

ABSTRACT

Name: Raj Kumar Adhikari

Semester and year of admission: First, 2011

Major subject: Agriculture Economics

Major advisor: Prof. Punya Prasad Regmi, Ph.D.

Id. No.: R-2011-AEC-B-01 P

Degree: Ph.D.

Department: Agricultural Economics

The concept of plant clinic is a relatively new approach in global agriculture extension which was introduced in Nepal in 2008 and mainstream in government extension system since 2011. This study was conducted during 2012-2016 by taking 350 sampled farmers from 5 villages of Chitwan district. The pre-tested questionnaire was used to collect the primary information on plant health issues and rice cultivation. Out of the total sampled farmers, fifty percent (175) were clinic attendants and another fifty percent (175) were non-attendants. Descriptive statistics, inferential statistics and econometric models were used to analyze and interpret the data collected. The average household size was significantly higher among the attendants (5.11) than non-attendants (4.58). The majority (60.6%) of the attendant was male and that of non-attendant (58.3%) were female. The literacy rate was found to be 89.1% among attendant and 74.9% among non-attendants. Agriculture was found to be a major family occupation for the 79.4% attendant household, whereas only for 68% of non-attendants. The average land holding size was found to be significantly higher (0.54 ha) among the attendants than non-attendants (0.43ha). The study found 84% of clinic attending and 60% of non-attending farmers were affiliated with the farmer's organization. Whereas 64% attendants and 33.7% non-attendants had participated in training related to agriculture. This study revealed that 61.4% of the total respondent have access to extension services which is very close to attending and non-attending. Only 17.7% of the attendants and 31.1% of non-attendant had frequent contact with public extension. The study found a positive increment amount of organic fertilizer and chemical fertilizer used in rice cultivation among both categories of farmers, but the increment was higher among non-attendants. The seed rate was found to decrease significantly by attendants but increased by non-attendants. The average dose of herbicide among clinic attendant was found to decrease significantly after the clinic participation but increased significantly among the non-attendants. The number of chemical pesticide users in rice was increased by 9% and 3% among attendants and non-attendant respectively. The average dose of chemical pesticide was found to be increased significantly among clinic attendants, but insignificantly among non-attendants. The average cost of cultivation among clinic attending farmers was Rs.50,175.3/ha before the clinic, which has increased significantly to Rs.59,771.8/ha. Similarly, the average cost of cultivation among non-attending farmers were Rs.48,021.6/ha during the pre-clinic period that also increased significantly to Rs.62,242.0/ha during the post-clinic period. The increment in the cost of production was significantly lower (Rs.4,623.9/ha) among clinic attending farmers. The average farm gate price was found to be Rs. 18.4 in both categories of farmers, which was increased significantly to 22.05 and 21.96 among clinic attendant and non-attendant in post clinic period. The average revenue was Rs.63,215.0/ha and Rs.63,037.2/ha among clinic attending and non-attending farmers respectively during the pre-clinic period that has increased significantly to Rs.84,506.6/ha and Rs.78,378.4/ha

respectively during the post clinic period. It was higher among the attendants during both periods, but only significantly higher during the post-clinic period. The difference in difference was significant and higher among clinic attendants. The productivity of rice before the clinic period was 3.42 mt/ha among both categories of the farmers, which was increased to 3.83 mt/ha among attendants and 3.57 mt/ha among non-attending farmers with an incremental change of 0.41 mt/ha and 0.15 mt/ha among attendants and non-attendants respectively. The difference in the increment in productivity was significantly higher (0.26 mt/ha) among the attendants. The average profit of rice cultivation before the clinic was Rs.13,039.8/ha and Rs. 15,015.6/ha among clinic attendant and non-attendant respectively, which were increased to Rs. 24,734.9/ha and Rs. 16,136.8/ha respectively during the post-clinic period. The increment was significant only among the attendants. This difference-in-difference was found significant with an absolute value of Rs.10,574.2/ha. The study revealed the distinct and wider changes in knowledge, attitude, and practices of clinic users than non-users. The changes, particularly in their skill to recognize the crop pest and diseases; the probable season of occurrence of diseases and pests; the economic threshold level; preventive and curative measures of pest and disease control; knowledge and adoption of recommended doses of fertilizers and pesticides; adoption of waiting period after pesticide application was found remarkably high among the clinic users than non-users. The study found gender of household head, education, membership with farmers group or cooperative, training number of visits to public extension, number of visits to NGO and agriculture as major occupation was found to be significant positive determinants to affect the farmer's decision on participation on clinics while the distance to plant clinic and number of visits to agrovets were found to be significant negative factor.

