PITT EXTENSION ACTIVITIES

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SUMBER: TEEAL

1. Profile of livestock farmers

Source: Indian Veterinary Journal. 2006. 83 (9). 1003-1004

Author(s): Ravikumar-S. Reddy-K-V-R. Rao-B-S

Author Affiliation: Department of Veterinary and Animal Husbandry Extension, College of Veterinary Science, ANGRAU, Rajendranagar, Hyderabad - 30, India

Abstract: This paper examines the profile of 120 livestock farmers from Sattenapalle, Bapatla and Narasaraopet of Guntur District, Andhra Pradesh, India. It was found that majority of the farmers are middle-aged, with minimum farming experience, attended primary education, have medium-sized herd, have average material possession, earn average income, have low information-seeking behaviour, have average innovativeness but are highly motivated and risk oriented. It is suggested that agencies should make all efforts to improve the socioeconomic characteristics of the farmers through increasing the budget allocated for implementing various livestock development activities, viz., supplying them with good quality inputs such as drugs, fodder seeds, etc.; delivery of timely breeding, curative and prophylactic services; and transferring the latest technologies to farmers through planned extension activities along with follow up measures

Descriptors: advisory-officers. age. education. extension. farm-size. farmers. farmers'-attitudes. farmers'-income. livestock-farming. Socioeconomics

1. **Indonesian rice production: policies and realities**

Source: Bulletin of Indonesian Economic Studies. 2008. 44 (1). 65-80

Author(s): Simatupang-P. Timmer-C-P

Author Affiliation: Centre for Agro-Socioeconomic Research (CASER), Bogor, Indonesia

Abstract: Indonesian rice production grew rapidly between 1977 and 1982, but the self-sufficiency achieved in 1984 was short-lived. Growth declined gradually from about 1982, eventually stabilising at a low rate in the late 1990s. This paper discusses factors that have influenced these outcomes over the last five decades, in an attempt to inform policy makers interested in trying to restore self-sufficiency. The earlier experience showed that self-sufficiency was technically feasible, but also that its achievement was costly, both fiscally and in economic opportunities foregone.

Little appears to have changed in this regard, and recent attempts to shift this cost to consumers by raising rice prices have increased poverty. We show that increases in rice production could best be achieved by rehabilitating irrigation infrastructure and revitalising research and extension activities. However, large investments by the government in rice should not be undertaken in the absence of thorough economic cost-benefit analysis

Descriptors: agricultural-policy. crop-production. food-security. food-supply. Rice

3. A review of the changes in soil quality and profitability accomplished by sowing rotation crops after cotton in Australian Vertosols from 1970 to 2006

Source: Australian Journal of Soil Research. 2008. 46 (2). 173-190

Author(s): Hulugalle-N-R. Scott-F

Author Affiliation: New South Wales Department of Primary Industries and Cotton Catchment Communities Co-operative Research Centre, Australian Cotton Research Institute, Locked Bag 1000, Narrabri, NSW 2390, Australia

Abstract: In agricultural systems, soil quality is thought of in terms of productive land that can maintain or increase farm profitability, as well as conserving soil resources so that future farming generations can make a living. Management practices which can modify soil quality include tillage systems and crop rotations. A major proportion of Australian cotton (Gossypium hirsutum) is grown on Vertosols (approx equal to 75%), almost 80% of which is irrigated. These soils have high clay contents (40-80 g/100 g) and strong shrink-swell capacities, but are frequently sodic at depth and prone to deterioration in soil physical quality if incorrectly managed. Due to extensive yield losses caused by widespread deterioration of soil structure and declining fertility associated with tillage, traffick, and picking under wet conditions during the middle and late 1970s, a major research program was initiated with the objective of developing soil management systems which could improve cotton yields while concurrently ameliorating and maintaining soil structure and fertility. An outcome of this research was the identification of cotton-winter crop sequences sown in a 1:1 rotation as being able to sustain lint yields while at the same time maintaining soil physical quality and minimizing fertility decline. Consequently, today, a large proportion (approx equal to 75%) of Australian cotton is grown in rotation with winter cereals such as wheat (Triticum aestivum), or legumes such as faba bean (Vicia faba). A second phase of the research on cotton rotations in Vertosols was initiated during the early 1990s with the main objective of identifying sustainable cotton-rotation crop sequences; viz. crop sequences which maintained and improved soil quality, minimized disease incidence, facilitated soil organic carbon sequestration, and maximized economic returns and cotton water use efficiency in the major commercial cotton-growing regions of Australia. The objective of this review is to summarize the key findings of both phases of Australian research with respect to soil

quality and profitability, and identify future areas for research. Wheat rotation crops under irrigated and dryland conditions and in a range of climates where cotton is grown can improve soil quality indicators such as subsoil structure, salinity, and sodicity under irrigated and dryland conditions, while leguminous crops can increase available nitrogen by fixing atmospheric nitrogen, and by reducing N volatilization and leaching losses. Soil organic carbon in most locations has decreased with time, although the rate of decrease may be reduced by sowing crop sequences that return about 2 kg/m2.crop cycle of residues to the soil, minimizing tillage and optimizing N inputs. Although the beneficial effects of soil biodiversity on quality of soil are claimed to be many, except for a few studies on soil macrofauna such as ants, conclusive field-based evidence to demonstrate this has not been forthcoming with respect to cotton rotations. In general, lowest average lint yields per hectare were with cotton monoculture. The cotton-wheat systems generally returned higher average gross margins/ML irrigation water than cotton monoculture and other rotation crops. This indicates that where irrigation water, rather than land, is the limiting resource, cotton-wheat systems would be more profitable. Recently, the addition of vetch (Vicia villosa) to the cotton-wheat system has further improved average cotton yields and profitability. Profitability of cotton-wheat sequences varies with the relative price of cotton to wheat. In comparison with cotton monoculture, cotton-rotation crop sequences may be more resilient to price increases in fuel and fertilizer due to lower overall input costs. The profitability of cotton-rotation crop sequences such as cotton-wheat, where cotton is not sown in the same field every year, is more resilient to fluctuations in the price of cotton lint, fuel and nitrogen fertilizer. This review identified several issues with respect to cotton-rotation crop sequences where k owledge is lacking or very limited. These are: research into 'new' crop rotations; comparative soil quality effects of managing rotation crop stubble; machinery attachments for managing rotation crop stubble in situ in permanent bed systems; the minimum amount of crop stubble which needs to be returned per cropping cycle to increase SOC levels from present values; the relative efficacy of C3 and C4 rotation crops in relation to carbon sequestration; the interactions between soil biodiversity and soil physical and chemical quality indicators, and cotton yields; and the effects of sowing rotation crops after cotton on farm and cotton industry economic indicators such as the economic incentives for adopting new cotton rotations, farm level impacts of research and extension investments, and industry- and community/catchment-wide economic modelling of the impact of cotton research and extension activities

Descriptors: cotton. crop-yield. faba-beans. irrigation-water. legumes. limiting-factors. monoculture. nitrogen. nitrogen-fixation. organic-carbon. prices. profitability. returns. rotations. sodic-soils. soil-fertility. soil-management. soil-salinity. soil-structure. soil-types. Vertisols. water-use-efficiency. Wheat

4. Development and accreditation of an applied climate education unit for sustainable land use in Australia

Source: Journal of Sustainable Agriculture. 2007. 29 (4). 87-108

Author(s): George-D-A. Clewett-J-F. Birch-C. Wright-A. Allen-W

Author Affiliation: Department of Primary Industries and Fisheries Queensland, P.O. Box 102, Toowoomba, Queensland 4350, Australia

Abstract: In recent years, there have been significant developments in climate science relevant to agriculture and natural resource management. Assessing impacts of climate variability and use of seasonal climate forecasts have become increasingly important elements in the management "toolkit" for many Australian farmers. Consideration of climate change further increases the need for improved management strategies. While climate risk extension activities have kept pace with advances in climate science, a national review of the Vocational Education and Training system in Australia in relation to "weather and climate" showed that these topics were "poorly represented" at the management level in the Australian Qualifications Framework, and needed increased emphasis. Consequently, a new Unit of Competency concerning management of climatic risk was developed and accredited to address this deficiency. The objective of the unit was to build knowledge and skills for better management of climate variability via the elements of surveying climatic and enterprise data; analysing climatic risks and opportunities; and developing climatic risk management strategies. This paper describes establishment of a new unit for vocational education that is designed to harness recent developments in applied climate science for better management of Australia's highly variable climate. The main benefits of the new unit of competency, "Developing climatic risk management strategies," were seen as improving decisions in climate and agriculture, and reducing climate risk exposure to enhance sustainable agriculture. The educational unit is now within the scope of agricultural colleges, universities, and registered training organizations as an accredited unit

Descriptors: agricultural-education. climate. climatic-change. management-education. vocational-training

5. Domain structure of a NHEJ DNA repair ligase from Mycobacterium tuberculosis

Source: Journal of Molecular Biology. 2005. 351 (3). 531-544

Author(s): Pitcher-RS. Tonkin-LM. Green-AJ. Doherty-AJ

Author Affiliation: Genome Damage and Stability Centre, University of Sussex, Falmer, Brighton BN1 9RQ, UK

Abstract: A prokaryotic non-homologous end-joining (NHEJ) system for the repair of DNA double-strand breaks (DSBs), composed of a Ku homodimer (Mt-Ku) and a multidomain multifunctional ATP-dependent DNA ligase (Mt-Lig), has been described recently in Mycobacterium tuberculosis. Mt-Lig exhibits polymerase and nuclease activity in addition to DNA ligation activity. These functions were ascribed to putative polymerase, nuclease and ligase domains that together constitute a monomeric protein. Here, the separate polymerase, nuclease and ligase domains of Mt-Lig were cloned individually, over-expressed and the soluble proteins purified to homogeneity. The polymerase domain demonstrated DNA-dependent RNA primase activity, catalysing the synthesis of unprimed oligoribonucleotides on single-stranded DNA templates. The polymerase domain can also extend DNA in a template-dependent manner. This activity was eliminated when the catalytic aspartate residues were replaced with alanine. The ligase domain catalysed the sealing of nicked double-stranded DNA designed to mimic a DSB, consistent with the role of Mt-Lig in NHEJ. Deletion of the active-site lysine residue prevented the formation of an adenylated ligase complex and consequently thwarted ligation. The nuclease domain did not function independently as a 3'-5' exonuclease. DNA-binding assays revealed that both the polymerase and ligase domains bind DNA in vitro, the latter with considerably higher affinity. Mt-Ku directly stimulated the polymerase and nuclease activities of Mt-Lig. The polymerase domain bound Mt-Ku in vitro, suggesting it may recruit Mt-Lig to Ku-bound DNA in vivo. Consistent with these data, Mt-Ku stimulated the primer extension activity of the polymerase domain, suggestive of a functional interaction relevant to NHEJ-mediated DSB repair processes

Descriptors: Amino Acid Sequence. Bacterial Proteins. Base Sequence. Binding Sites. DNA Primers.

