CHAPTER - 3

Review of Literature

Entropy			
Source	**Year**	**Author**	**Impact point**
Transactions of the ASABE. 2010, **53**(6): 1811-1821.	2010	Singh, V.P.	The entropy theory permits a probabilistic characterization of the rating curve and hence the probability density functions underlying the curve. It also permits a quantitative assessment of the uncertainty of the rating curve. The derived rating curves are tested using field data and are found to be in agreement with the curves obtained by the least square method.

BMC Bioinformatics. 2010, **11**(607): (22 December 2010).	2010	Sun, X.L.; Yong, Z.; Nikiforova, V.; Kurths, J.; Walther, D.	High complexity is considered a hallmark of living systems. Here we investigate the complexity of temporal gene expression patterns using the concept of Permutation Entropy (PE) first introduced in dynamical systems theory. Applying the PE complexity metric to abiotic stress response time series data in Arabidopsis thaliana, genes involved in stress response and signaling were found to be associated with the highest complexity not only under stress, but surprisingly, also under reference, non-stress conditions.
Current Science. 2010, **99**(11): 1560-1569.	2010	Mondal, N.C.; Singh,V.P.	To determine the fractional amount of rainfall (called natural recharge), marginal entropy and transinformation of rainfall and depth to the water table at selected wells were calculated. Then a ratio of transinformation to marginal entropy of rainfall was used as a measure for assessing natural recharge.

Thermodynamic Entropy and Social entropy			
Source	**Year**	**Author**	**Impact point**
On the Motive Power of Heat, and on the Laws which can be deduced from it for the Theory of Heat. Poggendorffs Annalen der Physick, LXXIX (Dover Reprint).	1950	Clausius, R.	The term "entropy" was coined by Clausius in nineteenth-century thermodynamics, and is the subject of the Second Law of Thermodynamics, which states that in an isolated thermodynamic system, entropy will either remain constant or increase toward its maximum, but cannot decrease. This means that in an isolated system, the system will gradually become more and more disordered, until it reaches maximum entropy. This is a complete state of rest or dissolution, with an absence of available energy for doing work.
Describing Social Systems using Social Free Energy and Social Entropy; Kybemetes, **34 6**: 857-868.	2005	Stepanic, J.; Sabol, G.; Zebec, M.S.	Combination of social free energy and social entropy is on the one hand a set of quantities easily determinable from available data, and on the other hand a set of indicators intuitively connected with social system states. We relate the system social free energy and levels of organization and adaptation. From these measures we derive the measure of social system adaptation.

Estimating Social Entropy and Social Chaos in Technology Socialization Process. *Unpublished MSc.(Ag) Thesis*, BCKV Mohanpur, West Bengal.	2011	Roy, A.	It has drawn up that the higher the independency, the individuality gets unleashed and the person will start behaving like a free particle in zigzag movements as has been observed by Albert Einstein's in a typical Brownian movement. The education in a person acts as a propeller and drives in out of the customized confinement or defined domain for an individual by tradition and norms. This kind of extraterrestrial behavior can be perceived as entropy per se for an apparently state and unmoved society. The educational pursuit in a family, non integrated, erratic, free flying, non committal, may add a kind of negentropy which is happening in a mundane and depletive farming system. Cropping intensity and distance matrix may experience a marital closeness and proximity through Eigen Roots and can contribute to a new factor called System Factor to substantially characterize the social entropy.

Social System theory and Social Entropy: The Post Modern Approach to Analyze Extension System Function *Unpublished MSc (Ag.) Thesis*, BCKV, Mohanpur, West Bengal.	2010	Dutta, T.	Concluded that every chaos and entropy has got a framework to act and make the system somehow operational. They also found that concept of Social entropy would help calculation of residual energy or motivation, estimation of motivation flow mechanism to formulate better scientific and effective training, motivation, leadership, project monitoring, teaching learning program, organizational behavior and objective evaluation mechanism. It would help measure and adopt remedial measure to fight stress, morbidity, neuro psychosis and psycho-somatic disorder. The concept of entropy would help in combat and redress conflict, intra-group rivalry, leadership, intimidation, shift stress etc.

