



IFAD '22 Conference

Jobs, innovation and rural value chains in the context of climate transition: Bridging the gap between research and policy

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Plenary session

- Partnership for Development: Strengthening the Research and Policy Dialogues

Panelists discussed the importance of bridging the gap between research and policy, stressing the necessity of making data available to everyone. Firstly, we listened to the government perspective which highlighted the increasing role that middle-income countries play in bringing additional value inside institutions. IFAD is on the frontier in this case as it invests in research. Secondly, we heard from AERC's perspective which highlighted that not only are governments and the private sector in African countries adopting policies and financing strategies but research institutions are equally improving the capacity to produce and disseminate high-quality economic policy. Thirdly, the Member State perspective emphasized how research and policy move at different speeds, with different objectives and perspectives. Moreover, a lot of knowledge is produced at the local level by collecting information on the ground. Lastly, there was a discussion that science and research are fundamental for agriculture to enhance its productivity. In addition, panelists emphasized that food insecurity is now a pressing topic and we must take on innovative approaches like reducing waste and increasing production. (Azamahou, Bugamelli, Diamanti, Giungi, and Rosati) (#Research #Policy #DataAvailability)

Organized sessions

- **FAO Organized Session I: Resilience Measurement; New Frontiers and New Evidence**

“With the scope to set the scene for the measurement of Agrifood System Resilience vis-à-vis the latest developments and field-based evidence at the micro-level, this session provides an experimental and country-level foundation for the measurement of agri-food system resilience. It also presents early results of evidence from Nigeria and Malawi, combined with field-based evidence on household resilience-enhancing intervention in crisis contexts” (D’Errico, Torero, Cattaneo, Conostas, Stojetz, Azzari, Hoddinott, Ulimwengu and Romano) (#AgrifoodSystems #Resilience #Conflict&ClimateShocks).

Agrifood Systems’ Capacity To Absorb Shocks: The Case For Ensuring Economic Access To Food

“Country level analysis helps focus whether interventions are needed more on the risk management side or are more structural aspects linked to the development, while working towards building more resilient agrifood systems.” (Cattaneo, Sadiddin, Sanchez, Torero and Vaz) (#AgrifoodSystems #HealthyDiets #Resilience)

Global Analysis of Food System Resilience Reveals Key Correlates and Persistent Regional Disparities

“The need for a more comprehensive and well-integrated approach to developing strategies capable of addressing food insecurity in shock prone contexts powered the development an Agrifood System Index for Resilience (ASIR), whose main goal is to understand the level of food system by region and country and the structure of the food system resilience” (Conostas, D’Errico, Hoddinott, and Pietrelli) (#ASIR #FoodInsecurity #FoodSystem).

Building Resilience in Conflict Areas: Evidence from Field Experiment in Borno State, Nigeria

“How can we build resilience in places where people need it the most? While food insecurity is increasingly concentrated in conflict settings, new assistance programmes at the humanitarian-development-peacebuilding triple nexus hold promise for effective support.” (Bruck, D’Errico, Pinay, and Stojetz) (#Conflict #Peacebuilding #Development).

Agricultural Technology Innovations and Resilience to Weather Shocks: Experimental Evidence from Malawi

“Does sustainable intensification improve resilience to drought? Experimental evidence from Malawi allows to to examine the role of sustainable intensification (SI) in mitigating the impact of drought and analyze how on-farm and off-farm diversity mediates the welfare effects of drought.” (Azzari, Haile, and D’Errico) (#Malawi #SI #Drought)

Modelling Cost-Effectiveness of Resilience Building in Development: Estimating the Effects of Resilience Investments on Food Security Outcomes

“While progress on resilience measurement has been made, cost-oriented analyses are not a common feature of resilience work. Given limited resources, there is a need to apply cost-effectiveness perspective to resilience analysis for food security outcomes.” (Ulimwengu, D’Errico, and Conostas) (#CostEffectiveness #Resilience Analysis)

- 50X2030 Organized Session: The 50x2030 Initiative to Close the Agricultural Data Gap

“THE 50x2030 INITIATIVE TO CLOSE THE AGRICULTURAL DATA GAP is a multi-partner program that seeks to bridge the global agricultural data gap by transforming country data systems and promoting data use in 50 low- and lower-middle-income countries by 2030. Thanks to this initiative countries will be able to improve their official statistics on agriculture and policy makers will be able to make evidence-based decisions that support rural development and food security. Better data better use better policies.” (Molini, Duhamel, Savastano, Mendy, Paci, and Drinan) (#50x2030 #ImproveDataEcosystem #EvidenceBasedDecisions)