6. Targeting key perceptions when planning and evaluating extension

Source: Australian Journal of Experimental Agriculture. 2005. 45 (12). 1627-1633

Author(s): Llewellyn-R-S. Pannell-D-J. Lindner-R-K. Powles-S-B

Author Affiliation: School of Agricultural and Resource Economics, Faculty of Natural and Agricultural Sciences, University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

Abstract: Early identification of farmer perceptions influencing particular farm management decisions provides the opportunity to more effectively focus investment in research and extension. A survey-based study examining the adoption of integrated weed management by Western Australian grain growers was used to demonstrate how identification of key farmer perceptions can help to guide research and extension priorities. It was found that the adoption of integrated weed management practices was influenced by grower perceptions of herbicide

resistance-related factors and of the efficacy and economic value of integrated weed management practices in the farming system. However, there were generally no significant differences between the perceptions of practice efficacy held by users and non-users of the integrated weed management practices. As initial perceptions of efficacy were generally consistent with local field experience, it was expected that extension would not have a major influence on this variable. Consistent with this, participation by growers in a workshop based on the bio-economic farming systems model, resistance integrated management (RIM), did not result in changes in perceptions of practice efficacy. However, changes in the perceived short-term economic value of some weed management practices did occur where the broader value of practices to the farming system, not necessarily relating to weed control, could be demonstrated. This also led to more growers deciding to adopt those practices. For example, intended wheat seeding rates were shown to increase by 5 kg/ha as a result of participation in the extension activity. Determining the perceptions influencing adoption, and then identifying the major learning opportunities can be valuable in focusing research and extension. Measures of perceptions also allow learning to be evaluated. In the case study of adoption of the integrated weed management practices in WA, it seems that emphasis on developing and extending the farming-systems impacts beyond just weed and resistance management is likely to be more effective than focusing on the efficacy of the practices for controlling major weeds

Descriptors: decision-making. extension. farmers'-attitudes. grain-crops. herbicide-resistance. innovation-adoption. integrated-pest-management. returns. weed-control

7. Agricultural education: gender identity and knowledge exchange

Source: Journal of Rural Studies. 2008. 24 (4). 432-439

Author(s): Trauger-A. Sachs-C. Barbercheck-M. Kiernan-N-E. Brasier-K. Findeis-J

Author Affiliation: The Pennsylvania Women's Agricultural Network, The Pennsylvania State University, 302 Armsby Building, University Park, PA 16802, USA

Abstract: Women farmers are underserved in agricultural education and technical assistance. Long held social constructions of farming women as 'farmwives' and in some cases 'the bookkeepers' rather than farmers or decision-makers influence the direction of most educational programming delivered through extension programs in land-grant universities in the United States. Consequently, many women farmers generally view these spaces as hostile, rather than helpful environments. This paper uses the agricultural training framework developed by Liepins and Schick (1998) to analyze our research on developing educational programming for women farmers. We conducted five focus groups with members of the Pennsylvania Women's

Agricultural Network (PA-WAgN) to better understand women farmers' needs for education. Women farmers reported the kinds of knowledge and information they want, in what kinds of contexts, and through what means of communication. We adapt and extend the original theoretical framework developed by Liepins and Schick to incorporate the seriality of women's identities, their discourses of embodiment and the agency granted to them through social networks. Through a presentation of the results of these focus groups, we discuss both the relevance of gender to agricultural education and the importance of the network model in providing education to women farmers

Descriptors: agricultural-education. extension. farmers. needs-assessment. networking. Women

8. Matching demand and supply in the agricultural knowledge infrastructure: experiences with innovation intermediaries

Source: Food Policy. 2008. 33 (3). 260-276

Author(s): Klerkx-L. Leeuwis-C

Author Affiliation: Communication and Innovation Studies, Department of Social Sciences, Wageningen University, Hollandseweg 1, 6706 KN Wageningen, Netherlands

Abstract: The privatization of agricultural research and extension establishments worldwide has led to the development of a market for services designed to support agricultural innovation. However, due to market and systemic failures, both supply side and demand side parties in this market have experienced constraints in effecting transactions and establishing the necessary relationships to engage in demand-driven innovation processes. To mitigate these constraints, a field of intermediary organizations has emerged to assist agricultural entrepreneurs to articulate demand, forge linkages with those that can provide innovation support services, and manage innovation processes. This article aims to give an overview of the different kinds of the so-called innovation intermediaries that have emerged in The Netherlands and to report on their contributions and the tensions that are being experienced with regard to their functioning. The article concludes with a discussion in which it is argued that the state should play a role as a 'market facilitator', by funding such innovation intermediaries

Descriptors: agricultural-research. extension. government-policy. innovations. markets. Privatization

9. Vitamin C and beta -carotene in diets for pigs at weaning

Source: Animal Feed Science and Technology. 2008. 146 (3-4). 313-326

Author(s): Fernandez-Duenas-D-M. Mariscal-G. Ramirez-E. Cuaron-J-A

Author Affiliation: Programa de Maestria y Doctorado en Ciencias de la Produccion y la Salud Animal, Facultad de Estudios Superiores Cuautitlan (FES-C), Universidad Nacional Autonoma de Mexico (UNAM), Mexico

Abstract: Two experiments were conducted to evaluate performance of pigs supplemented with vitamin C [ascorbic acid] and beta -carotene under commercial and experimental farm conditions. In Experiment (Exp.) 1, a total of 220 pigs weaned at 22 plus or minus 1.7 d and 6 plus or minus 1.2 kg of body weight were used; Exp. 2 included 64 animals weaned at 20 plus or minus 0.9 d and 6 plus or minus 1.1 kg of body weight. Pigs in Exp. 1 were randomized in a Complete Block Design with 11 replicates (pens of five pigs) per treatment. In Exp. 2, pigs were completely randomized to four replicates (pens of four pigs) per treatment. Raw canola oil (Exp. 1), and tallow (Exp. 2), was used as supplementary energy sources; storage of these ingredients (49 days) was under weaning room conditions (27-32 deg C and 87-100% relative humidity) to favour oxidation. Dietary treatments were in both experiments: (1) control (CON); (2) addition of vitamin C [ascorbic acid], 150 mg/kg and no beta -carotene (VC); (3) addition of beta -carotene, 350 mg/kg and no vitamin C [ascorbic acid] (beta C), and (4) vitamin C [ascorbic acid], 150 mg/kg and beta -carotene, 350 mg/kg (VC beta C). Peroxides were determined for canola oil, tallow and diets, while vitamin C [ascorbic acid] and beta -carotene were measured only in the final diets. Productive performance was measured in both experiments, Exp. 1 for 24 days and 20 days for Exp 2. In Exp. 1, blood samples were collected from two pigs per pen to determine thiobarbituric acid reactive species (TBARS) and glutathione peroxidase (GSH-Px) activity. In Exp. 1, there were no differences (P>0.130) in average daily feed intake (AFI: 395, 369, 384 and 400 g/d), average daily gain (ADG: 301, 278, 301 and 304 g/d) and feed efficiency (G:F: 769, 758, 783 and 760 g/d), for CON, VC, beta C and VC beta C treatments, respectively. The GSH-Px activity (P>0.390) and TBARS (P>0.179) in plasma were not different between treatments. In Exp. 2, VC and beta C diets apparently reduced AFI (interaction, P<0.05), while a transient beta -carotene effect (P<0.05) was evident in ADG during the second half of the experiment (270 vs. 240 g/d), thus resulting in a slight numerical difference in favour of beta -carotene and vitamin C [ascorbic acid] dietary additions in G:F. Lack of a clear response to the experimental antioxidants may be explained by the presence in surplus amounts of vitamin E and selenium, plus the regular addition of inorganic antioxidant compounds. Results from the current research do not justify vitamin C [ascorbic acid] and/or beta -carotene inclusion to weanling pig diets since no animal performance or antioxidant effect was demonstrated

Descriptors: animal-feeding. antioxidants. ascorbic-acid. beta-carotene. biochemistry. blood. blood-plasma. body-weight. diets. energy-sources. enzymes. extension. feed-conversion-efficiency. feed-intake. feed-supplements. feeds. glutathione. glutathione-peroxidase. peroxidase. pilot-farms. productivity. rapeseed-oil. relative-humidity.

selenium. storage. supplements. tallow. trace-elements. vitamin-E. vitamins. Weaning

10. Agrometeorology from science to extension: assessment of needs and provision of services

Source: Agriculture, Ecosystems & Environment. 2008. 126 (3-4). 153-157

Author(s): Stigter-C-J

Author Affiliation: Agromet Vision, Groenestraat 13, Bruchem 5314 AJ, Netherlands

Abstract: After a historical introduction, recent achievements in agrometeorology and their limitations are highlighted. It is then discussed what determines what we do in agrometeorology. It is argued that the needs in the livelihood of farmers should push the scientific support systems and it is exemplified that this is possible. This analysis has serious consequences for science, training, education and extension in agrometeorology. This applies most strongly for developing countries or tropical studies elsewhere. Farmers' livelihoods should be connected through agrometeorological services. Farmer or Climate Field Schools are introduced as a new approach to do so. Examples from China are given in which such schools or classes could be used. Finally a pilot project approach for agrometeorological services is discussed in which this could be prepared

Descriptors: agricultural-meteorology. extension. farmers'-attitudes. farmers'-income. Training

11. Improved rice variety adoption and its welfare impact on rural farming households in Akwa Ibom State of Nigeria

Source: Journal of New Seeds. 2008. 9 (2). 156-173

Author(s): Udoh-E-S. Omonona-B-T

Author Affiliation: Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa Ibom State, Nigeria

Abstract: In this study cross-sectional data from 200 rice farmers were used to examine the various factors that influence the adoption of improved rice varieties distributed by the State Agricultural Development Programme (AKADEP) and its welfare impact on the farmers. The Foster, Greer and Thorbecke (FGT) class of measures was used to determine the incidence, the depth and severity of poverty among rice farming households who are adopters and non-adopters of improved rice varieties. The incidence, depth, and severity of poverty were higher among households who were non-adopters of improved rice varieties. The Tobit regression

model was used to determine the factors that affect adoption and poverty. Educational attainment, access to extension agents, access to credit, access to augmented inputs, farm size, and crop yield were significant determinants of adoption of improved rice varieties. The results of the determinants of household poverty revealed that age, educational attainment, extent of commercialization and probability of adoption negatively influenced household poverty, whereas household size exerted a positive impact on the household poverty levels. The negative impact of adoption of improved rice varieties on household poverty implicitly showed improvement in households' welfare that had adopted improved rice varieties. These results generally suggest the relevance of adoption of improved rice varieties in improving the welfare of rice farming households. It also suggests relevance of human capital indices like education and extension services as drivers of poverty alleviation and dissemination of new innovations to farming households