Journal of Food, Agriculture and Environment. 2010, **8**(2 part 2): 1062-1066.	2010	Gan, H.; Zhu, Q.L.; You, J.J.; Wang, L.; Gan, Z.G.; Wang, L.	On this basis, information entropy theory is applied to establish the function of order degree entropy of the water cycle system, which shows the evolution direction. According to this function and the concept of entropy, a lower value of order degree entropy indicates that the system has a greater order degree and will evolve toward order, and the lower the value, the better the corresponding subsystem, the more harmonious and organized the whole water cycle system, and the more optimal the corresponding alternative. The alternatives can be evaluated and selected by comparing the values of the entropy. The application of the proposed methodology is discussed and illustrated in a case study of the Haihe River basin.

Mexico's Social accounting Matrix 2004. *Agrociencia Montecillo.* 2009, **43**(5): 551-558.	2009	Barboza C.I.; Vazquez, A.J.M.P.; Matus, G.J.A.	The social accounting matrix is a fundamental base to analyze economic policies measure the impact of external clashes and study the dynamics of markets and the structure of institutions. A recent matrix named social Accounting Matrix for Mexico 2004 was built and put at the disposal of experts, through the cross entropy method. The matrix obtained is consistent with the principles of national accounting. Accounting Matrix for Mexico 2004 was built and put at the disposal of experts, through the cross entropy method.
Journal of Fujain Agriculture and Forestry University Natural Science. 2008, **37**(4): 415-419.	2008	Dong, L.M.; Pu, L.J.; Shu cheng, H; Zhou, Q.	The decrease of crop and garden land and the increase of resident, industry, mine and transportation land caused the change in information entropy of Weijiang land use structure. Socioeconomic level of whole region is the main factor that induces change in information entropy. Finally, the social, economical and environmental benefits for use and distribution of lands are given.

A Comprehensie Benefit Evaluation for the Xiangjiang River Basin Rehabilitation Project. *Hydrological Science for Managing Water Resources in the Asian Developing World*, 2008, 289-295.	2008	Wu, Y.Q.; Shao, D.G.; Xiao,Y.	To quantify the benefits and impacts of the project and to also evaluate its advantages and weakness, hierarchical assessment index system considers flood-control, the social economy and ecological environment. Each index of the different categories within the index system was normalized and its weight was determined through an information entropy based assessment method, including both the subjective and the objective assessments; The basin treatment project enhanced the flood control capability, boosted socio-economic development of the region and improved the ecological environment of the basin.

Social Entropy Theory. State University of New York press Albeny.	1994	Bailey, k.	Presents the concept of entropy theory not as merely a thermodynamic concept whose utility is primarily limited to the study of heat and temperature change, but rather as a generic concept that is inversely related to the amount of work done. Thus, it is potentially applicable to any system where energy exists in quantities sufficient to permit work. Entropy has the potential to be one of the most important generic concepts available for linking theory and research on all life support systems. All life support systems, in order to be sustainable, must possess sufficient levels of energy. And information. However, merely having available energy and information is not enough for sustainable life support. This energy must be used effectively to do work; with the end result that the entropy is not permitted to rise to uncomfortable levels.

Enthalpy-Entropy and Frequency Factor Activation Energy Compensation Relations for microbial death in fruit juices. *Lebensmittel Wissenschaft and Technology*. **24** (4): 378-381.	1991	Ozilgen, M.; Durkan, A.; Ulgen, N.	Thermal death kinetics of *Leuconstoc mesenteroides* and *Basillus coagulans* were studied experimentally in pH adjusted orange juice and glucose or sucrose added apple juice, respectively. The frequency factor and activation energy of these processes were calculated by using the Arrhenius expression. The activation entropy and the activation enthalpy were calculated with analogy between the unimolecular chemical reactions and the microbial death kinetics by using Eyring's theory.
Welfare, Society and the Social Worker TREVILLION Br J Soc Work. **12**: 23-33.	1982	Travellion, S.	Encompasses the situation where the focus is given to the clients' treatment during the moment of transition between social categories and thereby denied a place in society. An opposition is accordingly presumed to exist between Welfare and Society, to intrude on the relationship between social worker and client, constituting a pressure to resolve the tensions produced by anomaly through the imposition of a welfare identity on the client. In conclusion, it is suggested that behind the apparent 'crisis' in social work lies a crisis in the management of social entropy.

