migration, were subjects to the study. 2019 was a year of Fieldwork.

Table 2: Sampling

District/ Tehsil	*Selected villages*	*Total No. of beneficiaries assisted*	*Selected beneficiaries*
Valsad Kaparada	Fali, Nanipalsan,Valveri, Veribhavadi, Varana, Motipalsan, Bandharkuch, Barpuda, Andharpada, Divasi, Virkaset, Aranai. (12)	771	155
Tapi Uchchhal	Fulumaran, Bhitkhud, Vadgam, Sundarpur, Tokarava. (5)	480	96
Total17		1251	251

Source: ADP Beneficiaries List District Tribal Development Department Valsad, Tapi, 2016-17.

2. Data Analysis

A total of 251 beneficiaries were assisted under the Agriculture Diversification Programme. All the respondents are marginal farmers who have social-economic conditions. The beneficiary is assisted in ways and means only once a season and for only one crop. Moreover, the agricultural conditions of the respondents are as follows:

Table 3: Socio-economic status of the beneficiaries

Details	*Valsad*	*Tapi*
Illiterate (%)	72.90	78.12
Family Size of the H.H.s	3	4
Illiterate members of H.H.s (%)	61.85	61.77
Working members of H.H.s (%)	68.19	31.80
House status: Kachcha house (%)	92.90	92.97
Annual income share from Agriculture 2019 (%)	53.36	43.53
Members employed from Agricultural labor (%)	30.74	29.92
Members engaged as casual labour in non-agriculture (%)	15.19	27.65
Operational land holding: average area (in acres)	2.19	2.49
Irrigation facility: Total cultivated areas (%)	9.75	34.57

Source: Filed work, 2019.

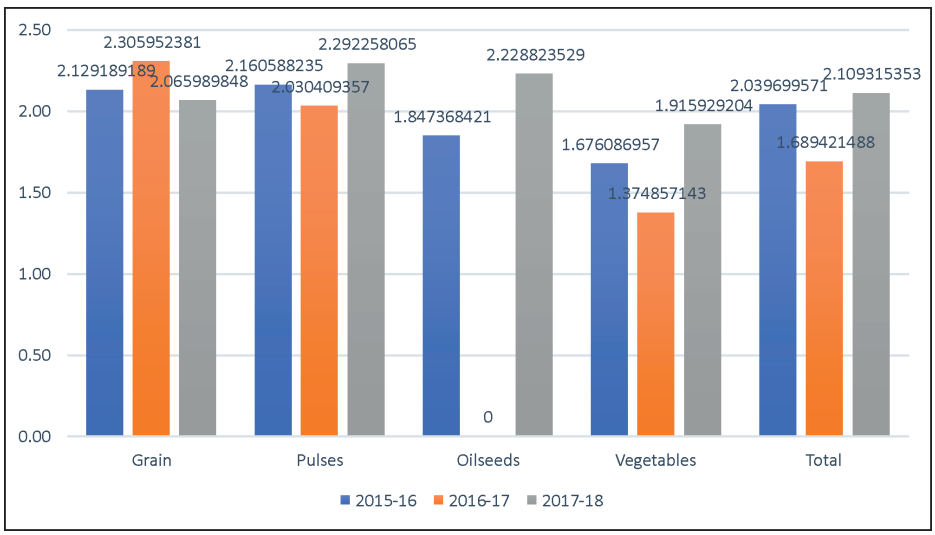
Respondents are marginal farmers with an average of 2 acres of land holding. The total land holding under cultivation in Valsad has extremely few irrigation facilities, and in Tapi, it is comparatively reasonable. They take two farms in the monsoon and winter seasons. Illiteracy is found to be high in the respondent's family. The families are living below the poverty line. They used to conduct vegetable farming only in winter in less proportion. However, due to the benefit of the Programme, they also take a crop of vegetables as monsoon crops instead of other crops. They depended mainly on the monsoons; the people in the irrigation facility cultivated vegetables and Rabi

crops. Out % of the respondents, 83.11 % depend on Kharif crops, and 16.89 % take winter crops. After getting assistance from ADP, the changes in their farms have been discussed below.

