



Congress and Publications

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Publications

Transversal views on work in agriculture

Agriculture employs 1.3 billion people throughout the world. Changes to working conditions in agriculture are investigated by several disciplines that explore different themes. These themes are summarized here through two areas: one that focuses on the worker (employment, health and skills) and the other on work as a component of farming systems. The analytical frameworks and core research issues are described. This paper is designed to be a general introduction to the special issue of Cahiers Agricultures, entitled "Multifacet realities of work in agriculture".

Links : https://www.cahiersagricultures.fr/articles/cagri/full_html/2019/01/cagri190045/cagri190045.html

The Features of Rural Labor Transfer and Cultural Differences: Evidence from China's Southwest Mountainous Areas

Large-scale rural labor transfer is considered an important means of promoting urbanization and poverty alleviation; however, it has been difficult to fully reveal the complexity of mountain labor transfer using traditional theory. In this study, macrostatistics and microsurvey data were employed to conduct an empirical analysis of rural labor transfer in Xichang, highlighting the regional features of rural labor transfer in the southwest mountainous areas of China. The results show that the employment structure of rural labor is dominated by agriculture; however, its proportion is decreasing annually. The development of secondary and tertiary industries significantly contributes to the non-agricultural employment of rural laborers, who transfer mainly to the building, industry, and consumption fields—especially consumption, which has the greatest ability to absorb surplus rural labor. Migration of the population and farmers' per capita net income promotes rural labor transfer, while the amount of rural labor, the urbanization rate in townships, agricultural development, and the topography have lagged effects on the process. This study argues that rural labor transfer in the mountains has regionality, multi-pattern, and gradient features; therefore, the promotion of rural labor transfer should consider local urbanization and poverty alleviation in such a manner that aligns with the local natural and socioeconomic conditions of the mountainous areas.

Links : <https://www.mdpi.com/2071-1050/11/6/1522>

Tags : Rural Employment

The Effect of Health on Labour Supply of Rural Elderly People in China—An Empirical Analysis Using CHARLS Data

In China, due to decades of the 'one-child policy' and continuous rural-urban labour migration, real population aging in rural areas is increasing more quickly than in urban areas, and the labour inputs in agricultural production are becoming ever more dependent on the elderly. Using CHARLS data, we examine the effect of health on the labour supply of rural elderly people. We construct a latent health stock index (LHSI) to eliminate measurement bias and then use this one-period lagged LHSI and the Heckman two-stage and the Bourguignon-Fournier-Gurand two-stage method to deal with the simultaneous causality of health and labour decisions and sample selectivity in model estimation. The results show that, in the overall level, the labour force participation and work time of rural elderly people increase significantly with the improvement of health. These effects on the males are sharply greater than on the females and are enhanced with age. In the subdivided agricultural and non-agricultural labour supply, health improvement is positively related with labour force participation of rural elderly and brings an employment allocation from agricultural section to non-agricultural section, especially on the males. However, as the work time, these relations are insignificant and invariant with gender and age.

Links : <https://www.mdpi.com/1660-4601/16/7/1195>

Tags : Gender, Family work, Health and decent work

Farmers' Work-Life Quality and Entrepreneurship Will in China

New-generation farmers have become a vital force for entrepreneurship in their hometowns. To better promote farmers to start businesses, it's important to know about their quality of work life. Based on a survey of the quality of work life and entrepreneurship will of farmers from three cities and eight counties in Shandong province of China, this paper analyzed the effects of farmers' quality of work life on their entrepreneurship will in their hometowns using a Logistic regression model. Our findings show that farmers have a relatively low cognition level of their quality of work life, and their interpersonal relationship, work characteristics, material security, and family demands have significant effects on their entrepreneurship will. According to the findings, this paper proposed some suggestions for promoting farmers' entrepreneurship will in their hometowns from the perspectives of organizational management, extrinsic entrepreneurship stimulus, and internal demand.

Links : <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00787/full>

Tags : Health and decent work, Entrepreneur

Is labour a major determinant of yield gaps in sub-Saharan Africa? A study of cereal-based production systems in Southern Ethiopia