On the motive power of heat and on the law which can be deduced from it for the theory of heat. *Poggendroffs Annalen Physick*, LXXIX (Dover Reprint).	1850	Rudolf, C.	In nineteenth-century thermodynamics, and is the subject of the Second Law of Thermodynamics, which states that in an isolated thermodynamic system, entropy will either remain constant or increase toward its maximum, but cannot decrease. This means that in an isolated system, the system will gradually become more and more disordered, until it reaches maximum entropy. This is a complete state of rest or dissolution, with an absence of available energy for doing work.
The Social Psychology of Organisations, **2** (4): 3-7.	1947	Danial. K.	Revealed that open-systems theory seems to us to permit assumption of entropy, the necessary dependence of any organization upon its environment. The open-system concepts of energy, input and maintenance point to the motives and behaviour of the individuals who are the carriers of energies input for human organizations; the concept of output and its necessary absorption by the larger environment also links the micro- and macro levels of discourse.

Adoption			
Source	**Year**	**Author**	**Impact point**
Farmer adoption of improved nitrogen management technologies in rice farming; technical constraints and opportunities for improvement, Resource management in rice system; nutrients, *Nutrient Cycling in Agroecosystems*. 1999, **53**: 1, 93-101.	1999	Balasubramanian.V.; Balasubranaian.V.;(ed); Ladha, J.K. (ed); Denning, G.L.	Many technical factors and management practices constraints the adoption of improved technologies including efficient N-management techniques; (a) poor water control; (b) low plant population; (c) partial nutrient application; (d) insufficient weed control; (e) untimely sowing, transplanting, weeding, and/or harvesting; and (f) poor post-harvest processing.
Adoption behavior of rural farmers of Assam towards different aquaculture technologies, *Indian Journal of Hill Farming*, 1999, **12**: 1-2, 52-57.	1999	Borah, B.C.;	The paper analyzed the recommended technology adoption behaviors of fish farmers in five villages within a 40 km. Radius of Assam Agricultural University, India. Reasons for non adoption/partial adoption of aquaculture technologies were high investment followed by inadequate availability of finance and of inputs.

Evaluation of frontline demonstration trial, on mustard in South-Western Region of Haryana Agricultural University, *Journal of Research.* (1999), **24**: 1-2, 39-42.	1999	Yadav, Y.P.; Singh, B.; Kumar, A.; Singh, B.; Kumar, A.	It was observed that, there was a wide gap between potential yield and demonstration plot yields of mustard due to factors including soil fertility, site specific management problems, and rainfed conditions in some demonstrations. The extension gap was lower than the technology gap, but there was still a need to educate farmers in adoption of improved technologies.
Technological status (adoption pattern) of soyabean cultivation in district Sagar of Madaya Pradesh. *Crop Research Hiasr*. 1999, **18**: 1, 150-154.	1999	Soni.S.; Kurmavanshi,S.M.; Soni, S.N.	The finding related to non –adoption of modern agricultural technologies indicated that lack of awareness was the prominent constraints followed by high cost of inputs. Other constraints were; Lack of credit facilities, lack of capital and non- availability of inputs at times.

Partial adoption of divisible technologies in agriculture. *Journal of Agricultural Economics Research.* (1990), **42**: 3, 20-26; BLDSC.	1990	Szmedra, P.I.; Wiezstein, M.E.; Meclendon, R.W.	Based on a dynamics theoretical model, an empirical application is used to assess the adoption of integrated pest management (IPM) with and without irrigation. Results indicate that the degree of new technology adoption may depend on the extent of the risk. For example, strongly risk averse producers who use dry land technology may only partially adopt IPM, and producers who irrigate to significantly decrease variation in yield and returns may also only partially adopt IPM.