Impact on the cultivation areas

Of the respondent families covered in the study area, 9.75 % of Kaparda and 34.57 % of Uchchhal talukas of Valsad and Tapi districts can take crops in all weather. In the lack of irrigation facilities, 90.25 % of Kaprada and 65.43 % of Uchchhal do rain-fed farming. They cultivate crops with their traditional knowledge and characteristics of the land. In Kaprada monsoon crops, grains like Nagali and paddy, pulses like Udad dal and toor-dal, and in cash crops, Soybeans are cultivated. In Uchchhal, grains like paddy and juvar are taken. At the same time, crops like Nagali, Varai, and Baradi are not grown because they are not the district's main crops and are not cultivable on their land. In Kaprada, juvar is grown in minimum proportion. Because they use minimum amounts for domestic consumption, they use Nagali for chapatti. So, they grow Juvar in significantly less proportion. Winter crops are found in parallel quantities. The details of the cultivated areas by the pre- and post-assistance year are as follows:

Chart 1: Annual average cultivated areas by crops (2015-18): All (Monsoon and Winter seasons)



Source: Fieldwork (2019).

83.11% of beneficiaries depend on the monsoon season, and 16.89% rely upon irrigation in winter. Before assistance, the beneficiaries had grown grains like Nagali,

paddy, Juvar, cron, and in pulses Udad, Toor dal, and Oilseeds peanut, and Soybeans as a traditional way of farming. In the year of the provision of assistance (2016-17), vegetable crops like Brinjal, Tomatoes, lady fingers, Bitter gourd, bottle gourd. In the post-assistance year, they grew those crops only that they used to grow traditionally.

Before assistance, the average cultivated area was 2.13 acres; on assistance year, 2.31 acres, and post assistance, 2.07 acres. Thus, the average area increases in the assistance year (2016-17). Annual vegetable cultivation area was 1.68 in 2015-16, 1.37 acres in 2016-17 and 1.92 in 2017-18. Thus, compared to other crops, cultivated areas for vegetables are fewer. The total annual cultivated area was 2.04 acres in 2015-16, 1.69 acres in 2016-17, and 2.11 acres in 2017-18. In 2015-16, the total cultivated area was under pulses, and oilseed was found to decrease.

Impact on production and productivity

The farmer-beneficiaries are provided three types of fertilizers under the Agriculture Diversification Programme: urea, DAP- di-ammonium phosphate, and MOP-Muriate of Potash. The criteria adopted by the govt. for increasing productivity are as follows: per family urea 50 kg., DAP 50 kg., and MOP 25 kg. Besides, hybrid seeds of vegetables are distributed in a particular proportion per family. The beneficiaries cultivate traditional vegetable crops for consumption but earn from selling vegetables after getting assistance. The monsoon crops like grains, pulses, and cash crops. In grains paddy, Nagali, Corns, Juvar. In pulses, Udad Toor was included. Soybeans are grown in oilseed peanuts. Vegetables such as Ladyfinger, Bitter gourd, Brinjal, Tomatoes, and Bottle gourd are grown.

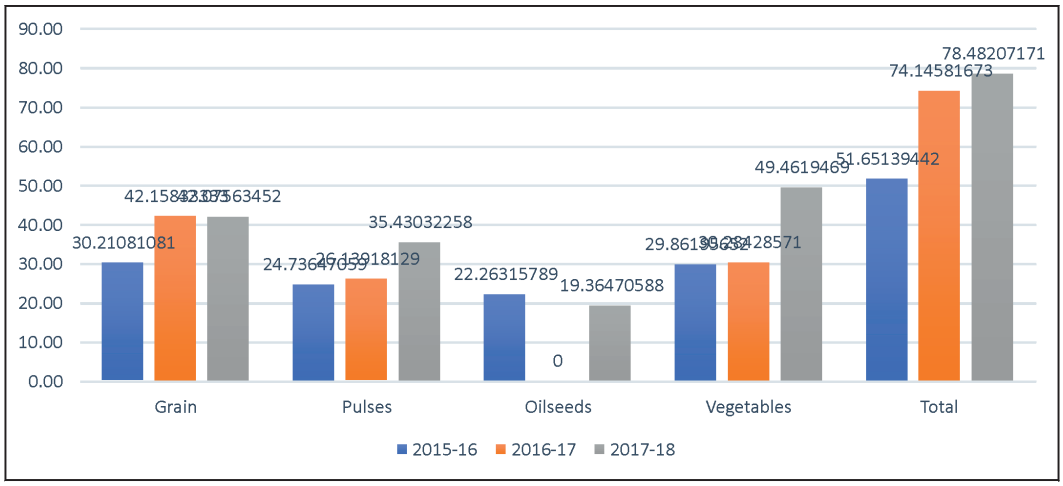
Table 4: Traditionally sown crops by respondents (monsoon and winter seasons)