We investigated the role of labour in explaining the yield gap of cereals at both crop and farm levels on smallholder farms in Southern Ethiopia. A household survey containing detailed information of labour use at crop and farm level of ca. 100 farms in a maize-based system around Hawassa and ca. 100 farms in a wheat-based system around Asella was used for this purpose. Stochastic frontier analysis was combined with the principles of production ecology to decompose maize and wheat yield gaps. Actual maize and wheat yields were on average 1.6 and 2.6 t ha⁻¹, respectively, which correspond to 23 and 26% of the water-limited yield (Y_w) of each crop. For both crops, nearly half of the yield gap was attributed to the technology yield gap, indicating sub-optimal crop management to achieve Y_w even for the farmers with the highest yields. The efficiency yield gap was ca. 20% of Y_w for both crops; it was negatively associated with sowing date and with the proportion of women's labour used for sowing in the case of maize but with

the proportion of hired labour used for sowing and weed control in the case of wheat. The resource yield gap was less than 10% of Yw for both crops due to small differences in input use between highest- and lowest-yielding farms. The contribution of capital and farm power availability to crop yields, input use and labour use was analysed at the farm level. Labour calendars showed that crops cultivated in Hawassa were complementary, with peak labour occurring at different times of the year. By contrast, crops cultivated in Asella competed strongly for labour during sowing, hand-weeding and harvesting months, resulting in potential trade-offs at farm level. Oxen ownership was associated with capital availability, but not farm power in Hawassa and with both capital availability and farm power in Asella. Farmers with more oxen applied more nitrogen (N) to maize in Hawassa and cultivated more land in Asella, which is indicative of an intensification pathway in the former and an extensification pathway in the latter. Differences in land:labour ratio and in the types of crops cultivated explained the different strategies used in the two sites. In both sites, although gross margin per unit area increased linearly with increasing crop yield and farm N productivity, gross margin per labour unit increased up to an optimal level of crop yield and farm N productivity after which no further response was observed. This suggests that narrowing the yield gap may not be economically rational in terms of labour productivity. We conclude that labour (and farm power) is not a major determinant of maize yield gaps in Hawassa, but is a major determinant of wheat yield gaps in Asella.

Links : https://www.sciencedirect.com/science/article/pii/S0308521X18306711?dgcid=raven_sd_via_email

Tags : Work productivity

Manganese exposure and working memory-related brain activity in smallholder farmworkers in Costa Rica: Results from a pilot study

Main sources of manganese (Mn) in the general population are diet and drinking water. Mn is also found in ethylene bisdithiocarbamate (EBDC) fungicides used in agriculture or emitted into the air by ferromanganese plants and welding fumes, which can be additional environmental and occupational sources of exposure. High occupational Mn exposure has been linked with motor, behavioral, and cognitive impairment, but its effects on neural function remain poorly understood. We conducted a functional neuroimaging study in a sample of 48 farmworkers in Zarcero County, Costa Rica, an agricultural region where EBDC fungicides are sprayed. We measured Mn concentrations in farmworkers' toenails (n=40 farmworkers) and hair (n=33 farmworkers), and recorded brain activity in the dorsolateral prefrontal cortex during a letter-retrieval working memory task using functional near-infrared spectroscopy (fNIRS). We estimated exposure-outcome associations using multivariable linear regression models adjusted for age and education level. Geometric mean (geometric standard deviation) toenail and hair Mn concentrations were 0.40 µg/g (3.52) and 0.24 µg/g (3.54), respectively. We did not find strong evidence that Mn concentrations were associated with working memory-related brain activity in this sample of farmworkers; we also found null associations between working memory task accuracy and brain activity. However, our small sample size may have limited our ability to detect small effect sizes with statistical precision. Our study demonstrates that fNIRS can be a useful and feasible tool in environmental epidemiology for examining the effects of toxicants, like Mn, on neural function. This may prove to be important for elucidating neuropathological pathways that underlie previously reported associations of elevated Mn exposure with neurotoxic effects.

Links : <https://www.sciencedirect.com/science/article/pii/S0013935119302117?via%3Dihub>

Tags : Health and decent work

What is happening to middle skill workers?

This report asks what is happening to middle-skill workers. Driven by mega trends such as automation, ageing and offshoring, the share of jobs whose wages placed them firmly in the middle of the wage distribution has been declining. Termed job polarisation, economists have observed the decline in the share of middle-skill jobs in the majority of OECD labour markets. One little explored question is where are these workers going? This report examines what workers are doing who in the past would have been employed in middle-skill jobs. The report first examines the traits of previous middle-skill workers to build a picture of the “typical” middle-skill worker. Using this profile, the report next examines what types of jobs a worker with the typical middle-skill profile is taking, and how likely such a worker is to be working. The study then analyses different metrics of job stability and compensation to put in perspective what shifts out of middle-skill work imply for labour market outcomes.