शोध-सार

नाम: राज कुमार अधिकारी
सत्र तथा भर्ना भएको वर्ष: प्रथम, २०६८
मुख्य विषय: कृषि अर्थशास्त्र
मुख्य सल्लाहाकार: प्रा डा पुण्यप्रसाद रेग्मी

परिचय पत्र नं.: आर-२०११-ए.ई.सी.बी-०१पी
उपाधि: विद्यावारिधि
विभाग: कृषि अर्थशास्त्र

विश्वव्यापी रुपमानै क्षि प्रसारको क्षेत्रमा प्लान्ट क्लिनिक नयाँ अवधारणा हो जसलाई नेपालमा सन् २००८ देखि सुरु गरियो र सन् २०११ देखि नेपाल सरकारले कृषि प्रसार कार्यक्रम अन्तर्गत कार्यान्वयन गरेको छ । "प्लान्ट क्लिनिकको वाली उत्पादनमा अर्थशास्त्रीय प्रभाव" विषयमा सन् २०१२ देखि २०१६ सम्ममा चितवन जिल्लाका ५ वटा गाउँका ३५० जना कृषकहरूमाझ एक अध्ययन गरिएको थियो। पूर्व परिक्षित प्रश्नावलीको प्रयोग गरि किसानहरूको वाली स्वास्थ्य प्रणाली र वाली उत्पादन सम्बन्धी तथ्यांकसंकलन गरितथ्यांकशास्त्रीय र गणितीय अर्थशास्त्रका विभिन्न विधिहरूबाट नतिजा विश्लेषण गरियो। उत्तरदाताहरूको औषत घरपरिवार संख्या प्लान्ट क्लिनिकमासहभागिहुनेहरूकोमा उल्लेख्य धेरै पाईयो । प्लान्ट क्लिनिकमा सहभागी उत्तरदातामध्ये ६०.६% पुरुष र सहभागी नभएका मध्ये ५८.३% महिला थिए । यसमा सहभागीमध्ये ८९.१% र सहभागी नहुनेहरूमध्ये ७४.९% साक्षर रहेको पाइयो। कृषि ७९.४% सहभागी र ६८% सहभागी नहुने घरपरिवारमा परिवारको मुख्य पेसा रहेको पाइयो । प्रति घरधुरी औषत जमिनको क्षेत्रफल सहभागी नहुनेहरूको तुलनामा सहभागिहरूमाझ उल्लेख्य धेरै पाइयो । अध्ययनले ८४% सहभागीहरू र ६०% सहभागी नभएका घरपरिवारहरू कुनै न कुनै प्रकारको कृषक संस्थामा आवद्ध भएको पाइयो भने ६४% सहभागी र ३३.७% सहभागी नभएकाहरूले कृषि सम्बन्धी तालिम लिएको पाइयो । जम्मा ६१.४५ उत्तरदातामात्र कृषि प्रसारमा पहुँचमा रहेको पाइयो भने नियमित रुपमा सरकारी कृषि प्रसारको सम्पर्कमा जम्मा १७.७५ सहभागीहरू र ३१.१% असहभागिहरू भएको पाइयो । प्लान्ट क्लिनिक संचालन पूर्व र पश्चात्को तुलना गर्दा धान खेतीमा प्रांगारिक मल र रासायनिक मलको प्रयोग सहभागीहरूलेभन्दा सहभागी नहुने किसानहरूले धेरै बढाएको पाइयो । प्लान्ट क्लिनिकमा सहभागी किसानहरूले औषत विउदर उल्लेख्य मात्रामा घटाएको पाईयो भने सहभागी नहुने किसानहरूले अझै बढाएको पाइयो । त्यसैगरी झारनासक विषादीको प्रयोग दर प्लान्ट क्लिनिकका सहभागीहरूले उल्लेख्य मात्रामा घटाएको पाईयो भने सहभागी नभएका किसानले उल्लेख्य मात्रामा बढाएको पाइयो। अर्कोतर्फ किटनासक तथा रोगनासक विषादीको प्रयोगकर्ताको अनुपात र औषत प्रयोग मात्रा प्लान्ट क्लिनिकका सहभागीहरूमाझ उल्लेख्य वृद्धि भएको पाइयो । प्लान्ट क्लिनिकका सहभागीहरूको धान खेतीको प्रति हेक्टर औषत लागत रु.५०,१७५.३ वाट उल्लेख्य वृद्धि भई रु.५९७७१.