Monsoon				*Winter*	
Grain	*Pulses*	*Oilseeds*	*Vegetables*	*Pulses*	*Vegetables*
Nagali, Paddy, Varai, Corn.	Udad, Toor	Soybean Peanut	Bitter-gourd, lady fingers, Tomatoes, Brinjal, Bottle gourd	Chickpeas, Val (beans)	Guar, Brinjal, Tomatoes, Choli Val (beans)

Source: Fieldwork, 2019.

In 2015-16, the average annual crop yield was 51. Sixty-five quintals, in 2016-17, it was 74.15 quintals, which was increased to 78.48 quintals in 2017-18, i.e., produces increased in the assistance year and the following year. In the year of assistance distribution, along with the crops usually taken earlier, vegetables were grown to increase production. Maximum production was 2016-17 of grains and vegetables in 2017-18. Production of

Chart 2: Average annual production of different crops (in quintals) (2015-18)



Source: Fieldwork, 2019.

oilseeds was minimal. They were already used to vegetable farming in traditional ways; after getting assistance during the monsoon season, vegetable production increased, but they skipped oilseed crops while getting the assistance. The vegetable's annual average production was 17.82 quintals in 2015-16, but in 2016-17, it increased to 22.3 tonnes, and after that, assistance year 2017-18 also shows increasing.

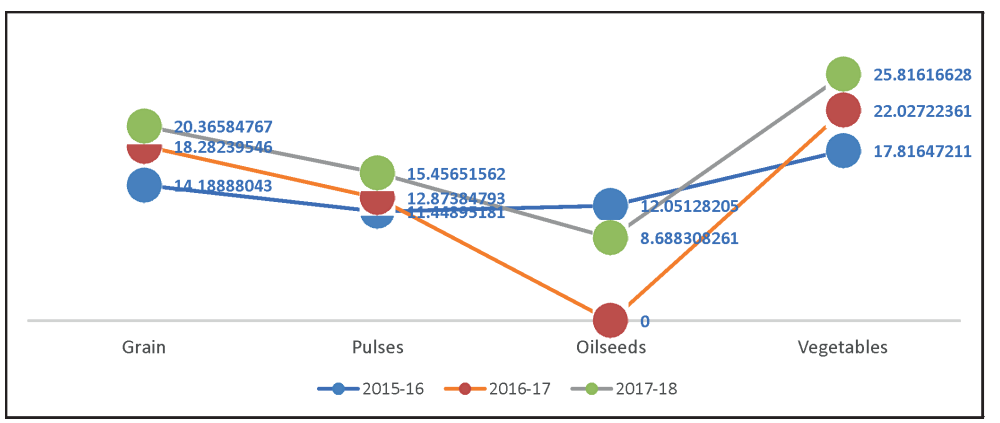


Chart 3: Crop-wise productivity (in Kg.) (2015-18)

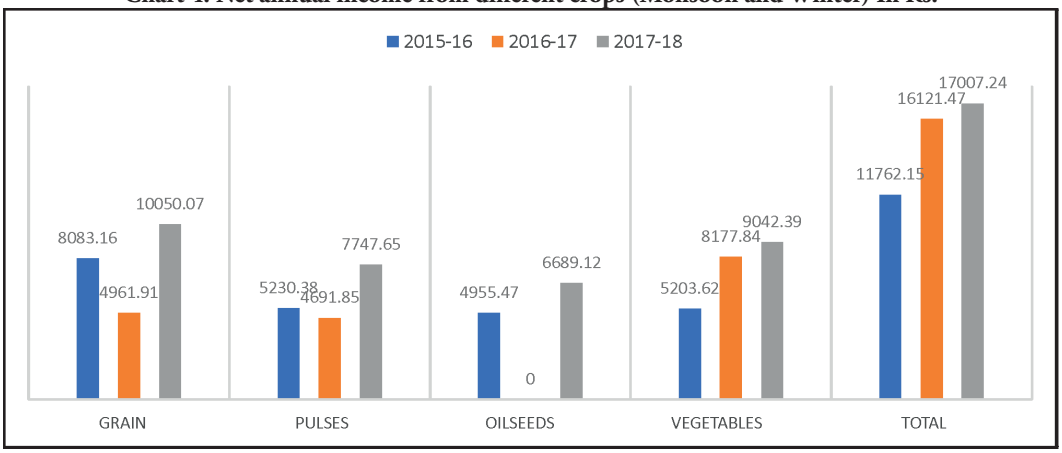
Source: Fieldwork (2019).