Descriptors: academic-achievement. age. commercialization. crop-yield. cultivars. extension. farm-inputs. farm-size. genetic-improvement. households. innovation-adoption. poverty. rice. rural-communities. welfare-economics

12. Socio-economic characteristics of farmers and constraints in sheep farming

Source: Indian Veterinary Journal. 2006. 83 (11). 1227-1228

Author(s): Thilakar-P. Krishnaraj-R

Author Affiliation: Department of Veterinary and Animal Husbandry Extension and Entrepreneurship, Madras Veterinary College, Chennai - 600 007, India

Abstract: The present study was conducted in Uthiramerur block of Kancheepuram district in Tamil Nadu, India. Ten farmers were randomly selected from 12 revenue villages. Socioeconomic parameters such as age, educational status, family size, occupation, land holdings, sheep farming experience, annual income, flock size, extension agency contact, credit behaviour, social participation, mass media exposure, economic motivation and migratory behaviour, were determined. The constraints studied were socioeconomic, infrastructural, technological, managemental, marketing and situational constraints. To determine the relationship between socioeconomic traits and constraints, coefficient of correlation was computed. It was found that educational status, family size, annual income and extension agency contact exhibited significant and negative relationship, while migratory behaviour had a significant and positive relationship with the constraints

Descriptors: constraints. extension. family-size. farmers. farmers'-income. sheep-farming. Socioeconomics

13. Factors associated with sustainable livelihood parameters in different enterprise combinations

Source: Indian Veterinary Journal. 2007. 84 (12). 1289-1291

Author(s): Ponnuswamy-K. Jancy-Gupta

Author Affiliation: Central Institute of Brackishwater Aquaculture, 75, Santhome High Road, Chennai, 600 028, Tamil Nadu, India

Abstract: A study was conducted to establish the relationship among selected variables with sustainable livelihood parameters in different farming systems in coastal Tamil Nadu, India. Data were gathered from 150 farmers who were randomly sampled from eight villages in two coastal districts in Tamil Nadu. The chi-square analysis of sustainable livelihood parameters with different socioeconomic factors in coastal Tamil Nadu indicated that communication behaviour pattern of decision making, marketing behaviour and cropping intensity showed a significant association with sustainable livelihood in different farming systems. Provision of need-based system oriented training to farmers through broad-based extension strategy at block level involving various farm related governmental departments would provide impetus to practise profitable enterprise combinations, which can enhance the sustainable livelihood level of farmers in rural areas

Descriptors: agricultural-development. cropping-systems. decision-making. extension. farm-enterprises. farming-systems. profitability. rural-areas. rural-development. socioeconomics. Sustainability

14. Increased profitability and social outcomes from livestock in smallholder crop-livestock systems in developing countries: the ACIAR experience

***Source: Australian* Journal of Experimental Agriculture. 2008. 48 (6-7). 799-805**

Author(s): Winter-W-H. Doyle-P-T

Author Affiliation: 4 Bulley Place, Chapel Hill, Qld 4069, Australia

Abstract: Participating in research and development projects designed to increase the profitability and social outcomes from livestock production in smallholder crop-livestock systems provides valuable and rewarding learning experiences for scientists from Australia and partner countries. The majority of livestock in Asia are in these systems and any interventions to increase animal production need to consider the cropping activities of the farm, which vary considerably in relation to people, land and water resources, season length and the number and types of crops. Understanding the farming systems in enough depth is essential if interventions are to lead to improved outcomes for families. In this paper, we briefly consider the diversity and complexity of crop-livestock systems and the approach of the Australian Centre for International Agricultural Research in investing in research, development and extension for positive impacts from livestock production on the wellbeing of rural households in developing countries. An important approach to categorising livestock farmers to assess whether they are likely to be receptive to

change is described. Consideration is given to the appropriateness of technologies, the need for sound science and the importance of capacity development in underpinning useful changes to systems. Because of the diversity and complexity of systems, systems-modelling is important in exploring options and interactions between components of the farming systems. Examples are given throughout the paper to emphasise learning from experience. The paper concludes with a list of the lessons learnt

Descriptors: agricultural-research. animal-production. cropping-systems. crops. extension. farming-systems. livestock. mixed-farming. profitability. research. technology-transfer

15. The use of safety devices in adoption of agro-chemicals by rice farmers in Obafemi-Owode Local Government Area of Ogun State

Source: African Journal of Food, Agriculture, Nutrition and Development. 2008. 8 (4). 427-440

Author(s): Kuponiyi-F-A. Adewale-J-G

Author Affiliation: Dept of Agricultural Economics & Extension, Ladoke Akintola University of Technology, P. M. B. 4000, Ogbomoso, Oyo State, Nigeria

Abstract: Studies were conducted to assess the knowledge and use of rice agrochemicals and also the knowledge and use of safety devices and methods attached to the proper application of the chemicals among rice farmers of Obafemi-Owode Local Government Area (LGA) of Ogun, Nigeria. The multi-stage random sampling technique was used to select the respondents for this study. The list of rice farmers in the study area who were registered with the Agricultural Development Zonal office was procured and the functioning ones among them determined by preliminary field tour. A total of 127 functioning farmers were finally randomly selected and data procured from them through the administration of validated structured interview schedule. About two-thirds of the farmers were not more than 50 years old, 87% were married, while 66% were literate. About 86% were full-time small-scale rice farmers (69% growing less than 2.6 ha), while only 48.8% of these had fortnightly contact with agricultural extension agents. Most of the farmers (72.4%) were land secure, while about half relied solely on hired labour. The knowledge level of agrochemicals and their level of use were moderately high. About 41% of them depended on extension agents as major sources of information about rice agrochemicals. Other major sources were salesmen of agrochemicals, rice merchants, radio and television. However, the knowledge level and actual use of safety devices and methods were low. Age and educational level were significantly related to the knowledge of safety devices and methods used in the application of rice agrochemicals. The literacy level of farmers need to be raised, while extension agents need to intensify their visit and campaign on the use of rice agrochemicals,

particularly the safety devices and methods attached to the application of the chemicals

Descriptors: age; agricultural chemicals; extension; extension agents; extension education; farmers' attitudes; literacy; rice; safety West Africa; Africa South of Sahara; Africa; Developing Countries; ACP Countries; Commonwealth of Nations; Anglophone Africa; Oryza; Poaceae; Cyperales; monocotyledons; angiosperms; Spermatophyta; plants; eukaryotes

16. Analysis of profit inefficiency in rice production in Eastern and Northern Uganda

Source: African Crop Science Journal. 2007. 15 (4). 243-253

Author(s): Hyuha-T-S. Bashaasha-B. Nkonya-E. Kraybill-D

Author Affiliation: Department of Agricultural Economics and Agribusiness, Faculty of Agriculture, Makerere University, P.O. Box 7062, Kampala, Uganda

Abstract: Rice is among the emerging crops in Uganda that play an important role both as a food and a cash crop. It ranks fourth among the cereal crops in area cultivated, occupying a total of 80 000 ha of land with an estimated annual output of 120 000 metric tonnes. The study analyses sources of technical and allocative inefficiency and estimates the magnitude of profit losses and suggests policy interventions. Stochastic profit and inefficiency functions were estimated using cross-sectional data from a sample of 253 households from 3 districts of eastern and northern Uganda. The results showed that rice farmers were not operating on the profit frontier. The main causes of inefficiency were farm-specific, which included low education and limited access to extension services. These 2 factors have hampered the attainment of reasonable technical and allocative efficiency. From these results, it is clear that improvement in profit efficiency would require focused programmes to increase access to education and extension services

Descriptors: agricultural-policy. economic-analysis. extension. extension-education. Rice

17. Balancing livestock with grazing capacity (BLGC): a new approach in sustainable management of rangelands in Iran

Source: Journal of Sustainable Agriculture. 2007. 31 (1). 61-73

Author(s): Hedjazi-Y

Author Affiliation: Faculty of Agriculture, Department of Agricultural Extension and Education, University of Tehran, Karaj, Iran

Abstract: Rangelands cover about 54 percent of total land in Iran. In spite of their very high importance, rangelands are degrading each year. The national plan of balancing livestock with grazing capacity (BLGC) is intended to aid in rangeland preservation and promotion. There are three main activities in the plan: (1) preparation and implementation of rangeland projects, (2) exercise of management in the grazing of rangelands, and (3) conversion of low-yield rain-fed lands to fodder crop fields. Two important objectives are followed in the process: (1) decreasing the number of rangeland users and (2) preventing an excess of livestock over rangeland capacity. Diffusion of innovation theory has been employed in this study to describe how rangeland users would go about accepting the projects in the plan BLGC. The purpose of this study is to find out the role of BLGC plan attributes, individual user characteristics, and extension methods in acceptance of the plan. The collaborating population in the study comes from 15 provinces in Iran. The statistical population consisted of 119 rangeland users. Spearman Test indicated a positive and meaningful correlation between BLGC attributes, extension methods, and the rate of BLGC plan adoption. Among BLGC plan-related attributes, relative advantage exhibits the most effect as indicated by results obtained from regression analysis. From among individual characteristics, education, and from among extension methods, symbolic ceremonies as well as contact with change agents and experts have been observed to be the most influential in the rate of BLGC plan adoption

Descriptors: change. diffusion-of-information. extension. grasslands. grazing. innovation-adoption. land-degradation. land-use. livestock-farming. range-management. rangelands. sown-grasslands. Sustainability

18. Principal components of policy framework for sustainable agriculture and its implications for national extension system in Iran

Source: Journal of Sustainable Agriculture. 2007. 31 (2). 125-144

Author(s): Fami-H-S. Kalantari-K. Sharifzadeh-A. Moradnezhadi-H

Author Affiliation: Department of Agricultural Extension and Education, Faculty of Agricultural Economics and Development, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran

Abstract: The past decade has witnessed major progress toward achieving objectives of sustainable agriculture. Since extension plays a major role in agricultural development, its policies should be consistent with and supportive to sustainable agriculture. In the agricultural extension system of Iran, extension officials working at the headquarter level are the most responsible actors towards formulation of extension policies. Though they are familiar with the challenges and potentials of the agricultural sector in the country, they need to understand the concepts of sustainable agriculture and integrate it into the national extension policy framework. Taking this into consideration, the present study was conducted to identify main components of sustainable agriculture policies which should be

included into national extension policy framework. Applying stratified random sampling technique, 98 extension officials were selected and interviewed. Principal component analysis was used as main statistical technique to analyze the data. The findings revealed that five factors/components containing 42 variables determined about 66 percent of variations in policy framework for sustainable agriculture: Environmental conservation and appropriate use of basic resources (17.72% of variance), Enhancing people participation and use of indigenous and internal resources (17.26% of variance), Government intervention to establish socio-economic and technical infrastructures (14.2 percent of variance), Institutional development and pluralism (13.65% of variance) and Gender considerations in agricultural planning and policy-making (3.22% of variance)