- RIA Organized Session I: Measuring Resilience

Measuring Resilience

“In the context of rural development, building climate resilience requires transforming and strengthening livelihood and food systems to withstand climate-related shocks. IFAD is at the forefront of climate adaptation and innovation to build more resilient and sustainable food systems. Furthermore, the authors use innovative frameworks to measure and evaluate resilience, defined as the ability of people to absorb shocks that often cause poverty traps.” (Puri, Savastano, Barrett, and Von Braun) (#IFAD #BuildingResilience #EndingPoverty)

Achieving Sustained Economic Growth in Africa The Role of Agriculture

“Analysis of national accounts data for the period 1990-2019 in 33 African low- and lower/middle-income countries shows the importance of macroeconomic resilience – avoiding growth reversals -- to Africa’s recent period of sustained economic growth. The agricultural sector played an important role in these outcomes as agricultural output and TFP growth were highly correlated overall growth, and agricultural growth volatility declined.” (Fox, Jayne, and Moskaleva) (#Africa #Agriculture #Resilience)

- RIA Organized Session II: Methods & Tools

This session explores several methodological approaches that have been tested in IFAD 11 Impact Assessments, highlighting the utility and innovations used in the areas of artificial intelligence, GIS and data collection through mobile phone surveys. The session also addresses some of the constraints associated with the respective methodologies, giving guidance on the scope and relevance of the methodological advances. From the use of telephone surveys for data collection under COVID-19 to the use of GIS and artificial intelligence, testing has been conducted as part of IFAD 11 Impact Assessments, furthering our understanding on opportunities to improve impact assessment methodologies

Addressing Selection Bias While Estimating Aggregate Development Effectiveness: Can we Obtain Externally Valid Estimates at Portfolio Level?

“As a result of increasing demand from donors for their “impact for money”, the need for aggregate development effectiveness has become prominent. Attributable aggregate development effectiveness is a measure institution-level results and a necessary component of any institution’s impact evaluation agenda to ensure accountability and identify performance gaps. A novel methodology leveraging these components is presented to adjust

for the presence of bias while estimating aggregate development effectiveness. The method employs knowledge about the universe to which projects evaluated belong and encompasses meta-analysis and projection methods that ensure external validity.” (Garbero, Stanghellini) (#ImpactEvaluation #ExternalValidity #AggregateDevelopment)

Do IFAD Projects Help Smallholders Transition to Better Livelihood Strategies?

“The project was successful in helping subsistence-oriented farmers transition to both market- and labour-oriented typologies over 2014-2020, but not on the livelihood transitions of other types of smallholders. Overall, the results suggest that IFAD projects should embrace sufficiently long time frames to help households transition to better livelihood strategies.” (Hzell, Savastano, Timu, and Massotti) (#Malawi #Subsistence #Livelihood)

Integrating Climatic Variables into Project Impact Assessments

“IFAD routinely undertakes impact assessments of its projects, many of which aim to build resilience to climate change. These assessments can generate evidence on the impacts of weather shocks, and the extent to which project activities build resilience to weather shocks. We consider the conceptual and methodological issues that guide integration of climatic variables into these assessments, and summarize the results of recent impact assessments, which covered a wide range of different farming systems as well as types of weather shocks that occurred” (McCarthy, Cavatassi) (#IFAD #WeatherShocks #ImpactAssessment)

Using GIS to uncover spillover impacts of IFAD projects: A New Methodological Application

“As part of the rigorous impact assessments, IFAD is increasingly incorporating geospatial variables to precisely measure and control for their effects on key development outcomes. Georeferencing household samples of the IA surveys is essential to uncover these indirect impacts on outcomes that were previously not studied. The use of GIS to estimate conflict outcomes in villages of IFAD’s rural development projects is discussed. The methodological issues and limitations associated with GIS in determining correlations and causal effects on conflicts are also highlighted” (Sciabolazza, Patacchini, Savastano, and Mabiso) (#GIS #Conflict #IFAD)

- University of Queensland Organized Session: Delivering Sustainable Smallholder Intensification and Climate-Smart Food Systems