Impact on agriculture income

Income from agriculture is calculated based on the market price of the respective year. We collected production and nominal market price data crop-wise in 2015-16, 2016-

17, and 2017-18. The average annual income of the beneficiaries' households was higher in the year of assistance than in the years before and after assistance.

Chart 4: Net annual income from different crops (Monsoon and Winter) In Rs.



Source: Fieldwork (2019).

In scrutiny of the total financial and agricultural income of three years, it is found that total net income is continuously increased. Before assistance in 2015-16, the net income was Rs. 11762.75, Which increased after assistance to Rs. 16121.47 in 2016-17 and Rs. 17007.24 in 2017-18. Thus, the income was less before the distribution of assistance, which increases after the assistance year and in the third year. It is found in the scrutiny of income from different crops, growth areas, and the net income of oilseed crops that decrease due to the farming of vegetables. At the same time, income from vegetables was lower before the benefit, which increases after the benefit of assistance.

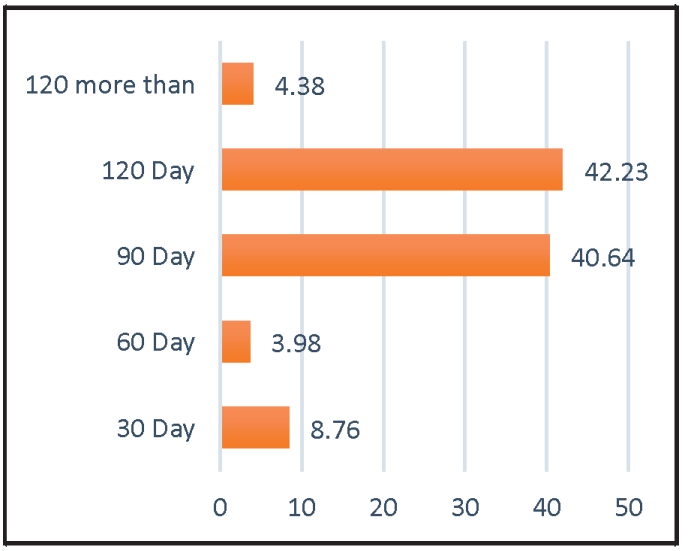
Impact on Employment

The study found that women engaged in work more than men, doing some work together. Men work by planting the farm, sowing, animal husbandry, etc. Meanwhile, fodder collection for animals, harvesting, etc., are related to women and family members. Agriculture is the main occupation of most marginal farmers. They took only two seasons of cropping on the farm. Along with agriculture, they earn from other employment resources. Animal husbandry, agricultural labor, and casual labor are other resources.

120 was the maximum number of days the beneficiary gained employment from farming. Then, 90 days were on the second rank. Most farmers grew vegetables during

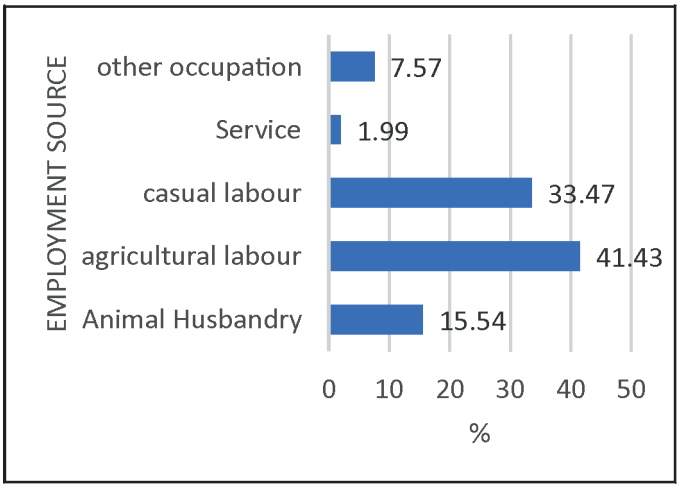
monsoon and were engaged in farming for a maximum of four or three months; hence, that period had a larger scale of employment.