Descriptors: agricultural-policy. extension. Sustainability

19. Farmer participation in private sector agricultural extension

Source: IDS Bulletin. 2007. 38 (5). 61-73

Author(s): Glover-D

Author Affiliation: Institute of Development Studies (IDS), University of Sussex, Brighton BN1 9RE, UK

Abstract: This article examines how far developments in farmer participatory approaches have shaped the behaviour of the private sector. The article draws on evidence from the case of the Monsanto Smallholder Programme (SHP) which was initiated by a transnational company to focus specifically on the issues of farmer participation, responsiveness and accountability, in a situation where extension services were being supplied by a transnational company that is also a major producer and marketer of herbicides as well as the dominant driver behind the development and commercialisation of GM crops internationally. The article explores how the SHP was conceived, designed and implemented, discusses how far it was designed around and responded to farmers' needs and priorities, and considers the extent to which farmers were able to hold the company to account. Partly because of the approach that Monsanto took and partly because of the competing commercial priorities, the SHP model was not really organized around the needs and priorities of farmers. As a result, its benefits were short-lived, either because of the withdrawal of institutional support or because the technologies and practices promoted through the SHP were found wanting in some respect. It is argued that the advances of the last quarter of a century of thinking and experience with farmer participatory approaches have largely failed to influence the delivery of agricultural extension services to smallholder farmers by a major transnational company

Descriptors: biotechnology. case-studies. commercialization. constraints. extension. farm-sector. herbicides. participation. private-sector. small-farms. technology-transfer. transgenic-plants

Identifiers: advisory services. extension activities. genetically engineered plants. genetically modified plants. GMOs. weedicides. Weedkillers

20. Is participation rooted in colonialism? Agricultural innovation systems and participation in the Netherlands Indies

Source: IDS Bulletin. 2007. 38 (5). 50-60

Author(s): Maat-H

Author Affiliation: Technology and Agrarian Development Group at Wageningen University (NL), Wageningen, Netherlands

Abstract: This article examines innovation systems and its relation to participation through historical material from the agricultural innovation system of the former Netherlands Indies, now known as Indonesia. Participation is connected to technology through the notion of innovation systems. Innovation is a result of participation particularly of end-users. The innovation systems approach is an appropriate notion to see where the settlement of political issues from below, are likely to lock on to processes of technological change set in motion by external actors in the innovation system. The colonial history of the Netherland Indies has shown that much of the seemingly technical discussions about the organization of research and extension, as well as technical alternatives, were attempts to respond to growing economic uncertainty and social unrest among the rural farmers. In conclusion, though colonialism is generally not associated with public engagement and democratic principles, colonial history provides a challenging area on issue-driven participation from an innovation systems perspective

Descriptors: agricultural-sector. case-studies. colonialism. extension. innovation-adoption. participation. politics. rural-areas. social-unrest. Technology

21. Linking academic forestry education with employers' demands: a case study from Malaysia

Source: International Forestry Review. 2007. 9 (2). 661-669

Author(s): Kammesheidt-L. Idrus-R-M. Trockenbrodt-M. Hahn-Schilling-B

Author Affiliation: Malaysian-German Forestry Education Project, School of International Tropical Forestry, University Malaysia Sabah, Locked Bag 2073, 88999 Kota Kinabalu, Sabah, Malaysia

Abstract: University curricula, particularly forestry curricula, have been traditionally orientated to the employers' needs and the society's wants. Modern curriculum development requires a dialogue between universities and potential employers of graduates even more to keep abreast of diversity and change. To this end, the

Malaysian-German Forestry Education Project at the School of International Tropical Forestry commissioned three surveys in Peninsular Malaysia, Sarawak and Sabah to learn about employers demand in forestry and related fields. Apart from putting emphasis on sound state-of-the-art knowledge in core technical fields such as Forest Management and GIS/Remote Sensing, employers interviewed judged basic computer skills, soft skills and adequate practical training programmes as being equally important

Descriptors: curriculum. education-programmes. environmental-education. extension. forest-management. forestry. forests. geographical-information-systems. remote-sensing. technical-training

22. Econometric analysis of the determinants of adoption of rainwater harvesting and supplementary irrigation technology (RHSIT) in the semiarid Loess Plateau of China

Source: Agricultural Water Management. 2007. 89 (3). 243-250

Author(s): He-XueFeng. Cao-HuHua. Li-FengMin

Author Affiliation: Key Laboratory of Arid and Grassland Ecology of Ministry of Education, School of Life Sciences, Lanzhou University, Lanzhou, Gansu Province 730000, China

Abstract: Using a binary logistic regression model, this paper evaluates the determinants of farmers' decisions to adopt rainwater harvesting and supplementary irrigation technology (RHSIT) and its elasticity of adoption in the rain-fed farming systems, based on a survey of 218 farmers in the semiarid areas of Loess Plateau in 2005. The results indicate that 12 variables are significant in explaining farmers' adoption decisions. Farmers' educational background, active labour force size, contact with extension, participation in the Grain-for-Green project, and positive attitudes towards RHSIT are some of the variables that have significantly positive effects on adoption of RHSIT, while farmer's age and distance from water storage tanks to farmers' dwellings have significantly negative correlation with adoption. The probability of adoption also increases with increased targeting of institutional variables: credit obtained, assistance obtained, and technical training received. Farmers in villages that have more erosion problems are more likely to adopt RHSIT. Besides, the model indicates that a 1 unit increase in the diversity of irrigated crops grown by a household, especially high-value crops, results in a 6.98 times increase in the probability of RHSIT adoption. Variables such as family size, off-farm activity, level of family income, risk preference, and land tenure do not significantly influence adoption. This information will help prioritize the factors that affect adoption decisions and provide insight on pathways to increase the adoption of RHSIT

Descriptors: age. decision-making. development-projects. econometric-models. economic-analysis. education. extension. family-size.

farmers. farmers'-attitudes. farmers'-income. innovation-adoption. irrigation. labour. rain. semiarid-zones. social-participation. technical-training. technology. technology-transfer. tenure-systems. water-harvesting

23. An evaluation of dairy producer emergency preparedness and farm security education

Source: Journal of Dairy Science. 2007. 90 (4). 2052-2057

Author(s): Moore-D-A. Payne-M

Author Affiliation: Veterinary Medicine Extension, University of California, Davis, CA 95616, USA

Abstract: Dairy producer education on securing the milk and meat supply is important to reduce the food system's vulnerability to contamination, and reduce the likelihood for disease transmission onto and within the farm. The purpose of this project was to develop and test a producer-audience curriculum on emergency preparedness and biosecurity awareness. Forty-three attendees from 3 organizations responded to pre- and posttests and a course evaluation. After the program, most of the participants found the program relevant (95%), that it provided practical solutions to biosecurity (97%), were very likely to assess their farms for biosecurity and security (70%), and would suggest the program to other producers (98%). Participants who strongly agreed that the program was relevant and provided practical solutions to biosecurity were very likely to assess their farms. Awareness and knowledge are the first steps toward changing attitudes and behavior and can be accomplished with directed, relevant, practical educational programs

Descriptors: contamination. dairies. dairy-education. dairy-farming. dairy-farms. emergencies. extension. extension-education

24. A compact variable rate sprayer for teaching precision agriculture

Source: Applied Engineering in Agriculture. 2007. 23 (3). 267-272

Author(s): Dickinson-A-R. Johnson-D-M. Wardlow-G-W

Author Affiliation: Department of Agricultural and Extension Education, University of Arkansas, Fayetteville, Arkansas, USA

Abstract: A compact variable rate sprayer for use in teaching precision agriculture was developed and field tested. A 3.57-m (11.7-ft) boom-type field sprayer with a 227-L (60-gal) tank was used as the base unit. Off-the-shelf Global Positioning System and variable rate application components were modified as necessary and installed on the base unit. The cost of the completed variable rate sprayer was approximately $9700. For field testing, a 12.8-m (42-ft) wide x 91.4-m (300-ft) long test course was laid out and spraying prescriptions were written for field speeds of

2.74 and 5.47 km/h (1.7 and 3.4 mph). With a 2-s delay programmed into the unit, the mean position error was 0.37 m (1.23 ft) at 2.74 km/h (1.7 mph) and 0.77 m (2.51 ft) at 5.47 km/h (3.4 mph). Once the sprayer traveled into a prescribed spray zone, a mean distance of from 0.87 m (2.85 ft) (for low speed, low application rate) to 3.53 m (11.58 ft) (for high speed, high application rate) was traveled before the sprayer output initially reached the prescribed rate. The sprayer output stabilized at the prescribed rate at a mean distance of 9.59 m (31.45 ft) (high speed, high application rate) to 13.61 m (44.64 ft) (low speed, low application rate). The variable rate sprayer will be used in undergraduate and graduate classes and in workshops for agriculture teachers, Extension agents, and producers

Descriptors: extension. field-sprayers. global-positioning-systems. precision-agriculture. spray-booms. teaching-methods

25. Assessing the critical factors affecting the viability of small-scale dairy farms in the Punjab region of Pakistan to inform agricultural extension programmes

Source: Agricultural Systems. 2007. 94 (2). 320-330

Author(s): Cain-P. Muhammad-Anwar. Rowlinson-P

Author Affiliation: Farm Business Management, School of Agriculture, Food and Rural Development, University of Newcastle, Newcastle Upon Tyne NE1 7RU, UK

Abstract: Agriculture in the Punjab province of eastern Pakistan benefits from one of the largest canal irrigation systems in the world. The typical mixed holding is a small, 5 ha mixed farm with three-quarters of its land used for cash crops, such as rice, wheat and sugarcane, and the remainder growing forages such as lucerne and berseem for dairy animals. Both cows and buffaloes are used for milk production, with the latter the more productive. Despite irrigation, productivity is constrained by a slow uptake of new technology such as fertilizers and new plant varieties, and poor livestock management, which leads to extended calving intervals, and a lack of available capital. This study used LP models, constructed with original local data on milk and crop production activities, to investigate the effect on profitability of alleviating the main constraints. The results demonstrate the powerful effect of using better, well managed dairy livestock, of increasing the uptake of simple technological improvements and of widening access to credit. They also show the synergy between these elements, for example the importance of finance as part of any intervention strategy. The results should enable agricultural development policy makers to rank the changes and devise better targeted programmes to deliver the changes on farm

Descriptors: constraints. dairy-farming. economic-viability. extension. production-economics. profitability. small-farms

