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RESEARCH ARTICLE

ADVANCEMENTS IN SMALL AGRICULTURAL SECTORS AND THEIR IMPACTS ON BEHAVIOURAL ASPECTS OF PALAKKAD FARMERS

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Abstract

This paper centres around the new strategies of cultivating, which focus on limited scope cultivating and its advancements. Development is a higher priority than at any other time in present-day horticulture; the overall industry surfaces significant difficulties, for example, mounting supply costs, work lacks, and changes in purchaser top choices for clarity and manageability. Agricultural enterprises have developed acknowledgement that arrangements are required for these difficulties. Over the ten years, horticultural innovation has encountered solid venture development, with \$ 6.7 billion invested in five years and \$ 1.9 billion relatively recently. The super mechanical developments in space have zeroed in on regions like indoor vertical horticulture, robotization and advanced mechanics, domesticated animals innovation, current nursery rehearses, accuracy agribusiness, and computerized reasoning. In many years, the studio business has changed from limited scope offices utilized fundamentally for exploration and feel purposes (i.e., professional flowerbeds) to altogether more prominent scope offices that contend straightforwardly with the development of ordinary earthly food sources. Nowadays, in enormous offer because of tremendous late enhancements in developing innovation, the business is seeing a thriving more than ever. The present nurseries were increasingly arising for a vast scope, with capital and escalated on the city. In this paper, the scientist gathered information from the 250 little ranchers from Kerala who have a solid base of rural and innovative information. According to the review, indoor cultivating and utilizing advances are assisting the ranchers with expanding their work fulfilment and yield. Both elucidating insights and inferential measurements were used to decipher the outcomes.

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Introduction:-

Farming is an essential pillar of the Indian economy, attracting 43% of the public used workforce. In any case, little holders - those asserting under 2 hectares of land, differentiated and 2-10 ha for medium holders and more than 10 ha for gigantic holders - who address 86% of all farmers in India, are as yet unquestionably the awful people in the country, securing only 39% of what medium holders gain, and only 13% of what colossal holders obtain. Consistently, smallholder farmers can't get a proportionate motivator for their produce because of low detectable quality of premium, obscure intermediation, limited quality attestation, confined permission to successful and insignificant cost methodologies, and low dealing power. To additionally foster farmer compensation, it is essential to promote their value further get and drive, for the most part, regard creation in the agricultural climate. The

development is likely to rapidly make and rehash game plans, create cost efficiencies, present straightforwardness in information streams, and support networks between regard chain performers. Given the essential work that agriculture plays in the Indian economy and the innovatively financially troubled spot of farmers in the country, there is a need to address hardships in the farmgate-to-fork (F2F) climate and make agribusiness more profitable for farmers.

What are the opportunities for solutions?

Four virtual switches can drive esteem catch and worth creation:

1. Direct matching among ranchers and purchasers
2. Straightforward quality appraisal
3. Cost-productive and ideal transportation
4. Total of little volume produce

Different high-potential advances have emerged in India to address these game plans, some appearance confirmation of a thought. India is unequivocally arranged to take these advances to scale. A web client base of 560 million clients (half placed in provincial districts), high phone invasion, and an AI market regarded at \$6.4 billion (16% of the overall AI market) reflect India's rapidly progressing country advancement scene including pioneers, monetary supporters and adopters--, who can make, test and embrace game plans at scale.

The most effective method to bring the distinguished tech arrangements forward

To accelerate the improvement of these plans, fast exercises and joint exertion from different performers are required: Large Tech and agri-tech players ought to take part eagerly in developing courses of action. Enormous Tech associations ought to zero in on building top-level B2B buyer-supplier matching stages, taking learnings from the electronic business industry. Gigantic Tech would, in like manner, maintain emerging agri-tech players by giving courses of action in quality affirmation, perceptibility, etc., by working on their responses through AI, AI, etc. Rural associations should maintain emerging development stages by taking on them to a colossal degree. Government support is significant for the development of courses of action. The Ministry of Agriculture would need to place assets into working on the capacities and gathering of eNAM in gathering with NGOs, agribusinesses and tech associations. Additionally, state lawmaking bodies could begin to stand out to work with on-ground execution of pilots to accelerate learning and improvement. Advocates and monetary patrons need to give upheld sponsoring to pilot and increment consolidated stages in different items and markets.

Agricultural and social affiliations could help complete the plan in both pilot and scale-up stages, using the interest of farmers and Farmer Producer Organizations (FPOs) to accelerate testing and sending of endeavours.

Digi - transform in agriculture.

A few essential circumstances should exist to utilize computerized advancements and, consequently, the progressive change in the horticulture and food area. These include foundation and availability (portable memberships, network inclusion, web access, and power supply), moderateness, instructive fulfilment (proficiency, ICT instruction) and institutional help. Admittance to advanced innovation can offer considerable benefits to smallholder ranchers and other country businesses by giving connections to providers and data furthermore, permitting clients to take advantage of labour force ability, assemble key organization, access support administrations, for example, preparing, finance and lawful administrations and reach markets and clients. Be that as it may, the presentation of advanced innovations in rural regions can be a test. All over the planet, country populaces are declining, and instruction and work valuable open doors are restricted. There is frequently an absence of framework, including essential IT foundation, especially in exceptionally distant country networks and those with substantial native populaces. The expenses related to the IT foundation present a significant test in rural regions where paces of neediness are much of the time high, particularly in emerging nations and least-created nations (LDCs).