Kaufman, Harold F. Avatar Singh, and Satadal Dasgupta.	1975	Villages' upword Bound; A Study of Technological Change in the six Punjab Villages, Calcutta: Editions Indian.	A comparative study in six Punjab villages, has shown that the more distinct the leadership structure in a community the higher the level of its adoption of agricultural innovations. According to study high adoption villages had a well-recognized leadership structure based on a high degree of consensus among villagers, the low-adoption villages had a rather diffused leadership structure based on a low level of consensus among villages.
Social Training and Social Structure, New York, Free Press.	1968	Merton, R.K.	Whether an individual should or should not adopt an innovation is often difficult to determine. The classification as to whether or not ad adoption is rational or not can sometimes be made by an expert on the innovation under study. Through lack of knowledge or through inaccurate perceptions, the individual evaluation of an innovation may not agree with an expert.

Adoption Quotient: A measure of Multipractice Adoption Behaviour, *Journal of Applied Behavioural Science*, **2**: 95-108.	1966	Pareek, U. and Chattopadhyay, S.N.	The idea of one hundred percent adoption is impracticable, especially in the case of Indian farmers. An innovation frequently undergoes significant modifications to suit the local conditions and other constraints sometime stand in the way of the farmer being able to use an innovation to its fullest extent.

An Ordinal Scale for Measuring the Adoption Process in Wilbur Schramm (ed), Studies of Innovation and Communication to the Public. Standford, CA, Standford University, Institute for Communication Research C (E).	1962	Mason, R.G.	A decision to adopt or reject is often not the terminal stage in the innovation decision process. It was found that Oregon farmers sought information after they had decided to adopt, as well as before. At the confirmation stage the individual (or some other decision making unit) seeks reinforcement of the innovation decision adopt or reject the innovation if exposed to conflicting messages about the innovation. At the confirmation stage, the individual seeks to avoid a state of dissonance or to reduce it if it occurs.

Reinvention:			
Source	**Year**	**Author**	**Impact point**
Annual-Review-of-Food-Science-and-Technology. 2012; 3: 493-510	2012	Moosekian, S.R.; Jeong, S.H.; Marks, B.P.; Ryser, E.T.	First recognized in 1895, X-ray irradiation soon became a breakthrough diagnostic tool for the dental and medical professions. However, the food industry remained slow to adopt X-ray irradiation as a means for controlling insects and microbial contaminants in food, instead using gamma and electron beam (E-beam) irradiation. However, the reinvention of X-ray machines with increased efficiency, combined with recent developments in legislation and engineering, is now allowing X-ray to actively compete with gamma irradiation and E-beam as a microbial reduction strategy for foods. This review summarizes the historical developments of X-rays and discusses the key technological advances over the past two decades that now have led to the development of several different X-ray irradiators capable of enhancing the safety and shelf life of many heat-sensitive products, including lettuce, spinach, tomatoes, and raw almonds, all of which have been linked to high profile outbreaks of food borne illness.

Annals-of-Tourism-Research. 2012, **39**(1): 171-196.	2012	Mak, A.H.N.; Lumbers,M.; Eves, A.	The common perception of globalization as a threat to local gastronomic identities is contrasted by its other facet, as an impetus that opens up new opportunities for reinvention of local gastronomic products and identities. Relevant perspectives and theories of globalization are reviewed to provide a theoretical framework for the study. Key dimensions underlying food consumption in tourism are elucidated, and the impacts of globalization on the culinary supply and tourist food consumption are discussed. A conceptual model is developed in an attempt to illustrate the influence of globalization on food consumption in tourism. This study concludes that from the world culture theory perspective, globalization can be an impetus to reconstruct or reinvent local gastronomic traditions and particularities.