26. Promoting the adoption of natural resource management technology in arid and semi-arid areas: modelling the impact of spineless cactus in alley cropping in Central Tunisia

Source: Agricultural Systems. 2007. 94 (2). 573-585

Author(s): Alary-V. Nefzaoui-A. Jemaa-M-B

Author Affiliation: CIRAD/ICARDA, Centre International de Baillarguet, TA C-18/A, 34 398 Montpellier Cedex 5, France

Abstract: The arid and semi-arid areas of North Africa are becoming deserts. Most of the research and development projects in these areas aim at developing alternative technologies to reduce land degradation and favour sustainable economic activities. The 'spineless cactus-alley cropping system' is an interesting alternative in the low rainfall areas of North Africa. This system limits land degradation by the use of perennial crops, produces cheap and drought resistant sources of feed, and favours biomass production in the inter spaces. The important question is how to promote the adoption of this technology. A bio-economic model has been developed to identify the conditions of development of the 'spineless cactus-alley cropping system' in an agro-pastoral community of Central Tunisia. Scenarios relating to different types of institutional support, either monetary or informational, were analysed. The results revealed larger cash flow, more livestock and less cereal cultivation on marginal land. Adoption of the technology is clearly favoured by public financial support and also largely by transmission of information on the expected yield of the system. The findings suggest that extension services play a crucial role in creating awareness among farmers of the impact of technology in terms of yields and income diversification

Descriptors: agroforestry-systems. alley-cropping. arid-zones. diversification. extension. fodder-plants. innovation-adoption. semiarid-zones. technology-transfer

27. A survey on causes of tractor breakdowns in Riau Province, Indonesia a case study of small tractor operations

Source: Applied Engineering in Agriculture. 2007. 23 (1). 43-48

Author(s): Paman-U. Uchida-S. Inaba-S. Kojima-T

Author Affiliation: The United Graduate School of Agricultural Science, Kagoshima University, Korimoto, Japan

Abstract: A survey was undertaken to look into the causes of tractor breakdowns on field operations, to identify the main constraints associated with repair and maintenance, and to recommend a solution to the problems in Riau Province, Indonesia. The owners of 62 small tractors were interviewed from three regencies

chosen of the Province in 2003. As a result, the working capacity of the tractors was relatively high and the average annual use was relatively low compared to the national average. Most tractor operators did not have sufficient skill to operate tractors due to inadequate training programs. The tractor breakdowns resulted from operator error, the use of inferior fuel and oil, rough field conditions, poor maintenance, intense use, and factory design. Inadequate repair shops, a lack of spare parts, and a shortage of mechanics in the local vicinity were the main factors curbing tractor repair. It was also found that inadequate finances led many farmers to ignore tractor maintenance. These results suggest that tractor operators should be well trained and tractor-supporting facilities should be provided in rural areas. A mechanical extension officer and credit options should be made available for farmers

Descriptors: case-studies. cost-analysis. design. equipment-performance. extension. maintenance. operating-costs. repairing. tractors. training. work-capacity

28. Principles and processes for effecting change in environmental management in New Zealand

Source: Journal of Environmental Management. 2007. 82 (3). 311-318

Author(s): Valentine-I. Hurley-E. Reid-J. Allen-W

Author Affiliation: Institute of Natural Resources, Massey University, Palmerston North, New Zealand

Abstract: In New Zealand environmental management is essentially the responsibility of land managers. Management decisions affect both production/productivity and the environment. However, responsibility for ensuring positive environmental outcomes falls on both local (Regional) and Central Government, and both they and international agencies such as the OECD would wish to monitor and report on changes. In terms of policy, strong links have been established via Central and Regional Government to land managers. Consumers in the market place are also, increasingly, requiring responsibility for positive environmental outcomes of those who purchase and process primary products. Strong links for responsibility have been established between our international markets and processing businesses and there is a noticeable strengthening of the links from the processors to the land manager/producer. In New Zealand a range of initiatives has been developed and implemented over recent times, whereby land managers are taking increasing responsibility for accounting for the environmental outcomes of their production activities. The range covers the spectrum from voluntary to compulsory (e.g., in order to meet market requirements) and from those initiated by customers to processor and/or producer initiatives. This paper follows the evolution of the principles that drove the predominant activities of the period and the processes that initiated the changes in environmental management. As the focus of agriculturalists changed from pioneering in a new world, to establishing a production base, to economic

reality, and finally to environmental responsibility, the processes of extension adapted to meet the new challenge

Descriptors: agricultural-sector. environmental-management. environmental-policy. extension. farm-management. land-management. Sustainability

29. A community education intervention to improve bovine trypanosomiasis knowledge and appropriate use of trypanocidal drugs on smallholder farms in Kenya

Source: Agricultural Systems. 2007. 94 (2). 261-272

Author(s): Machila-N. Emongor-R. Shaw-A-P. Welburn-S-C. McDermott-J. Maudlin-I. Eisler-M-C

Author Affiliation: Centre for Tropical Veterinary Medicine, Royal (Dick) School of Veterinary Studies, University of Edinburgh, Easter Bush, Roslin, Midlothian, Edinburgh EH25 9RG, UK

Abstract: This paper describes the development, design, dissemination and evaluation of a communication intervention designed to promote appropriate usage of trypanocidal drugs in trypanosomiasis endemic areas of western and coastal Kenya. Following a baseline study on current trypanosomiasis knowledge, attitudes and practices by smallholder farmers, a communication intervention strategy was developed involving dissemination through school children, village elders, animal health centres and Agrovet shops, and using layered messages in posters and leaflets. A participatory research approach was used to develop, design and assess the impact of animal health messages on the control of bovine trypanosomiasis for smallholder farmers in tsetse and trypanosomiasis endemic areas in Busia (two administrative divisions) and Kwale Districts (two administrative divisions) of Kenya. Communication intervention materials (in poster and leaflet formats) were developed and disseminated to residents in villages in one administrative division in each district (intervention area) while those from the other division in each district were not deliberately exposed to the animal health messages (control area). Several communication impact indicators were derived and these were measured 4-6 weeks after dissemination of the print media through questionnaires on trypanosomiasis knowledge administered to school children and cattle-keeping smallholders in the intervention and control study sites. School children's post-communication intervention trypanosomiasis signs knowledge was much higher than that observed during the pre-communication intervention survey. More trypanocides were named by school children during the post-intervention questionnaire survey compared to those known during the pre-intervention survey. The trypanosomiasis signs knowledge score obtained by the smallholder farmers exposed to the extension materials was higher than that obtained by those not exposed to them. Similarly, farmers' exposure to extension materials resulted in higher trypanocidal drug

knowledge scores among exposed farmers than among those not exposed. These results indicate that over the period monitored, the routes (i.e. school children, village elders, animal health centres and Agrovet shops) and media (posters and leaflets) selected were effective in promoting a significant increase in knowledge of trypanosomiasis, its causes and ways of dealing with it among livestock keepers

Descriptors: communication. community-education. drug-therapy. extension. knowledge. small-farms. trypanocides. Trypanosomiasis

30. A community education intervention to improve bovine trypanosomiasis knowledge and appropriate use of trypanocidal drugs on smallholder farms in Kenya

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Descriptors: communication. community-education. drug-therapy. extension. knowledge. small-farms. trypanocides. Trypanosomiasis

31. Yam farmers' access to production resources in Kabba/Bunu local government area of Kogi State, Nigeria

Source: Journal of New Seeds. 2006. 8 (2). 85-94

Author(s): Oladeji-J-O. Oyesola-O-B

Author Affiliation: Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria

Abstract: Tuber crops in developing countries, especially yam and cassava, are major staple foods. However, the accessibility of producers to production resources has been one of the major problems to increase production. Therefore, the study assessed the accessibility of yam farmers to production resources in the study area. A multistage sampling technique was used in selecting 150 respondents for the study. Majority of the farmers were above 60 years of age, married, with family size of between 1 and 5, had both fadama and upland yam farm plots and worked on average 1-3 h daily on their yam farm. Respondents had access to farmland adequately, but they did not have adequate access to labour, finance, agrochemicals, fertilizers, storage facilities, agricultural information, and farm machinery. It is therefore recommended that credit, rural infrastructures, agrochemical and extension services be provided to farmers to strengthen yam production in the country

Descriptors: access. agricultural-chemicals. credit. crop-production. extension. factors-of-production. farmers. infrastructure. tubers. Yams

32. Investing in farmers - the impacts of Farmer Field Schools in relation to Integrated Pest Management

Source: World Development. 2007. 35 (4). 663-686

Author(s): Berg-H-van-den. Jiggins-J

Author Affiliation: Wageningen University, Wageningen, Netherlands

Abstract: Public policy in developing countries has failed to invest in educating farmers on how to deal with variable agro-ecosystems and a changing world. Here we present an assessment of a participatory training approach in changing crop protection by farmers from chemically dependent, to more sustainable practices in line with the tenets of integrated pest management (IPM). We review the evidence from Asian studies on educational investments designed to capacitate farmers to apply IPM, and discuss these data in the light of an on-going policy debate concerning cost effectiveness. The results indicate substantial immediate and developmental benefits of participation in farmer field schools

Descriptors: agricultural-policy. cost-effectiveness-analysis. education. empowerment. evaluation. extension. integrated-pest-management. participation. Reviews

33. Preparing Australian broadacre agriculture for environmental scrutiny using Environmental Management Systems: implications for extension services

Source: Australian Journal of Experimental Agriculture. 2007. 47 (3). 367-377

Author(s): Ridley-A-M

Author Affiliation: Department of Primary Industries, Co-operative Research Centre for Plant-Based Management of Dryland Salinity, RMB 1145, Rutherglen, Vic. 3685, Australia

Abstract: Environmental Management Systems (EMS) have been trialled in the broadacre industries across Australia. This paper outlines the trends in extension service provision, comments on changes needed if environmental issues are to become higher priority and discusses institutional issues. For EMS in Australia to become a mainstream farm business management activity there needs to be sufficient private good outcomes for land managers to adopt them and sufficient public good outcomes for public money to be invested in their implementation. As there are few market drivers at present, extension and incentives are likely to be needed to facilitate their uptake. Evaluation of likely cost-effective public good outcomes is needed for continued public sector investment. Regardless of whether EMS or similar schemes are provided by the public or private sector, if they are to become mainstream there needs to be a move from the dominant extension models used by the public sector (group facilitation and empowerment) to a programmed learning approach. Building on a 'personalised consultant' model is recommended for land managers prepared to pay for information to maintain their competitive edge. For more 'traditional' land managers, partnerships with the public sector through Landcare networks and regional natural resource management bodies and rural resellers are more realistic. There is large need for formalised training of both public and private extension providers. The institutional arrangements and current alignment and supportiveness for EMS between state agencies, farmer organisations and regional natural resource management bodies is highly variable

across the states, but currently appears strongest in Victoria, Queensland and Western Australia. Australian broadacre industries are globally exposed in being prepared to take on increased environmental scrutiny. It will take many years to reduce this risk given the large and dispersed nature of the broadacre industries. All players, especially governments, regional organisations, peak farmer and peak industry groups need to take a more proactive role in funding and implementing EMS or similar type schemes if they believe there are long-term benefits in doing so. The alternative is to wait for a crisis and be limited to taking a reactive approach to environmental accountability