Personal comments : Non-agricultural sector

Links : https://www.oecd-ilibrary.org/social-issues-migration-health/what-is-happening-to-middle-skill-workers_a934f8fa-en

Constraints and opportunities in gender relations: Sugarcane outgrower schemes in Malawi

Contract farming (CF) is always and inherently a gendered process. This paper unveils the gender dynamics in resource access, use and labour control to show how outgrower CF induces changes, often contradictory engendering processes of production relations. It asks: How does CF influence gender relations in access to land, household labour relations and employment conditions (participation)? Relying on a detailed case study research of a sugarcane CF scheme in Malawi, we show that CF has a complex gendered impact on household's production relations. CF leads to a masculinization of farm management and ownership together with a feminization of labour. Nevertheless, women translate such labour provision into active participation in decision-making over the use of the cash returns from the CF for better outcome in the household. At the individual level, some can benefit from it; especially women who manage to engage in cane farming are able to attain financial independence and increase their bargaining power within their households. However, such benefits are reserved for households with access to land. Nevertheless, women engagement in cane farming coupled with increased gender awareness through NGOs sensitization is contributing to a change in gendered social perceptions and increased valuation of women abilities in commercial farming, their needs and contributions and may be modifying the gender balance at the community level. We demonstrate that empowering women by making them cane farmers alone is not enough to change women position within their communities, unless community members accompany such empowerment with the recognition and acknowledgement of the women's contribution. The finding suggests that combining active women participation in outgrower CF with authority enhancing programs through community education whilst creating the possibilities for women to take independent action may be a good way to improve the gender relations between men and women.

Links : <https://www.sciencedirect.com/science/article/pii/S0305750X19301512>

Tags : Gender, Family work, Entrepreneur

Yield and labor relations of sustainable intensification options for smallholder farmers in sub-Saharan Africa. A meta-analysis

Sustainable intensification of agricultural production is needed to ensure increased productivity relative to inputs. Short-term yield returns and labor input are major determinants of the fate of sustainable intensification options on smallholder farms in sub-Saharan Africa because labor shortage is often acute, and most farmers lack access to labor-saving technologies. We assessed the relationship between maize grain yield change and labor input from a total of 28 published papers (631 data pairs) including subsets of data pairs within specific sustainable intensification practices. Among the reviewed technologies, manually dug planting basins showed ratios between the change in yield and change in labor inputs ($\Delta Y/\Delta L$) below 1, suggesting that labor demand increased more than yield. In contrast, ridging showed average $\Delta Y/\Delta L$ values ≥ 2 . No-till showed high $\Delta Y/\Delta L$ (average ≥ 1.7) when combined with herbicides but average $\Delta Y/\Delta L \leq 1$ (total labor) when manually weeded. Manually weeded rotations showed average $\Delta Y/\Delta L \geq 1$ and manually weeded intercropping systems average $\Delta Y/\Delta L$ around 1. The relations revealed four scenarios: high yield returns but low labor demand, high yield returns and labor demand, low yield returns and labor demand, and low yield returns but high labor demand. High yield with high labor demand requires mostly investments in machinery and/or herbicides to reduce labor input. Low yield with low labor demand requires improved crop management, whereas low yield with high labor demand requires a combination of improved crop management and investments to reduce labor. This is the first comprehensive assessment showing that the sustainable intensification options being considered for smallholder farmers may increase crop yield but also labor demand. Options that include mechanization and herbicides at low cost are likely to be adopted due to their reduction effect on drudgery and total labor input.

Links : <https://link.springer.com/article/10.1007/s13593-019-0575-1>

Tags : Work productivity

Can Wages Rise Quickly Enough to Keep Workers in the Fields?

Agricultural producers across the United States are raising concerns about the reduced availability of hired farm workers. The agricultural workforce is aging, wages are rising, and producers are finding it more difficult to find sufficient workers during peak season. Recent work by Charlton and Taylor (2016) shows that people in rural Mexico, the primary source of labor to U.S. farms, are transitioning out of farm work. What does this imply for U.S. agriculture? In this article, we use household survey data from rural Mexico to measure the trend in the probability of working in U.S. agriculture and to calculate the percentage rise in real U.S. farm wages that would be necessary to retain a constant farm workforce by attracting more Mexican workers. We find that real U.S. farm wages would have to rise by more than 10% over 10 years to keep the farm labor supply constant. U.S. agricultural research and development in labor-saving practices and mechanization will have to rise to keep U.S. agricultural production competitive at a global scale and reduce dependence on an elastic foreign labor supply.

Links : <http://www.aaea.org/publications/publications-update/can-wages-rise-quickly-enough-to-keep-workers-in-the-fields>

Tags : Rural Employment, Hired work, Migration

Agricultural Youth Injuries: A Review of 2015-2017 Cases from U.S. News Media Reports

Background: The hazardous nature of the agricultural environment, reflected in the numerous injuries and deaths to children who live, work and play on farms, coupled with the lack of a comprehensive national surveillance system in the United States, highlights the need for making the best use of publicly available youth agricultural injury data.

Objective: The purpose of this study was to describe a 3-year collection of youth agricultural injuries using the publicly available injury and fatality data from AgInjuryNews.org and present recommendations for future injury prevention strategies.