८ पुगेको पाइयो भने सहभागी नभएका किसानहरूको लागत रु.४८,०२१.६ वाट रु.६२,२४२.० पुगेको पाइयो। यसलाई तुलना गरिहेदा उत्पादन लागत प्लान्ट क्लिनिकका सहभागीहरूमाझ उल्लेख्य कम वृद्धि भएको पाइयो। पहिलाको धानको विक्रि मूल्य दुवै प्रकारका किसानमा एउटै भएतापनि क्लिनिक पश्चात् सहभागीहरूले प्रति किलो रु.२२.०५ र सहभागी नभएकाहरूले प्रति किलो रु.२१.९६ पाएको देखियो । प्लान्ट क्लिनिक पूर्वधान खेतीवाट प्रति हेक्टर औषत आय यसका सहभागी र सहभागी नभएकाहरूको क्रमशः रु. ६३,२१५.० र रु.६३,०३७.२ पाइयो जुन क्लिनिक पश्चातको समयमा उल्लेख्य वृद्धि भई क्रमशः रु.८४,५०६.६ र रु.७८,३७८.८ पुगेको पाइयो। प्लान्ट क्लिनिकका सहभागीहरूले दुवै समयमा सहभागी नभएका किसानभन्दा धेरै आमदानी गर्न सफल भएको देखियतापनि प्लान्ट क्लिनिक पश्चात्को समयमा उक्त फरकमात्रा उल्लेख्य रुपमा धेरै पाइयो । प्लान्ट क्लिनिक संचालन पूर्वको समयमा धानको औषत उत्पादकत्व दुवैखाले किसानहरूमाझ वरावर (३.४३ मे.ट./हे) पाइयो जुन प्लान्ट क्लिनिक पश्चात् यसमा सहभागी नभएकाकोमा ३.५७ मे.ट. हे र सहभागीकोमा ३.८३ मे.ट./हे पाइयो। क्लिनिक पूर्व धानखेतीवाट प्रति हेक्टर औषत मुनाफा सहभागी भएका र नभएका किसानहरूले क्रमशः रु.१३,०३९.८ र रु.१५,०१५.६ प्राप्त गरेका थिए भने क्लिनिक पश्चात्को समयमा क्रमशः रु.२४,७३४.८ र रु. १६,१३६.८ प्राप्त गरेको पाइयो । यो कूल मुनाफामा भएको वृद्धि सहभागी किसानहरूमाझ मात्र उल्लेख्य पाईयो र यो फरक माझको फरक पनि उल्लेख्य पाइयो। यस अध्ययनले प्लान्ट क्लिनिकका सहभागी किसानहरूको वाली स्वास्थ्य सम्बन्धी ज्ञान, प्रवृत्ति र अभ्यास सहभागी नभएका किसानहरूमा भन्दा प्रष्ट रुपमा सकारात्मक परिवर्तन भएको पाईयो । खासगरी रोग किरा पहिचान गर्न सक्ने ज्ञान, क्षमता, ती रोग किराहरूको सम्भावित प्रकोप हुन सक्ने समय, आर्थिक क्षति आँकलन, विभिन्न रोग किराहरूको निवारक तथा नियन्त्रण विधिहरू, मलखाद तथा विषादीहरूको सिफारिस मात्राको ज्ञान र अनुसरण, विषादी प्रयोग पश्चात् र

वाली टिप्पे समय अवधिको ज्ञान र अनुसरण आदि प्लान्ट क्लिनिकमा सहभागी भएका किसानहरुमाझ उल्लेख्य रुपमा सकारात्मक परिवर्तन भएको पाइयो । यस अध्ययनमा प्लान्ट क्लिनिकमा कृषकहरुको सहभागितालाई असर गर्ने विभिन्न तत्वहरुको विश्लेषण गर्दा घरमूलीको लिंग, शिक्षा, कृषकसंस्थामा आवद्धता, कृषि तालिममा सहभागिता, सरकारी प्रसार कर्मचारी सँगको भेटघाटको संख्या, गैरसरकारी संस्था सँगको भेटघाटको संख्या, कृषिनै परिवारको मुख्य पेसा जस्ता तत्वहरुले उल्लेख्य सकारात्मक असर गरेको र घरदेखि प्लान्ट क्लिनिक सम्मको दुरी, एग्रोभेटसँगको भेटघाटको संख्याले उल्लेख्य नकारात्मक असर गरेको पाइयो ।