Descriptors: agriculture. environmental-management. extension. farm-management. industry. investment. land-management. markets. public-sector. resource-management

34. Preparing Australian broadacre agriculture for environmental scrutiny using Environmental Management Systems: implications for extension services

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Descriptors: agriculture. environmental-management. extension. farm-management. industry. investment. land-management. markets. public-sector. resource-management

35. Time scales as a factor in decision-making by French farmers on weed management in annual crops

Source: Agricultural Systems. 2007. 93 (1-3). 115-142

Author(s): Mace-K. Morlon-P. Munier-Jolain-N. Quere-L

Author Affiliation: Chambre d'Agriculture des Cotes d'Armor, B.P. 540, 22195 Plerin Cedex, France

Abstract: The aim of this research was to improve the advice given by extension institutions to French farmers and to develop a Decision Support System (DSS) for weed control that would match the practical approach adopted by farmers. Farmers running 15 farms with different farming systems in different regions completed comprehensive interviews which allowed them to explain how they deal with weeds. We built temporal diagrams for crop management sequences and decision making. This paper describes the basic framework common to all the farmers interviewed. Each farmer employed pre-established weed control programmes. When designing these programmes, farmers integrated different time scales: the current year, the rotation, and the long term. In the short term, they considered the risks of yield losses and/or lower harvest quality plus harvesting difficulties. In the medium term, they anticipated the risk of finding a weed species in another crop of the rotation where control would be difficult or costly, weighing the risks of yield loss against the cost and effectiveness of solutions, not only in the current crop but also in subsequent crops, so that once again, the rotation was the central focus of weed control. In the long term, their main aim was to limit the soil seed bank to an acceptable level. The farmers interviewed stated that they would continue to implement a weed control programme that they deemed satisfactory as long as no new problem appeared, and until they could learn about more effective technical solutions. When designing a DSS that will ensure successful, more sustainable weed management practices, it is crucial to take account of both the complexity of the decision-making process and the multicriteria nature of decision making

Descriptors: decision-making. extension. plant-protection. risk. rotations. time. weed-control

36. Farmers' adoption of conservation agriculture: a review and synthesis of recent research

Source: Food Policy. 2007. 32 (1). 25-48

Author(s): Knowler-D. Bradshaw-B

Author Affiliation: School of Resource and Environmental Management, Simon Fraser University Burnaby, BC, V5A 1S6, Canada

Abstract: In light of growing concerns over the implications of many conventional agricultural practices, and especially the deep tilling of soils, the Food and Agriculture Organization of the United Nations (FAO), among others, has begun to promote a package of soil conserving practices under the banner of 'conservation agriculture'. While the title might be novel, its associated practices have long been employed by farmers, and studied by social scientists seeking to understand the reasons for their adoption and non-adoption. This paper reviews and synthesizes this past research in order to identify those independent variables that regularly explain adoption, and thereby facilitate policy prescriptions to augment adoption around the world. While a disaggregated analysis of a subset of commonly used variables reveals some underlying patterns of influence, once various contextual factors (e.g. study locale or method) are controlled, the primary finding of the synthesis is that there are few if any universal variables that regularly explain the adoption of conservation agriculture across past analyses. Given the limited prospect of identifying such variables through further research, we conclude that efforts to promote conservation agriculture will have to be tailored to reflect the particular conditions of individual locales

Descriptors: agricultural-policy. alternative-farming. conservation-tillage. extension. farming-systems. innovation-adoption. reviews. soil-conservation. Sustainability

37. Farmers' attitudes regarding agrolandscape ecology: a regional comparison

Source: Journal of Sustainable Agriculture. 2006. 28 (3). 121-143

Author(s): Blesh-J-M. Barrett-G-W

Author Affiliation: Institute of Ecology, University of Georgia, Athens, GA 30602, USA

Abstract: A farmer survey was conducted in three different agroecosystem types in the midwestern and southeastern USA. Saline County (Kansas), Knox County (Indiana) and Coffee County (Georgia) were selected, representative of former prairie grassland, Midwestern deciduous forest, and Southeastern deciduous forest

biome types, respectively. A twenty-question, multiple-choice survey was mailed to 300 farmers in each county during the summer months of 2002 and 2003. The response rate was 26, 30 and 23% for Saline County, Knox County and Coffee County, respectively. Data were collected in four categories: demographic information, problems related to conventional agriculture, sustainable agriculture approaches, and attitudes toward sustainable agriculture. In this paper, survey responses are examined and discussed within the context of the social and ecological consequences of industrial agriculture, the alternatives presented by agroecologists, and the communication network between agroecologists and farmers. One suggestion for achieving sustainability is building stronger connections between university agroecologists and farmers. For example, 58 percent of respondents from Kansas, 57 percent from Indiana, and 70 percent from Georgia view an ecologist as a friend/advisor to the farmer. It is indicated that these data should be useful to agroecologists interested in strengthening their relationship with stakeholders and in disseminating research findings concerning alternative agricultural practices

Descriptors: agroecological-zones. alternative-farming. extension. farmers'-attitudes. farming-systems. surveys. Sustainability

38. Evaluating the impact of agricultural extension on farms' performance in Crete: a nonneutral stochastic frontier approach

Source: Agricultural Economics. 2007. 36 (2). 135-146

Author(s): Dinar-A. Karagiannis-G. Tzouvelekas-V

Author Affiliation: Rural-Urban Development Unit, Development Research Group, The World Bank, Washington, Dist. of Colombia, USA

Abstract: This article attempts to integrate the production- and the efficiency-based approaches for evaluating the impact of extension on farms' performance. For this purpose the nonneutral production frontier model is used, and the empirical analysis refers to a sample of farms from Crete, Greece. The empirical results support the proposed formulation instead of either the production- or the efficiency-based formulations as extension was found to have a statistically significant effect on closing both the technology and management gaps. Public and private extension services were found to be competitive in the production function and complementary in the technical inefficiency effect function. In addition, farms using both public and private extension services achieved a higher degree of technical efficiency than those using either public or private extension services, and farms with no extension services were found to be the least efficient

Descriptors: economic-evaluation. economic-impact. efficiency. extension. farm-sector. Productivity

39. Facilitating the diffusion of alternative cropping systems for mountain agriculture in Vietnam

Source: Journal of Sustainable Agriculture. 2006. 27 (4). 137-157

Author(s): Castella-J-C. Eguienta-Y-K. Tran-Trong-Hieu

Author Affiliation: Institut de Recherche pour le Developpement (IRD), 213 rue Lafayette, 75480 Paris Cedex 10, France

Abstract: In the mountain areas of northern Vietnam, the past decade was marked by rapid changes in agricultural production systems. Under the new land policies, some farmers had no other choice than to return to the traditional slash-and-burn cropping systems. Now, however, land allocation to individuals prevents farmers from shifting cultivation to newly cleared land, which is necessary to regenerate soil fertility, and thus for slash-and-burn practices to remain sustainable. As a consequence, in some villages there is an increasing risk of land degradation. As livestock feeding relies mainly on natural resources, land degradation results in chronic shortages of forage and more generally to a crisis in traditional production systems. To tackle these issues, the Mountain Agrarian Systems Program has designed alternative cropping systems based on direct seeding under a cover crop. Beside their widely recognized role in the conservation of soil and natural resources, these innovative techniques also provide good forage for the farm animals. However, their diffusion implies a profound reorganization of the crop-livestock systems at complementary scales from field, farm, and up to the village community. Accompanying such changes requires that all partners jointly develop communication procedures based on a common knowledge base. This paper discusses the spatial compartment model, a graphic discussion and simulation tool used to represent a village in a way that allows both researchers and local stakeholders to understand and visualize their individual and collective situations. The model was used to test a set of cropping innovations through a participatory simulation with local farmers. The farmers were very interested in the new techniques, and some began to test them on their own land. The spatial compartment model proved to be an effective communication tool between scientists and local stakeholders

Descriptors: cover-crops. cropping-systems. direct-sowing. extension. farming-systems. fodder-crops. innovation-adoption. mountain-areas. participation. simulation-models. technology-transfer

40. A comparison of conventional and ecological agricultural knowledge systems in Turkey: raisin case

Source: Journal of Sustainable Agriculture. 2006. 28 (2). 5-23

Author(s): Boyaci-M

Author Affiliation: Faculty of Agriculture, Agricultural Research and Extension Center, Ege University, C. Blok Kat: 3 35100 Bornova-Izmir, Turkey

Abstract: The performance of an agricultural knowledge and information system (AKIS) is vital especially for countries with predominantly rural populations and with considerable important agricultural economies like Turkey. A comparative analysis has been conducted of the AKISs of conventional and ecological raisin farming in the Manisa Province of Turkey. According to the findings, outsider actors direct both the AKISs. The farmer groups operate with low technology adoption level and the public extension service does not have any field-level activity about ecological farming. The approaches employed in both AKISs are based on traditional models. The most important pillars of sustainable development such as participatory approaches and the empowerment of the locals, are not recognized in the region

Descriptors: alternative-farming. crop-production. extension. farming-systems. grapes. information. innovation-adoption. raisins. technology-transfer

41. Herbicide resistance and the adoption of integrated weed management by Western Australian grain growers

Source: Agricultural Economics. 2007. 36 (1). 123-130

Author(s): Llewellyn-R-S. Lindner-R-K. Pannell-D-J. Powles-S-B

Author Affiliation: Western Australian Herbicide Resistance Initiative, School of Plant Biology, Faculty of Natural and Agricultural Sciences, University of Western Australia, Crawley, WA 6009, Australia

Abstract: Extension programs to encourage farmers to reduce reliance on herbicides by adopting integrated weed management (IWM) practices have met with limited success. Studies aiming to understand the factors that influence farmers' choices of integrated control practices have faced difficulties in variable specification, and have not achieved high explanatory power. Using data from grain growers in Western Australia, where herbicide resistance in major crop weeds is common, this study tests the applicability of a framework for the IWM adoption decision in which herbicide efficacy is assumed to be a potentially exhaustible resource. Farmers' perceptions of multiple techniques and other variables are aggregated using principal components, and used in logistic regressions to explain the intensity of use of IWM practices. Eighty-six percent of growers were correctly classified according to use of multiple IWM practices. Herbicide resistance and expectations of the future availability of effective new herbicides were significant in explaining IWM adoption. IWM adoption and herbicide-resistance management are shown to be information-intensive and involving an intertemporal resource management decision