Review Of Literature:-

(Liu 2016)The automated partition throughout areas and economies is impacted with the aid of using numerous factors. Nations within the unlucky international maintain on trying to get virtual money. Gaps in IT basis and public drives to resolving challenging social and financial issues, especially in agricultural countries where urbanization is dashing up and the population is rising. Populaces. Then again, extensive measures of the global population, especially the folks who stay in remote areas Much greater than already, some spots are

underestimated. A significant basis shortfall in IT certainly exists, normally at the grounds that due to the fact to a scarcity of basis, openness, and insufficiency or a scarcity of regionally extensive substance

(Eichler Inwood 2019) ICTs have gradually become huge for people and their day-after-day exercises within the time of digitization. The way where in people gain statistics and data, keep on with work and get one-of-a-kind administrations has been modified with the aid of using ICTs. Notwithstanding, there are versions in admittance to ICT advantages and awesome open doorways in each interior and international. The brief take-up of mobile telephones in a part of the world's least lucky nations has drastically exceeded forecasts, pushed with the aid of using faraway advances and the liberation of broadcast communications markets. In LDCs and growing economies, admittance to PCs and the Internet has as of past due expanded, but there may be as but a large automated partition whilst contrasted with nicely off economies.

(Booker 2015) Two vital problems are at the centre of the automated partition. To begin with, due to full-size prices and a widespread absence of foundation, consisting of abnormal admittance to strength and much less information and correspondence innovation (ICT) offices, greater unlucky populaces have restrained admittance to automated advancements. Less lucky networks and united states of America girls in rising international locations get minimum gain from the ICT transformation on a global scale. Due to their economic status, it became proven that 35% of households in South Africa did not see the good worth in that body of thoughts on the Internet.

(Bhattacharjee 2016) The direction of automatic alternate has to have stayed aware with the aid of using faculty structures and achievement. Educators have to have the essential automatic abilities, and education has to alternate to a degree as much as the assumptions of human beings within the future, thinking that the superior training system's best hobby institution is largely children who're at the web. Most under studies in industrialized nations have grown up using country of the artwork advancements, which name for extraordinary automatic abilities. They will request that their knowledge of instructive situations correspond to their ordinary routines.

(Balafoutis 2017) The accessibility (thickness) of schools, task out distances to schools, the scale of the examination halls, the community spending plan exact for training, and whether or not households use youngsters as abode employees are the number one drivers of unlucky education tiers in rustic areas. Furthermore, contrasted with youngsters in metropolitan areas, much less children in rustic areas entire their tutoring, probably leaving many of them unskilled. This is due to a scarcity of automatic frameworks and help. Youth populaces in the ones locales and LDCs with larger orientation holes amongst metropolitan and rustic areas also display greater distinguished holes in adolescent education. Because of similarly evolved admittance to training, younger ages (matured 15 to 24) are becoming gradually more taught than greater mounted ages; in any case, simply 60% of the international locations and districts for which facts are accessible.

(Mittal, S. 2016) "Carrying on with Work" advances each excessive administrative tips and what is more, adequacy. Effective tips are essential for smooth locations to get a deal with on and follow. to understand economic advantages, diminishing debasement, and advancing little Medium-sized SMEs will flourish, lowering needless red Tape have to be eliminated. However, sure safety measures must be achieved to ensure superb business. Only effectiveness is poor for administrative cycles for law to be viable

(Shockley 2015) There are distinct nations that do not explicitly have an automatic farming arrangement. Still, maximum in their ongoing superior strategies or e-authorities are associated and comprise a few precise challenges or person components within the discipline of automatic horticulture. To extrude civic institutions to emerge as automatic locals, nonetheless, is every other discipline, and it's potential that several legislatures will bomb their underlying endeavours. The OECD nations often war with collaboration and want clean needs and provide extremely good models. Just five international locations have an enormous stage authority or a first-rate framed dedicated to automatic problems that may lead approach development or coordination. Such a massiverange of nations maintain on deciding on offerings or factors that aren't dedicated to automatic undertakings and that a lot of the time omit the mark on required skill.

Statement Of The Problem

Many studies have been conducted on agricultural and productivity measurement in agriculture sectors, so it was hard to find the impact of digital farming in the farm sector; thus, this study focuses on that. Development within the plan of a standard approach that serves the distinguishing evidence of the open doorways and chance that the automated alternate brings to this enterprise through organizing an elucidating version that empowers us to

recognize, as a primary measure, the one's additives that portraiture the superior alternate in farming and rustic regions, to quantify or depict its gift status. This machine is an improvement all through itself because it empowers the organizing of various additives, for example, innovations, in an all-encompassing imaginative and prescient wherein now no longer solely is the creation of a logical variable. Still, moreover, the real approach is illustrative; this is to say, it would not plan to put out the logical structures among the diverse factors.