Journal-of-Vacation-Marketing. 2002, **8**(2): 105-108.	2002	King, J.	Suggests a reinvention of destination marketing organizations to ensure that they are able to keep abreast of and capitalize upon the new realities of the tourism and travel market. Such a major reinvention will require a dramatic change in strategies, the structures and skills that underpin them, the scope of their operations and even their direction and the rules by which they have previously played.

Rural Sociology. 1996, **61**(4): 559-576.	1996	Mooney, P.H.; Roahrig, J.; Gray, T.W.	In recent years, several US agricultural cooperatives have undergone significant restructuring. Some have been taken through a conversion process and have been reorganized as 'investor-oriented firms' (IOFs). This phenomenon has attracted the interest of agricultural economists, but it has not been analyzed by sociologists. An argument is made that a re-privatization discourse of neoclassical economics has effectively depoliticized discussion about the future of cooperative enterprise. It is further argued that a re-politicization of cooperation is necessary in order to assure the protection of extra-economic values and oppositional discourse that is embedded in the historical development of cooperative practices and institutions. The focus is on the role of expert discourse as it relates to the reinvention of cooperative institutions in the agricultural economy. It is argued that this discourse would be improved by greater attention to historical and sociological forces, rather than remaining narrowly focused on economism.

The diffusion of innovations and the Issue of Equity in Rural Development Communication Research, **3:** 155-170. C (E).	1976	Roling, N.	Adopters generally think that reinvention is a desirable quality. They emphasize or even over emphasize the amount of reinvention that they have accomplished. The choices available to a potential adopter are not just adoption or rejection; modification of the innovation or selective rejection of some component of innovation may also be options.

Rejection			
Source	**Year**	**Author**	**Impact point**
Translating models of antisocial behavioural development into efficacious interventions policy to prevent adolescent violence. *Developmental Psychology*, 2010**; 52** (3): 277-285.	2010	Dodge, K.A.; McCourt, S.N.	Adolescent chronic antisocial behavior is costly but concentrated in a relatively small number of individuals. The search for effective preventive interventions draws from empirical findings of three kinds of gene by environmental interactions is 1. Parenting behaviors mute the impact of gene; 2. Genes alter the impact of traumatic environmental experiences such as physical abuse and peer social rejection; and 3. Individuals and environments influence each other in a dynamic development cascade.

Cultivating fertile ground for the introduction of plant-derived vaccines in developing countries. *Vaccine*, 2005; **23** (15): 1881-1885.	2005	Castle, D.; Dalgleish, J.	To realize the potential benefits of plant-derived vaccines, especially for developing countries in which health inequalities are most acute social challenges must be anticipated and addressed in a way that will foster concrete policy alternatives. The ultimate aim is to minimize the risk of premature social rejection of plant derived vaccine.
Sociotropy and bulimic symptoms in clinical and non clinical samples. *International journal of Eating Disorders.* 2003; **34** (1): 172-176.	2003	Hayaki, J.; Friedman, M.A.; Delensky, S.S.; Brownwell, K.D.	Studies of interpersonal functioning among individuals with bulimia nervosa consistently reveal issues of social dependency, need for approval, and fear of rejection. These themes are conceptually related sociotropy, a cognitive-personality factor that has been implicated in the development and maintenance of depression. Individuals high in sociotropy are keenly invested in attaining others approval and avoiding social rejection.

An Ordinal Scale for Measuring the Adoption Process in Wilbur Schramm (ed), Studies of Innovation and Communication to the Public. Standford, CA, Standford University, Institute for Communication Research C (E).	1962	Mason, R.G.	Opined that a decision to adopt or reject was often not the terminal stage in the innovation decision process. Mason found that Oregon farmers sought for information after they had decided to adopt, as well as before. At the confirmation stage the individual (or) some other decision making unit) sought reinforcement of the innovation decision to adopt or to reject the innovation if exposed to conflicting messages about the innovations. At the confirmation stage, the individual sought to avoid a state of dissonance of reduce it, if it occurred.
Reinvention in the innovation process Knowledge. 1: 499-514.	1980	Rice, R.E. and Rogers, E.M.	Opined that adopter generally thought reinvention was a desirable quality. They emphasized or even over emphasized the amount of reinvention that they had accomplished. The choices available to a potential adopter were not just adoption or rejection; modification of the innovation or selective rejection of some component of innovation might also be options.