Delivering Sustainable Smallholder Intensification and Climate-Smart Food Systems

“Smallholders are the backbone of the agriculture sector and in the frontline to adaptation to climate change, contributing to sustainable transformation and mitigation.” (Prato) (#Smallholders #ClimateSmart #Sustainability)

Key Policy and Market Drivers of Smallholder-Appropriate Sustainable Intensification in Eastern and Southern Africa Paswell Marenya (CGIAR-CIMMYT)

“Given the great challenges faced by Eastern and Southern Africa, there is a need for sustainable agricultural intensification. Thus, it is important to invest in scaling and regionalising Conservation Agricultural Sustainable Intensification (CASI), a principle of implementation followed by SIMLESA, which works towards encouraging the development on a pure rural scale.” (Marenya) (#Africa #Agriculture #CASI)

Regional Investment Models to Enable Smallholder Intensification and Enhanced Climate Resilience

“The Sustainable Development Investment Portfolio (SDIP) supported by the Australian DFAT focuses on sustainable and resilient farming systems and its scaling, while learning from the same process. This method improves the knowledge base, promoting a more nuanced understanding of women’s role in agriculture and the impacts of system change.” (Jackson) (#SDIP #Knowledge #WomeninAgriculture)

SIMLESA’s Transformative Approach to Sustainable Intensification

“COVID-19 has negatively influenced food security standards around the globe, furthering an existing downwards trend of the past few years. Increasing productivity in low-middle income countries will be crucial in the near future. A system perspective to operate an effective agricultural transformation is required. In this sense the SIMLESA program respond to this necessity, with multiple objectives (i.e., socio-economic, conservation ag, seed systems and innovation systems and capacity building).” (Rodriguez) (#COVID19 #FoodSecurity #SSA)

Sustainable Intensification for Resilience and Livelihoods of Smallholder Farmers: Technological and Institutional Innovations

“There is a presence of unparalleled challenges in global south like natural resources stress and vulnerability to climate changes as well as higher climatic variability and smallholder dominance (75%). Food systems need systematic transformation departing from quality science – strategic and complementing partnerships, greater investments, production to consumption continuum, science of scaling, etc.” (Jat) (#ClimateChange #NaturalResources #Smallholder)

- World Bank COVID-19 Organized Session I: Socioeconomic Impacts of the COVID-19 Pandemic

The Impact of COVID-19 on Global Inequality and Poverty

“Through High Frequency Phone Surveys (HFPS) conducted in 34 countries spread across five geographical regions, the study found that extreme poverty increased in 2020 for all countries. The immediate impacts of the pandemic on income inequality within countries are likely to be small. However, they are likely to be compounded by factors that pose longer-term risks to inequality and social mobility, widening pre-existing inequalities of opportunity.” (Mahler, Yonzan, Lakner) (#COVID19 #Inequality #Poverty #HFPS)

Food Insecurity During the First Year of the COVID-19 Pandemic in Four African Countries

“A study conducted in Burkina Faso, Ethiopia, Malawi, and Nigeria on the impact of COVID-19 on food security recorded that there was a spike in food insecurity followed by a gradual decline but never returned to pre-COVID-19 levels. Only in Nigeria the study found more food insecurity among female-headed households.” (Michler, Josephson, and Bloem) (#FoodInsecurity #COVID19 #SSA)

Hoping or Coping? Livelihood Diversification and Household Resilience to the Covid-19 Pandemic

“The study assessed the impact of income diversification among households as a coping strategy to the COVID-19 pandemic on food security and children’s educational engagement.

The study was conducted in Burkina Faso, Ethiopia, Malawi, and Nigeria using the LSMS data. No real evidence was established between income diversification and food security, except for in the case of Malawi.” (Furbush, Josephson, and Michler) (#IncomeDiversity #COVID19 #SSA #foodsecurity)

COVID-19 and Children’s School Resilience: Evidence from Nigeria

“This paper aims at analyzing the effect of Covid-19 on school dropouts and gender inequality in Nigeria. Results show that COVID-19 lockdown measures reduced the probability of a child returning to school after reopening and the school dropouts increased with age. Moreover, school dropouts remain continuous for adolescents and for women than for men.” (Dessy, Gninafon, Tiberti and Tiberti) (#SchoolDropout #COVID19 #Education #gender)

Never too Young to Dream Big: Measuring Youth Aspirations in the Time of COVID-19 Crisis

“This paper measures the youth aspiration changes in the time of the COVID-19 pandemic with aims to understand labor mobility for youth. This study was conducted in the SSA countries where 20% of the population is youth. It was found that females show lower aspirations than their male peers and this gap may reflect a scarcity of resources or patriarchy.” (Costa, Contreras-Gonzalez, and Palacios-Lopez) (#Gender #Inequality #COVID19 #youth #labor).