Chart 5: Working days in agriculture during assistance years (2016-17) of beneficiary



Source: Fieldwork (2019)

Chart 6: Respondents' other occupation sources (2016-17)



In the lack of irrigation facilities, they turned to other employment sectors when farming was impossible. After agriculture, they tried to find employment outside of the village. As with other sources, agricultural labor and casual labor were the primary

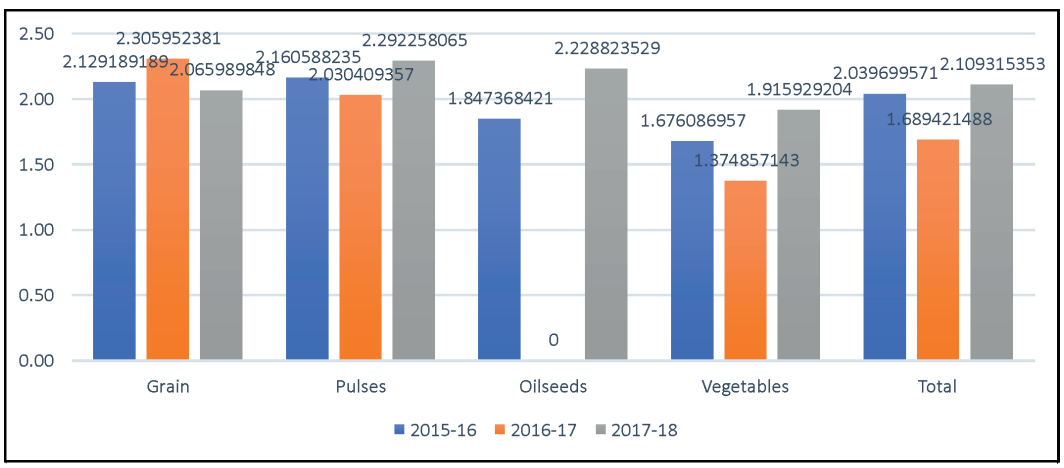
sources of employment. The maximum number of beneficiaries engaged in agricultural labor in extra time Fieldwork (2019) after farming. Then, they relied upon casual labor and animal husbandry; another occupation was driving private vehicles in the non-agriculture sector. Only one beneficiary household member worked with the Source: the organized sector.

Impact of cropping pattern

The study found that tribal people own their land in hilly and remote areas, and land fertility varies in different geographical areas. The tribal people grow grain and pulses according to the market. Even today, they grow traditional crops in most planting areas. The beneficiaries keep some proportion of grain with them for domestic consumption and sell the remaining stake. The tribal people believe they must keep the grain they grow for domestic consumption for days of natural calamities. They sold grain for any social causes or problems. Earning on products depends on market price.

The respondents use the maximum area for monsoon crops. Before assistance, 535.3 acres of land were under monsoon crops. In the assistance year, 553 acres and post assistance were 520.09 acres of land under cultivation. Thus, in the assistance year, the maximum area was under cultivation.

Chart 7: Crop-wise annual average cultivated area (in acres) (2015-18)



Source: Fieldwork (2019).

Before assistance, the average plantation area with grain was 2.13 acres; on the assistance year, it was 2.31 acres; and post assistance, it was 2.07. In the assistance year, the cropping area was maximum with grain. The annual vegetable cropping area was

1.68 acres in 2015-16, 1.37 acres in 2016-17, and 1.92 acres in 2017-18. Thus, the vegetable cropping area was less than other crops. The total annual cropping area was 2.04 acres in 2015-16, 1.69 acres in 2016-17, and 2.11 acres in 2017-18; in 2015-16, the total cropping area was lower, which increased post assistance. In their opinion, the market price of vegetables is similar, and the monsoon season suits those crops. Moreover, they have to change the crops which they usually grow for these crops. However, after the benefit, traditional crops were grown again.