Diffusion technology transfer and implication; *Thinking and talking about change knowledge.* **8** (2): 303-322.	1986	Eveland, J.D.	Noticed the two different types of rejection in innovation decision process. These were active rejection and passive rejection.
Noticed the two different types of rejection in innovation decision process. These were active rejection and passive rejection.	1995	Rogers	Rejection is a consequence of innovation-decision process. Rejection is a decision not to adopt an innovation. This phenomenon is intra-decisive and cognitive in nature. The innovation decision process can just as logically lead to a rejection decision as to adoption. In fact each stage in the innovation decision process is a potential rejection point. For Instance it is possible to reject an innovation at the knowledge stage by simply forgetting about it after gaining initial awareness and knowledge.

Discontinuance			
Source	**Year**	**Author**	**Impact point**
The discontinuance of environmental technologies in humid tropics of Costa Rica: Results from a qualitative survey. *Journal of International Agricultural and Extension Education.* 2009; **16** (1): 31- 42.	2009	Miller, M. And Mariaola, M.	Revealed that high rate of discontinuance by one time adopters of a suite of conservation farm technologies currently promoted by Earth University. While studying to investigate why some farmers discontinue previously adopted environmental technologies while others continue to use them. It was found that factors springing from the wider socioeconomic context such as change in farming practices or the devolution of responsibility for maintenance to a sole individual.

Environment-and-Ecology. 2006; 24(3): 689-696	2006	Acharya, S.K.; Pradhan, K.; Biswas, S.	This study was conducted to predict the discontinuance phenomena in the process of technology transfer based on agro-economic and psychosocial factors. The data were gathered from 200 farmers in villages of West Bengal, India. Results revealed that discontinuance phenomenon is a critical eventuality, which would introduce lot of factors for analyzing socialization behaviour of a performing farmer. It was found that farm size, educational attainment, scientific orientation, attitude towards discontinuance contributed predominantly in characterizing the technology socialization process in the form of discontinuance *vis.-a-vis.* selective elimination. Also, the process of discontinuance has emerged as an integral character of high value farmers who could benefit at the innovative technologies against a better social opportunity.

Assessing Agricultural Development Interventions in the Western Highlands of Guatemal: A Farmer Centered Approach. *Unpublished Masters' Thesis* Department of Resource Development. Michigan State University.	2003	Van, T. D.	Found that end of subsidies and educational programming explained the majority of discontinuance. Additional social and economic factors that played a lesser role included that time demands of new technologies compared to traditional farming technique and barriers faced by farmers in obtaining the supplies needed to continue to use the technologies. Also found that when farmers were able to see clear economic benefits they tended to continue using the technologies even after subsidies were unavailable.
Discontinuance of Innovation: Social Network Characteristics' Product Attributes and Adopter Traits Related to Post Adoption Behaviour. *Unpublished Dissertation.* Department of Speech communication. University of Illinois at Urbana-Campaign.	2003	Kielmeyer, G.	Refers to as completion discontinuance which occurs when an innovation has served its purpose and is no longer needed and also identified what he terms the "hassle factor" a "more than petty annoyance" that single handedly causes individuals to discontinue the use of an innovation. The hassel factors occurs when technical problems associated with the innovation are not adequately addressed, when installation is difficult and when help is unavailable or offered by unhelpful staff members.