- World Bank Organized Session II: Better Data, Better Measures, Better Policy

How Well Do Internet-Based Surveys Track Labor Market Indicators in Middle Income Countries?

“The research analyzes the usage of Internet surveys in developing countries. It is clear the multiple advantages that they could provide (i.e. cost-effectiveness, anonymous character). However, it is verified that the surveys are biased for gender, education, employment and age. The reweighting of the results continues to provide a substantial deviation from national and organization datasets”. (Soundararajana, Soubeiga, Newhouse, Palacios-Lopez, Pape, and Weber) (#Surveys #Covid19 #DataAnalysis)

Integration and Calibration of Online Surveys for Representative Insights in Low Income Contexts: Evidence from Sub-Saharan Africa

“In this paper the reweighting techniques to verify the reliability of online surveys have been reviewed for SSA. Different methods have been reviewed such as cell weighting, raking, Hot deck, K-nearest neighbors, quasi randomization. Overall, applied methods were inefficient in eliminating the bias. Hence, online surveys provide a partial representation of the population”. (Coelho, Kilic, Wollburg, and Carletto) (#OnlineSurveys #Covid19 #StatisticAnalysis)

Phone Surveys for Agricultural Data Collection in a (Post-)COVID-19 World: Challenges and Opportunities

“COVID-19 increased the demand for agriculture data while haltering the in-person data collection leading to an increased use of phone surveys. However, agricultural population would not be enough represented in such surveys. Main measurement issues: duration and

complexity. All in all, rigorous methodological research is needed to draft more reliable surveys.” (Wouldu Assefa, Gourlay, McGee, Zezza) (#PhoneSurveys #Research #Covid19)

Survival Modeling of Panel Attrition: A Proposal with Application to Ethiopia’s HFPS Data

“Using Ethiopia High Frequency Phone Survey, the study aimed at predicting the attrition hazards for ongoing panels in order to improve surveys designed to evaluate the impacts of policy interventions on beneficiaries. Based on predictors derived from the baseline survey, the model could identify “at-risk” respondents in view of the midline and end line surveys”. (#Ethiopia #Survey #Model) (Guardabascio, and Zardetto)

World Bank Organized Session III: Better Jobs Through Smallholder Rice Value Chain Development – Insights from a Pilot in Côte d’Ivoire

“This research tested an integrated approach to better job creation from 2019 to 2021. The integrated approach aimed at developing the rice value chain in three regions in Côte d’Ivoire supporting rice growing smallholders. Channels favoring participation need further investigation, but limits have been found in low access to credit and land and poor information. Reimbursements are characterized by a trade-off between inclusiveness and sustainability and the main constraints concern profitability, commitment, and transaction costs. Moreover, positive results have been found in terms of harvested rice”. Overall, the WB intervention proved to be successful in VCD for rice for smallholders. (Christiaensen, Mink, Vandecastelen, Aihounon, and Barzola) (#CotedIvoire #Rice #ValueChainDevelopment)

- IAERE Organized Session: Peace, Innovation and Employment in Developing Countries in an Age of Climate Transition(s)

Peace, Innovation and Employment in Developing Countries in an Age of Climate Transition(s)

“This session is organized by the Italian Association of Environmental and Resource Economists (IAERE) and puts together highly debated topics from environmental economics, with a focus on the complexities of the sustainability transition in the developing world. The different aspects covered are expected to feed into current and future climate and environmental policies in developing countries.” (D’Amato) (#EnvironmentalEconomics #SustainableDevelopment #IAERE)

Forecasting the Climate-Conflict Nexus in Africa under SSPs Scenarios

“We propose a forecasting analysis to compute projections of armed conflicts in Africa, and reveal the exponential effects on conflict magnitude played by geographical diffusion processes when climate mitigation ambitions are low and the development pattern is based on unequal economic growth processes.” (Costantini, Conigliani, Paglialunga, and Tancredi) (#Conflict #ClimateChange #Forecasting)