Descriptors: decision-making. extension. herbicide-resistance. innovation-adoption. integrated-pest-management. weed-control

42. Factors influencing farmers' participation in forestry management programs: a case study from Haiti

Source: Forest Ecology and Management. 2006. 236 (2-3). 324-331

Author(s): Dolisca-F. Carter-D-R. McDaniel-J-M. Shannon-D-A. Jolly-C-M

Author Affiliation: Department of Agricultural Economics and Rural Sociology, Auburn University, Auburn, AL 36849, USA

Abstract: Foret des Pins Reserve, a state-owned natural forest in Haiti, has suffered severe degradation due to an ongoing influx of people seeking fertile agricultural land and off-farm employment opportunities. Participation by local communities in management has widely been considered as a means of sustaining protected areas. The purpose of this study is to examine the setting in which farmers are likely to participate in forest management in Foret des Pins Reserve using factor analysis and multiple regression equations. Data from 243 farmers inside the Reserve were used in the empirical analysis. Results showed that the participatory management process of Foret des Pins Reserve can be enhanced by providing information about benefits from the forests, increasing annual income, improving education, strengthening organizational memberships, and increase the involvement of women in the forest management process. Results also revealed that policies designed to improve technical assistance is essential to strengthen farmers' participation in forestry programme

Descriptors: community-involvement. education. equations. extension. factor-analysis. farmers. farmers'-attitudes. forest-management. forest-policy. forests. institutions. nature-reserves. organizations. program-development. regression-analysis. rural-communities. social-participation. state-forests. Women

43. Understanding and promoting adoption of conservation practices by rural landholders

Source: Australian Journal of Experimental Agriculture. 2006. 46 (11). 1407-1424

Author(s): Pannell-D-J. Marshall-G-R. Barr-N. Curtis-A. Vanclay-F. Wilkinson-R

Author Affiliation: School of Agricultural and Resource Economics, University of Western Australia, Crawley, WA 6009, Australia

Abstract: Research on the adoption of rural innovations is reviewed and interpreted through a cross-disciplinary lens to provide practical guidance for research, extension and policy relating to conservation practices. Adoption of innovations by landholders is presented as a dynamic learning process. Adoption depends on a range of personal, social, cultural and economic factors, as well as on characteristics

of the innovation itself. Adoption occurs when the landholder perceives that the innovation in question will enhance the achievement of their personal goals. A range of goals is identifiable among landholders, including economic, social and environmental goals. Innovations are more likely to be adopted when they have a high 'relative advantage' (perceived superiority to the idea or practice that it supersedes), and when they are readily trialable (easy to test and learn about before adoption). Non-adoption or low adoption of a number of conservation practices is readily explicable in terms of their failure to provide a relative advantage (particularly in economic terms) or a range of difficulties that landholders may have in trialing them

Descriptors: agricultural-land. extension. innovation-adoption. innovations. land-ownership. landowners. natural-resources. nature-conservation. resource-conservation. resource-management. rural-areas. Socioeconomics

44. The complex dynamics of smallholder technology adoption: the case of SRI in Madagascar

Source: Agricultural Economics. 2006. 35 (3). 373-388

Author(s): Moser-C-M. Barrett-C-B

Author Affiliation: Western Michigan University, Kalamazoo, Michigan, USA

Abstract: This article explores the dynamics of smallholder technology adoption, with particular reference to a high-yielding, low external input rice production method in Madagascar. We present a simple model of technology adoption by farm households in an environment of incomplete financial and land markets. We then use a probit model and symmetrically censored least squares estimation of a dynamic tobit model to analyse the decisions to adopt, expand, and disadopt the method. We find that seasonal liquidity constraints discourage adoption by poorer farmers. Learning effects - both from extension agents and from other farmers - exert significant influence over adoption decisions

Descriptors: crop-production. extension. innovation-adoption. intensification. low-input-agriculture. models. rice. small-farms. technology-transfer

45. Do formula or competitive grant funds have greater impacts on state agricultural productivity?

Source: American Journal of Agricultural Economics. 2006. 88 (4). 783-798

Author(s): Huffman-W-E. Evenson-R-E

Author Affiliation: Iowa State University, Iowa City, IA 52242, USA

Abstract: This article examines the impact of public agricultural research and extension on agricultural total factor productivity at the state level. The objective is to establish whether federal formula or competitive grant funding of agricultural research has a greater impact on state agricultural productivity. A pooled cross-section time-series model of agricultural productivity is fitted to annual data for 48 contiguous states of the USA over 1970-99. Our results show that public agricultural research and agricultural extension have statistically significant positive impacts on state agricultural productivity. In addition, Hatch formula funding has a larger impact on agricultural productivity than federal competitive grant funding, and a reallocation of Hatch formula funds to competitive grant funding would lower agricultural productivity. This seems unlikely to be a socially optimal policy. Furthermore, from a cost-benefit perspective, our study shows that the social marginal annualized real rate of return to public resources invested in agricultural research is 49-62%, and to public agricultural extension, the rate is even larger

Descriptors: agricultural-production. agricultural-research. extension. grants. productivity. public-finance. research-support. Returns

46. Diffusion and spillover of new technology: a heterogeneous-agent model for cassava in West Africa

Source: Agricultural Economics. 2006. 35 (2). 119-129

Author(s): Johnson-M-E. Masters-W-A. Preckel-P-V

Author Affiliation: DSGD, IFPRI, 2033 K Street, NW, Washington, DC 20006, USA

Abstract: Understanding what determines the geographic spread of innovations can help guide the funding and implementation of research and extension programmes. Our approach uses household survey data as model parameters, to simulate behaviour across the entire surveyed population and avoid the aggregation bias associated with representative-farm models. Such a "heterogeneous agent" approach allows us to infer the distribution of a technology's impacts across one set of households, and predict the potential for spreading to another set that shares similar characteristics with respect to natural resource endowments and farming systems. We apply the technique to new cassava varieties in West Africa, finding a strongly poverty-alleviating impact, with substantial spillover potential from Nigeria to neighbouring countries (Ghana and Cote d'Ivoire)

Descriptors: agricultural-households. cassava. crop-production. diffusion-of-research. economic-impact. extension. income. innovation-adoption. innovations. new-cultivars. simulation-models. technical-progress. technology-transfer

47. Analyzing technology adoption using microstudies: limitations, challenges, and opportunities for improvement

Source: Agricultural Economics. 2006. 34 (3). 207-220

Author(s): Doss-C-R

Author Affiliation: Yale Center for International and Area Studies, Yale University, New Haven, CT 06520-8206, USA

Abstract: Policy makers and interest groups have many questions about the use of improved technologies in developing country agriculture. These include the roles of policies, institutions, and infrastructure in the adoption of improved technologies and their impact on productivity and welfare. Most micro-level adoption studies, however, cannot address these important policy issues. Drawing on an extensive review of the literature on the adoption of agricultural technologies, this article suggests alternative approaches for designing technology adoption studies to make them useful for policy makers. It explores the generic limitations of cross-sectional adoption studies carried out in small numbers of communities and discusses some problems faced in conducting such studies. Recommendations include the use of sampling approaches that allow data from microstudies to be generalized to higher levels of aggregation, adherence to clearly defined terms that are standardized across studies, and careful examination of the assumptions that often underlie such studies

Other Title: Analyzing technology adoption using microstudies: limitations, challenges, and opportunities for improvement

Descriptors: agricultural-policy. extension. innovation-adoption. methodology. reviews. technology-transfer

48. Farmer goals and management styles: implications for advancing biologically based agriculture

Source: Agricultural Systems. 2006. 89 (1). 90-105

Author(s): Brodt-S. Klonsky-K. Tourte-L

Author Affiliation: Department of Agricultural and Resource Economics, University of California-Davis, One Shields Avenue, Davis, CA 95616, USA

Abstract: This paper examines differences in the management styles of a purposive sample of almond and winegrape growers in California's Central Valley, including participants and non-participants in biologically integrated farming systems programs. Using Q methodology, we elicited rankings of economic and social values and goals as they relate to farm production, environmental stewardship, family and community, and leisure. These rankings led to three distinct management styles, labelled as 'environmental stewards', 'production maximizers', and 'networking entrepreneurs'. The results demonstrate that farmers make decisions following diverse management strategies and suggest that outreach programs aimed at

advancing biologically based farming practices must address these differences to be most effective

Descriptors: alternative-farming. crop-production. economic-behaviour. extension. farm-management. farmers'-attitudes. farming-systems. objectives. social-values

49. Mediating technological learning in agricultural innovation systems

Source: Agricultural Systems. 2006. 89 (1). 26-46

Author(s): Morriss-S. Massey-C. Flett-R. Alpass-F. Sligo-F

Author Affiliation: Massey Agriculture, Massey University, Private Bag 11-222, Palmerston North, New Zealand

Abstract: In policy and innovation systems characterized by fragmented institutional arrangements, communication between system participants can be problematic. Understanding the perspectives of system participants, and sources of agreement and disagreement between them, is critical for the development strategies for change requiring collective action. The policy systems analysis and mediation (PSAM) template has been developed as an analytical approach that facilitates a shared understanding between policy and innovation system participants and better enables collaborative strategies to be developed. The PSAM template was applied in the on-farm sector of the New Zealand dairy industry in 2002-2003 in the context of industry on-farm productivity policy. It enabled key institutional interplay issues to be isolated, areas of alignment and misalignment between system participants to be identified, and it highlighted opportunities for change. The PSAM template, in augmenting existing analytical techniques, has particular value in facilitating the development of strategies for change in functionally differentiated and organizationally fragmented policy and innovation systems

Descriptors: agricultural-policy. cooperation. dairy-farming. dairy-industry. extension. innovations. learning. technical-progress. technology-transfer

50. Efficiency effects of agricultural economics research in the United States

Source: Agricultural Economics. 2006. 34 (3). 273-280

Author(s): Schimmelpfennig-D-E. O'Donnell-C-J. Norton-G-W

Author Affiliation: Economic Research Service, U.S. Department of Agriculture, 1800 M Street, NW, Room 4179, Washington, DC 20036, USA

Abstract: Allocations of research funds across programs are often made for efficiency reasons. Social science research is shown to have small, lagged but significant effects on US agricultural efficiency when public agricultural R&D and

extension are simultaneously taken into account. Farm management and marketing research variables are used to explain variations in estimates of allocative and technical efficiency using a Bayesian approach that incorporates stylized facts concerning lagged research impacts in a way that is less restrictive than popular polynomial distributed lags. Results are reported in terms of means and standard deviations of estimated probability distributions of parameters and long-run total multipliers. Extension is estimated to have a greater impact on both allocative and technical efficiency than either R&D or social science research