Methods: Data were obtained from AgInjuryNews.org, a web-based collection of U.S. news reports of agricultural injuries. We analyzed cases from 2015 to 2017 for youth aged 0-17. We classified injuries as occupational and non-occupational related, based on the Farm and Agricultural Injury Classification (FAIC) code. Each case was also coded for source and event using the Occupational Injury and Illness Classification System (OIICS).

Results: Of the 348 injury reports reviewed, 51% were fatal, and about one-third of the victims were 6 years old or younger. Most injuries were non-occupational, and the most frequent injury sources were vehicles (includes tractors and all-terrain vehicles) and machinery. Youth operators, extra riders, roadway operations, and unsupervised youth playing near or in a worksite were four key contributing factors associated with vehicle and machinery related injuries.

Conclusions: This study reaffirms that youth agricultural-related injuries and fatalities are still a persistent problem in the United States. The hypothesis generating AgInjuryNews system can provide more current data than traditional surveillance datasets as a tool for understanding the sources of youth agricultural injuries, monitoring injury trends, and informing policy efforts and prevention strategies. Future studies should continue to explore and evaluate the comprehensiveness of this system's data and the impact of its dissemination, as well as similar rural health informatics solutions for integration into sustainable interventions that can be customized and delivered domestically and abroad.

Links : <https://www.tandfonline.com/doi/full/10.1080/1059924X.2019.1605955?af=R>

Tags : Child labour, Health and decent work

Classifying Livelihood Strategies Adopting the Activity Choice Approach in Rural China

The classification of livelihood strategies is important for designing effective and targeted poverty-reducing strategies. This paper classified livelihood strategies adopting the activity choice approach and compared differences among income levels, asset endowments, poverty rates, and poverty causes of different household clusters to provide bases for the identification of targeted poverty-reducing strategies. By making the two-step cluster analysis, 2042 households were divided into four clusters. Agricultural households get a relatively low income because of the reliance on agricultural production and the lack of required assets to enter more remunerative livelihood strategies. Self-employment is the most remunerative livelihood strategy and high physical and financial capital accumulations are the premise of adopting a self-employed strategy. Featured with a medium-level income and asset endowments, wage-employed households benefit from a more-educated labor force and shoulder a heavy burden caused by children's education at the same time. Besides, rural households face a series of social issues from labor migration, especially self-employed and wage-employed households. Non-labor households have a low-level income and asset endowments with older family members and an unhealthier labor force caused mainly by the aging population and accompanying diseases and disabilities. The transfer income-oriented non-labor households are the main object of poverty alleviation.

Links : <https://www.mdpi.com/2071-1050/11/11/3019>

Tags : Family work

Innovations for a Shrinking Agricultural Workforce

In this article, we examine a producer's decision to adopt a labor-saving technology with potentially high up-front adoption costs and document the expected labor savings associated with several innovations, many of which are not yet in commercial use. Most successful innovations are feasible only with advancements in cultivars, mechanical engineering, and information and technology (IT), highlighting the need for interdisciplinary coordination. Adopting labor-saving technologies can require changing plant varieties, orchard and vineyard layouts, cultivation practices, and machinery, entailing significant start-up costs. New on-farm investments can be high in terms of both financial outlays and learning, but they are increasingly profitable in the face of rising wages and labor shortages. As agricultural technologies become more IT-intensive, investments in infrastructure (e.g., bringing the Internet to the field) and education (preparing the farm workforce of the future) and research and development (R&D) will require a greater role for state and local governments and public-private partnerships to solve the farm labor problem..

Links : <http://www.aaea.org/publications/publications-update/innovations-for-a-shrinking-agricultural-workforce>

Tags : Hired work, Skills and training, Innovation

Saisonniers agricoles: Les zones grises des relations de travail et d'emploi

Les saisonniers agricoles sont souvent associés à deux images sociales distinctes. La première est celle d'individus exploités et dont les conditions d'existence sont largement dépendantes de leur employeur. Si cette image se rapporte aux travailleurs saisonniers dans leur globalité, l'activité agricole y joue un rôle spécifique, car elle est associée à des conditions de travail pénibles et à des travailleurs démunis (souvent immigrés, parfois illétrés, sans logement ou sans papiers d'identité) (→ Travailleurs Sans-papiers). Elle peut être accompagnée d'une posture dénonciatrice - comme dans un article du Courrier international, intitulé « En finir avec l'exploitation des saisonniers agricoles » (Petrini, 2012). Cette image se rapporte à une des trois acceptions du terme de « précarité », dégagées par Patrick Cingolani (2006) (è Précarité) : celle qui est synonyme d'appauvrissement et peut déboucher sur la pauvreté.

Links : <https://www.teseopress.com/dictionnaire/chapter/200/>

Tags : Rural Employment, Hired work