Scope Of The Study

This study has a broad scope since it incorporates farming and digital farming. The segments that make up this paper circulate as consistent with a foreordained strategic design. The assembled basis and ends rely on present outcomes, introducing differing tiers of portrayal as a way as countries and temporalis, which continues them from being very a good deal almost same but lets in the basis of a "slicing-edge" of the usage of automated improvements within the discipline of horticulture, and doubtlessly in rustic regions. The impact exam is then moved in the direction of thruselected models, which, whilst now no longer complete or much less ordinary than others, showcase how those superior improvements should create outcomes within the discipline of farming and food.

Objectives:-

1. To find out the impact of digital tools in farming.
2. To find out the perception of the farmers about the digital tools.
3. To find out the satisfaction level of farmers.

Analysis

Demographic profile

Gender	
○ Male	220
○ Female	30
Age	
○ Less than 30	32
○ 31-40	52
○ 41-50	82
○ Above 50	84
Education level	
○ Illiterate	18
○ Primary	42
○ Secondary	62
○ Matriculation	112
○ Plus tow	16
Type of agriculture	
○ own land	168
○ lease land	40
○ employee	16
○ rental land	26
Marital status	
○ married	220
○ unmarried	30
○ divorced	
Monthly income	
○ less than 10,000	116
○ 10,000-20,000	120
○ 20,000-30,000	14
○ More than 30,000	

The above table describes the demographic profile of the selected farmers included in the study in that 220 were male and 30 were female. 32 of them at the age category of less than 30 , 31-40 52 samples, 41-50 82 samples above

50 84 samples. The education level reveals that 18 are illiterate, 42 have primary level, 62 have secondary level, 112 have matriculation, 16 having plus two. 220 of them are married and 30 of them are unmarried. 116 is having monthly income less than 10,000, 120 of them have income between, 10,000 and 20,000. 14 of them belongs to the category of 20,000-30,000.

Impact of automated drip watering

H0 There is no impact on the drip watering facility and the satisfaction level of the farmers.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.441	1	128.441	183.939	.000 ^b
	Residual	173.175	248	.698		
	Total	301.616	249			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653 ^a	.426	.424	.83563

Table shows the regression result says that there is a strong influence by the drip watering facility on the satisfaction level of the farmers. The value indicates that the power of the drip watering source increased by one per cent, it will influence .42 per cent on the satisfaction level of the farmers.

Perception and age

H0 there is no significant difference between the respondent's age and satisfaction level with digital farming.

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	135.757	4	33.939	50.134	.000
Within Groups	165.859	245	.677		
Total	301.616	249			

The table above checks the significant differences between the age group of the respondents and the satisfaction level of digital farming. The results show that at a .000 percentage of significant level, there is no differences in the opinion of the farmers about the digital farming is not came into action. The higher age group farmers are showing a significant difference in digital farming, this may be the influence of traditional farming or lack of digital knowledge. So that it is concluded that all the farmers are having good satisfaction level about the digital farming, except the higher age group.

Satisfaction level and perception of farmers

H0 There is no relationship between the satisfaction level of farmers and perception towards digital farming

Correlations			
		SATISFACTION	PERCEPTION
SATISFACTION	Pearson Correlation	1	.761**
	Sig. (2-tailed)		.000
	N	250	250
PERCEPTION	Pearson Correlation	.761**	1
	Sig. (2-tailed)	.000	
	N	250	250

The above table finds to see the relationship between the satisfaction level of the farmers and their perception of digital farming. The results show that there is a massive relationship between both of the variables at a .000 percentage level of significance.

Findings of the Study

1. The drip watering source increased by one percentage it will influence .42 per cent on the satisfaction level of the farmers.
2. The higher age group farmers are showing less satisfaction towards digital farming.
3. There is a massive relationship between satisfaction level and perception of farmers in digital farming.

Conclusion:-

High level cultivating is developing quickly, driven by various mechanical advances in the space of remote recognizing, man-made intellectual prowess, and mechanical structures. These structures enable farmers to make broad, exact, and direct gather and animals things, both at people in general and neighbourhood levels and to get extended yield and quality, restricting the natural influence. A couple of troubles and cutoff points, similar to accuracy, interoperability, data limit, estimation power, and farmers aversion to the gathering, ought to be tended to for strong usage of these headways and wide mechanized differences in agribusiness.

Advanced innovation is now changing the elements of the agri-food area yet the interaction so far has not been deliberate. Understanding the maximum capacity of advanced cultivation will require the collaboration of all job players in the agribusiness esteem chain. There is a requirement for a reasonable outline of some portion of entertainers working in agricultural food and computerized items - counting the private area, state-run administrations and other offices - on the best way to take advantage of the chances of advanced rural. Ranchers play a vital part, and computerized advances give new open doors to them to cooperate and develop. There is additionally a developing gathering in the cultivating area that has college degrees and specialization in science and innovation subjects. They are many times capable in trial and error and imaginative thinking. Youth in the agri-food area are additionally frequently innovative and ready to proceed with appropriate courses of action to seek after new pursuits.

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