Descriptors: agricultural-economics. agricultural-research. agricultural-sector. economic-impact. efficiency. extension. Multipliers

51. Modelling the impact of interventions on the dynamics in village poultry systems

Source: Agricultural Systems. 2006. 88 (2-3). 255-269

Author(s): Udo-H-M-J. Asgedom-A-H. Viets-T-C

Author Affiliation: Animal Production Systems Group, Wageningen Institute of Animal Sciences, Wageningen University, P.O. Box 338, 6700 AH, Wageningen, Netherlands

Abstract: There are many technical possibilities to improve free-range and backyard poultry keeping. Rural households, however, are not adopting these technologies widely. This paper presents a model approach for ex ante evaluation of interventions in village poultry systems. The dynamic deterministic computer model considers mortality, egg production, reproduction, offtake, and their interrelationships. In the base situation, the model reflects the behaviour of a relatively stable village poultry flock. The model was used to explore how interventions influence the dynamics of a village poultry flock. Over the simulated period of three years, NCD (Newcastle Disease) vaccination, daytime housing, supplementary feeding, and control of broodiness each had a positive effect on bird offtake, egg production, egg offtake, and flock size. Crossbreeding had a highly negative effect on these key variables. The impact of interventions is also related to the use of the available resources. Cost-benefit calculations for the Tigray region in Ethiopia and village poultry research sites in Kenya indicated that NCD vaccinations were economically most effective. Housing and crossbreeding had a highly negative impact on net returns. When applied with situation-specific input data, the model can be used in the first stages of research and development approaches to support decisions on priorities of projects in village poultry production

Descriptors: cost-benefit-analysis. crossbreeding. evaluation. extension. free-range-husbandry. methodology. poultry. poultry-farming. poultry-housing. rural-areas. simulation-models. supplementary-feeding. technology-transfer. Vaccination

52. Specifying the farming styles in viticulture

Source: Australian Journal of Experimental Agriculture. 2006. 46 (4). 585-593

Author(s): Mesiti-L. Vanclay-F

Author Affiliation: Tasmanian Institute of Agricultural Research, University of Tasmania, Private Bag 54, Hobart, Tas. 7001, Australia

Abstract: Fourteen styles of viticulture are defined: Astute Business Grower; Experimentalist Grower; Industry-Endorsed Early Adopter; Professional Scientific Manager; Experienced Manager; Labour-Efficient Grower; Low-Input Sustainable Agriculture Grower; Traditional Grower; Ethnic Grower; Conventional Grower; Retiree Grower; Hobby Grower; Sea-Change Grower; and Marginal Grower. The methodology to identify these farming styles included 6 focus groups in Mildura, Victoria, a face-to-face interview with 142 grape-growers in the Sunraysia region of Victoria, and qualitative interviewing with industry personnel and extension staff. Problems of social desirability response bias, the lack of self-identification by growers with styles, and literacy and other methodological issues meant that qualitative, participatory (emic) methods for identifying styles were not reliable. Following considerable immersion in the field, the researchers identified, on the basis of expert judgment (etic classification), the 14 farming styles in viticulture which they regard as a typology of ideal types. Benefits of the identification of farming styles in viticulture in terms of extension are discussed

Descriptors: classification. extension. farming-systems. grapes. low-input-agriculture. rural-sociology. sustainability. Viticulture

53. A participatory approach for integrating risk assessment into rural decision-making: a case study in Santa Catarina, Brazil

Source: Agricultural Systems. 2006. 87 (2). 229-244

Author(s): Bacic-I-L-Z. Bregt-A-K. Rossiter-D-G

Author Affiliation: Empresa de Pesquisa Agropecuaria e Extensao Rural de Santa Catarina S.A. (EPAGRI), Centro Integrado de Informacoes de Recursos Ambientais de Santa Catarina - CIRAM, Caixa Postal 502, CEP: 88034-901, Florianopolis, Santa Catarina, Brazil

Abstract: Incomplete information is one of the main constraints for decision-making, which are then by definition risky. In this study, formal risk concepts were introduced in decision-makers' meetings according to local demands and following a participatory approach, as a first step towards integrating risk assessment into rural decision-making in Santa Catarina, Brazil. Semi-structured interviews and meetings were conducted with extensionists and farmers. The following information was presented and discussed: (1) the time series and frequency distribution of maize

yield predictions, simulated by the GAPS computer program for 16 feasible planting dates, representing climatic risks, both within and between years; and (2) a simple economic analysis (gross margin) and income probabilities for seven land-use options over a recent five-year period, followed by an interactive exercise where probabilities of achieving user-supplied target gross margins were calculated according to participants' actual information, using the computer program atRISK. This paper also investigates decision-makers' attitudes towards risk, and how the

se were influenced by objective information. Although results from a study such as this are not definitive, considering that the effects of the information on actual decision-making require some time to become evident, it was already possible to conclude that the risk-orientated information presented according to local demands and following a participatory approach had a positive impact on decision-makers' understanding and perceptions. This approach should be further explored to effectively integrate risk assessment into rural decision-making

Descriptors: attitudes. case-studies. crop-production. crop-yield. decision-making. extension. information. land-use. maize. participation. risk. risk-assessment. Uncertainty

54. Major advances in extension education programs in dairy production

Source: Journal of Dairy Science. 2006. 89 (4). 1147-1154

Author(s): Chase-L-E. Ely-L-O. Hutjens-M-F

Author Affiliation: Department of Animal Science, Cornell University, Ithaca, NY 14853, USA

Abstract: The dairy industry has seen structural changes in the last 25 yr that have an impact on extension programming. The number of cows in the United States has decreased by 17%, whereas the number of dairy farms has decreased by 74%. The average milk production per cow has increased from 5,394 to 8,599 kg/lactation. Even though there are fewer farms, dairy farm managers are asking for more specific and targeted information. The extension resources available have also decreased during this period. Because of these changes, shifts have taken place in extension programming and staffing. A key change has been a shift to subject matter-targeted programs and workshops. Extension has also incorporated and expanded use of the Internet. Discussion groups, subject matter courses, and searchable databases are examples of Internet use. There will be continuing shifts in the demographics of the US dairy industry that will influence future extension efforts. It is also probable that fewer extension professionals will be available to provide programming due to changes in funding sources at national, state, and local levels. Future shifts in extension programming will be needed to provide the information needs of the industry with a smaller number of extension workers

Descriptors: cows. dairy-cows. dairy-farming. dairy-industry. education-programmes. educational-courses. extension. internet. milk-production. technology-transfer

55. The American Dairy Science Association: the fourth twenty-five years, 1981-2005

Source: Journal of Dairy Science. 2006. 89 (4). 1122-1146

Author(s): Beitz-D-C. Boyd-L-J

Author Affiliation: Nutritional Physiology Group, Department of Animal Science, Iowa State University, Ames, IA 50011-3150, USA

Abstract: Great leaders have stepped forward to successfully lead the American Dairy Science Association (ADSA) through its fourth 25-yr period of its 100-yr history. Rather than meeting on college campuses, the annual meetings of the ADSA are now held at convention centers that are easily accessible, and are usually held jointly with the American Society of Animal Science. Besides the scientific and social exchanges, regular members and students are recognized for their professional excellence with awards at these meetings. The Student Affiliate Division continues to hold an active meeting along with the parent society. The last 25 yr experienced the termination of the Purina Mills Fellowship Program after 52 yr of support for graduate students. The establishment of an ADSA Foundation has increased resources for enhancement of the ADSA. Newly established DISCOVER Conferences are recipients of Foundation support. The last 25-yr period experienced the development of a formal business arrangement with the American Society of Animal Science and Poultry Science Association that resulted in the establishment of the Federation of Animal Science Societies (FASS), which now houses the 3 societies in its building in Savoy, IL. The Journal of Dairy Science has become the leading journal for publication of dairy science research in the world. The Journal as well as the membership of the ADSA has become increasingly internationalized. Truly, the ADSA has much to celebrate because of its successes in mission during the fourth 25 yr of its history. Its membership can be confident as the ADSA begins its second century of service to the dairy industry

Descriptors: dairy-education. dairy-industry. dairy-science. dairy-technology. extension. information-science. information-systems. organizations. Research

56. Economic and financial sustainability of private agricultural extension in El Salvador

Source: Journal of Sustainable Agriculture. 2005. 26 (2). 81-102

Author(s): Solis-D. Bravo-Ureta-B-E

Author Affiliation: Department of Agriculture and Resource Economics, University of Connecticut, 843 Bolton Road, U-1182, Storrs, CT 06269-1182, USA

Abstract: Since the beginning of the 1980s, El Salvador has shown a dramatic decline in the public funding for agricultural extension. This process follows a worldwide tendency to reduce the public sector involvement in agriculture. To respond to the reduction in public expenditure in extension programs, a privatization process has been proposed as a feasible alternative for agricultural development. The main purpose of this paper is to evaluate the sustainability of the Farm Management Center (FMC) model as a specific private agricultural extension option in El Salvador. To pursue this objective, an ex ante economic and financial cost-benefit analysis based on a multiperiod linear programming model is performed. The general results of this study suggest that a combination of better farm prices (paid and received), reallocation of resources, and crop diversification, which would be promoted by an FMC, can lead to an increase in farm level profits that is sufficient to cover the operation of a private farm management centre while also generating net gains in household income. It is pointed out that public support is crucial as an initial injection to get the FMCs started. Moreover, this public support could help to break the inertia typically shown by peasant farmers in getting involved in new endeavours

Descriptors: cost-benefit-analysis. costs. economic-viability. extension. private-sector. privatization. profitability. Returns

57. Appropriateness of farmers' adoption of irrigation methods: the application of the AHP model

Source: Agricultural Systems. 2006. 87 (1). 101-119

Author(s): Ezatollah-Karami

Author Affiliation: Department of Agricultural Extension, College of Agriculture, Shiraz University, Shiraz, Iran

Abstract: This paper explores the use of analytic hierarchy process (AHP) in selecting an appropriate irrigation method. A sample of farmers (124 with sprinkler irrigation and 226 who were using surface irrigation) in Iran was separated into four groups (large, medium, small old, and small young farmers) using cluster analysis. A panel of experts utilized AHP to determine the priority of three irrigation methods (border, basin and sprinkler) for each group of farmers. The findings indicated that the highest priority of irrigation methods differed with respect to farmers' groups. The appropriateness of the decision of each farming group, regarding the selection of irrigation methods, was determined. In 74% of cases, experts confirmed the farmer's decision in the selection of irrigation methods, but questioned the appropriateness of the decision for 26% of the farmers. Recommendations are made for future use of

decision tools to improve extension programmes and farmers' decision-making process

Descriptors: basin-irrigation. border-irrigation. decision-making. extension. innovation-adoption. irrigation. methodology. sprinkler-irrigation