Value Chain Innovation for Climate Transition: Renewable Energy Options in India and Zambia

“Agriculture value chains in rural settings play a key role in achieving climate transition. A key element of the transition will be ensuring and enabling access to sustainable and stable forms of energy, specifically renewable energy. Evidence from India and Zambia outlines the steps required to develop a biomass supply chain and the possible technology solutions that can be used to generate renewable energy from the biomass assessed to be available. The

approach is also useful in identifying potential hotspots and bottlenecks and thus providing insights for farmers and policymakers into making informed, sustainable decisions” (Kojakovic, Maltsoglou, Puri, and Rincon) (#Bioenergy #RenewableEnergy #SustainableEnergy)

Skills for Environmental Innovation: Implications for Developed and Developing Countries

“The study aims at identifying, on the basis of US data, the set of skills for the development and the adoption of environmental innovations in developed and developing countries. Moreover, the study also proposes a simple but effective protocol to measure the endowment of the skills in specific labour markets based on ‘standard’ (i.e. labour force survey) data.” (Marin) (#GreenSkills #Sustainability #Innovation)

The “Good Farmer” Concept and the Diffusion of Innovations for Sustainable Development in Rural Africa

“Cultural identities and social norms are fundamental for the innovations adoption in rural Africa. The Good Farmer” concept has been analyzed through the use of text analysis on a survey made in Mozambique linked to adoption of innovation finding that this idea can be useful for “bottom-up” transitional process.” (Crudeli, Mancinelli, Mazzanti, and Pronti) (#GoodFarmer #Symbolism #Mozambique)

Paper presentations

- Methods & Tools I

Conservation Agriculture and Welfare: Experimental Evidence from Ethiopia Salvatore

“A multi-year field experiment undertaken in Ethiopia, covering 1000 individuals, was conducted to assess the impact of the use of Conservation Agriculture (CA) on crop production. CA delivers important economic gain in the medium run only and peers are the best sources to learn about sustainability benefits.” (Di Falco) (#ConservationAgriculture #FieldExperiment #Ethiopia)

Mapping the Evidence in the Agriculture Sector: What do we Know and Where Are the Gaps?

“There has been an encouraging growth in the evidence base for agricultural interventions in the past two decades. However, further efforts are required to create an evidence base that provides insights that are context-specific and geared towards vulnerable populations.” (Engelbert) (#Agriculture #EvidenceBasedInterventions #VulnerablePopulation)

Privacy Protection, Measurement Error, and the Integration of Remote Sensing and Socioeconomic Survey Data

“We explore how spatial anonymization methods to preserve privacy in the World Bank’s LSMS-ISA introduce measurement error when integrated with remote sensing weather data. Anonymization techniques have limited impact, but size of impact depends on which remote sensing weather product is used in the analysis.” (Michler, Josephson, Kilic, and Murray) (#RemoteSensing #MeasurementError #Weather)

Nonclassical Measurement Error and Farmers’ Response to Information Reveal Behavioral Anomalies

“A randomized experiment conducted among Malawian agricultural households is

implemented to assess non-classical measurement error in self-reported plot area and farmers' responses to new information. Farmers incompletely update mistaken self-reports and they update asymmetrically in response to information. The magnitude of updating varies by true plot area and the magnitude and direction of initial nonclassical measurement error.” (Abay, Barrett, Kilic, Moylan, Ilukor, and Drazi Vundru) (#RandomizedExperiment #MeasurementError #SelfReport)

- **Methods & Tools II**

Making Markets: Experiments in Agricultural Input Market Formation

“Making markets is central to agricultural development. We experiment with different contracting approaches which form Malian agricultural input markets that were otherwise missing. Farmers and aginput dealers both benefit when we design market transactions considering demand and supply side constraints.” (Tomaselli, Dillon) (#AgriculturalInputs #MakingMarkets #Mali)

The Economics of Pre-harvest vs. Harvest and Post-Harvest Food Waste in a Value Chain

“This paper analyzes pre-harvest vs. harvest loss at the farm level. The food loss abatement cost function includes the rate of unavoidable food loss and considers economies of scale in reducing food loss. This model can analyze the implications of a broad class of policies, with unavoidable food loss presenting a direct link between food loss reduction and technological innovations.” (De Gorter, Drabik) (#FoodWaste #FoodValueChain #FoodLoss)