Other Side of Farmers' Adoption Behaviour Forms of Discontinuance. *Journal* of Extension System. 19 (1): 70-80	2003	Koalwole	Found that the majority (55.3 per cent) of the farmers in the study area had low level of discontinuance were identified. Immediate; Gradual; and rapid based on the nature of innovation and farmers situation. Natural hazards, uncertainty in weather conditions economic constraints senility, and ill health were five major causes of discontinuance. Significant and positive regression relationship between sex and fatalism with discontinuance while significant and negative relationship was found between family size and availability of the innovation with discontinuance.
Diffusion of Innovations Fifth Edition. Free Press. New York.	2003	Rogers, E.M.	An important component of the innovation-decision making process which has received little recent research attention is the discontinued adoption behaviour which is the decision to reject an innovation after having previously adopted it.

Innovation Discontinuance behaviour and its implication for agro technology transfer: Case of household consumption of soybean. *Journal of Sustainbale Agriculture and the environment* **4**(1): 133-138.	2002	Ifenkwe, G.E.	Results indicate a high level of awareness for most utilization forms, as well as high rate of discontinuance. Adoption constraints were found to include availability of alternatives and disenchantment with the performance of the innovation.
Abandoned adoption: Why adopters discontinued use of previously adopted innovations, *Journal of Extension Systems*. 1993, **9**: 1-2	1993	Ogunfiditimi. T.	It has been observed that many adopters of new innovations, especially in developing countries, either temporarily set aside or completely abandon such innovations over a period of time. In an outreach project for maize and cassava in Oyo state and cocoa in Ondo state in Nigeria, the reasons for abandoned adoption were identified. The most important of these were lack of stable back-up support services and untimely supply of inputs.
A survey of ovine parasite control practices in Tennessee. *Veterinaray Parasitology.* **42**(1/2): 111-122	1992	Reinemeyer.	The most common reasons for discontinuance were dissatisfaction with the clinical response after treatment and inconvenience of administration.

House hold time allocation- the ultimate determinant of improved agricultural technology adoption in Nigeria: an empirical activity inter phase impact model. Proceeding of the 21st international conference of Agricultural economists, Japan. 22nd -29 August 1991 pp 481-501	1991	Ikpi	Shows that where farmers have to adopt a new crop technology that shifts time from their farming to home production activity sector, the probability and rate of adoption of such technology are higher. Also as family time is shifted away from the farming sector to home production sector, the economic impact index increases.
Adoption, discontinuance and retention of a capital goods innovation *Journal Management Studies*. 23: 92-101.	1991	Mascarenhas, B.	Innovation discontinuance is conceptually very different from that of innovation adoption because adoption is concerned with the initial decision, whereas continuation or discontinuation refers to ongoing commitment and the availability of the resources necessary to sustain use.

A study on the adoption behavior of farmers in respect of improved agricultural practices, *Orissa Journal of Agricultural Research*. 1991, **4**: 3 - 4, 181-186.	1991	Mohapatra , B.P.; Kanuugo, A.P.; Sangram Sing , S.P.	Partial adoption was noted for plant protection measures and fertilizer use. The reasons for non-adoption of inputs water; time, high costs, labor shortages and lack of knowledge. Friends and neighbors seem to be the best sources for learning about new ideas.
Technological behaviour of dairy farmers in a rural area of southern Chile. *Archivos de Medicina Veterinararia*. (1990); **22** (1); 35-44.	1990	Amtmann. C.A.; Olivares, L.	The technological behavior of commercial and dairy farmers living in a rural area in S. Chile was analyzed using a social survey. The results indicate that these were a slight increase in the adoption rates of new technology in comparison with previous studies. Discontinuance of techniques, mainly because of the instability of agrarian policies or assistance services were pointed out as the major barriers in the dissemination of technological improvements.

Discontinuance of Improved Farm Innovation by Wisconsin farm Operators. *PhD Dessertation.* University of Wisconsin Madison.	1967	Leuthold, F.O.	Concluded that the rate of discontinuance was as important as the rate of adoption in determining the level of adoption of an innovation at any particular time and reported that the per centage of discontinuance among Canadian farmers ranged from 18 per cent for innovators and early adopters, to 24 per cent for early majority to 26 per cent for late majority, to 37 per cent for laggards.