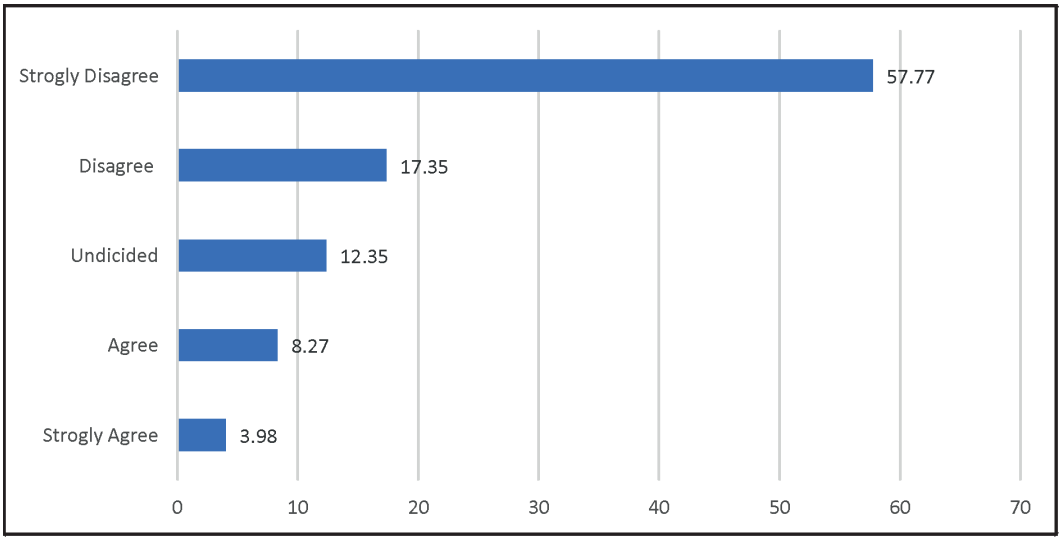
69% of farmers believe that conventional farming is better than modern farming. On the other hand, 10.76% believe modern farming is good. 95.6% believe pesticides increase benefits under the ADP. The farmers benefited from modern seeds and fertilizer' and found less land fertility after applying modern seeds and fertilizer to the land. Hence, 66.9% of beneficiaries relied on using compost manure and leaves and leaving the land without cropping in the assistance year to increase the fertility of the land. It is found in conversations with beneficiaries that they used more fertilizer and pesticides in their fertile land to get more produce. Afterward, growth in produce and crops was not found. There was no fruitful result in production even after applying most qualitative types of pesticides, fertilizer, and seeds. However, their plantation did not grow better than other farmers. Moreover, it gets less production. They cultivated Juwar in the second year. Nevertheless, it did not result well. Later, they realized that the land was less fertile.

Impact on migration

On assistance under this Programme, 5.18% of beneficiaries believe the assistance is sufficient, whereas 42.63% believe this assistance is insufficient. The tribal people traditionally live in forest land and migrate to urban areas with families for livelihood. Even in south Gujarat, such migration happened. The beneficiaries migrated to urban areas also for education. They went to districts like Surat, Bharuch, and Ankleshwar for masonry work and as construction workers, electricians, and casual workers in sugar factories. They used to work at a grape farm in Maharastra from October to November and return in March or April at native.

Out of the total respondents, 3.98 % strongly agree that migration decreases due to the Agriculture Diversification Programme, while 57.77 % strongly disagree. Because agriculture gives employment for 3 or 4 months, in their free time, two months after sowing the farm, the male of the family members tries for other employment. A significantly smaller number of farmers believe that the Agriculture Diversification Programme has decreased migration.

Chat 8: Does ADP assistance help to decrease migration?



Source: Fieldwork, 2019.

Conclusion

This study analyzed ADP's impact on Tribal areas in Gujarat based on primary and secondary sources in the Navsari and Tapi districts. Based on primary information, analysis is found that the Agriculture Diversification Programme promoted modern farming practices to help increase agricultural production, productivity, and income after assisting the promoted vegetable crops in the selected study areas. However, there is no specific impact on migration; respondents stated that farming income was insufficient. The beneficiaries express their mixed opinions about modern farming; in the tribal areas, the farmer usually conducts conventional farming. They argue that it will adversely affect the crops' diversity and land quality. They also suffered an inappropriate market for vegetable crops. With the implementation of such projects and schemes in tribal areas, the aim should not be to limit the assistance of subsidies. However, occupational orientation and appropriate market avenues should be the main focus. Assistance may not be limited to only one season or crop. The beneficiaries of ADP are not used to conducting modern farming until today; they again returned to traditional farming because of the assistance provided at once, which is insufficient to continue impact.

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