You Reap What (you Think) You Sow? Evidence on Farmers' Behavioral Adjustments in the Case of Correct Crop Varietal Identification

“This paper provides the first causal evidence of the impact of misperception in improved maize varieties on farmers' production decisions, productivity and profitability. We employ an Instrumental Variable approach that takes advantage of the Direct Seed Marketing (DSM) governmental programme in Ethiopia. Farmers who correctly classify the improved maize varieties experience large increases in inputs usage and yields.” (Mallia) (#IVApproach #ImprovedMaize #Ethiopia)

Building Sustainable Supply Chains through Rural Youth: Evidence from a Randomized Trial in Kenya

“Our study provides insight on the livelihoods of rural youth and input market access conditions by evaluating a randomized control trial in Eastern Kenya where rural youth were trained in business concepts and linked with agricultural input suppliers to become resellers of agricultural inputs to smallholder farmers.” (Pracht, Ricker-Gilbert) (#RuralYouth #SupplyChain #Kenya)

- Methods & Tools: Digital Technology

Investing in Digital Technology to Increase Market Access for Women Agripreneurs in Guatemala

“In Guatemala, a digital information campaign on the national School Feeding Program (SFP) targeting women smallholders increased women’s knowledge about the SFP and positively impacted their sales and intra-household decision-making ability. However, product mismatches, production capacity, and institutional trust still hamper women’s involvement in the SFP.” (Perego, Romero, and Lopez) (#DigitalAgriculture #WomenEmpowerment #SchoolFeeding)

Impacts of Access to Tailor-Made Weather and Climate Information on Adaptation Strategies and Productivity: a Case of the Participatory Integrated Climate Services for Agriculture (PICSA) in Malawi

“The PICSA approach being implemented in Malawi which aims at facilitating informed agricultural decision-making has built adaptive capacity, increased maize yields and access to seasonal weather forecasts among farmers. Overall, our results suggest that farmer-to-farmer extension of climate and weather information can effectively and efficiently contribute to building resilient livelihoods.” (Kanyamuka, Jiva, Jumbe, Nyekanyeka, Kakota, Abidoye, and Kazembe) (#ClimateChange #ResilientLivelihoods #Malawi)

Limits to Improved Information in Agricultural Innovation: A Synthesis from 3ie’s Thematic Window on Agricultural Innovation

“3ie supported 14 evaluations of agricultural interventions across West, East, and Southern Africa, and Southeast Asia. Findings show that more complex tasks require richer engagement, that short RCTs rarely observe outcomes beyond knowledge and trialing, and that weather variation from base to endline possibly masks outcomes.” (Bell, Engelbert) (#3ie #Information #Weather)

- Climate Change & Resilience I

Pathways towards Durable Adoption and Weather Shocks: Evidence from Malawi

“A large programme targeted smallholder farmers in Malawi through the promotion of a set of sustainable agricultural practices. Findings support the importance of developing a medium-term holistic approach to guarantee that farmers will persistently adopt sustainable agricultural practises.” (Cavatassi, Maggio, and McCarthy) (#SAPP #Adaptation #Malawi)

The Adoption Determinants of Climate-Smart Production Practices and their Impacts on Farm Outcome in Uganda

“Past climate shocks raise the farmer’s adaptive capacity. Using a control function approach, we estimate the adoption determinants of climate-smart production practices and their impacts on farmer welfare. Findings suggest that consumption is affected differently by adopters and non-adopters in terms of education, livestock and farm size.” (Coromaldi, Auci, Castellucci) (#ClimateSmartAgriculture #Welfare #Adoption)

The Hidden Social Costs of Climate Change: Evidence on Climate Shocks and Child Mobility in Uganda.

“Weather shocks affect the decisions of rural households, such as whether to abandon the

child in agriculture-based economies. The aim is to investigate the determinants of child mobility and its impact on households' welfare. Our findings suggest that child abandonment doesn't appear a "fruitful" strategy to improve farmers' outcomes." (D'Amato, Coromaldi, and Mirra) (#ChildMobility #Welfare #Agriculture)

Land Tenure, Climate Shocks and Women Resilience in Rural Benin

"Land demarcation can increase tenure security, promoting climate resilience strategy, especially for vulnerable groups. However, demarcation in Benin does not reduce female farmers' vulnerability to rainfall anomalies. Evidence instead supports pro-men intrahousehold reallocation after adverse climate events. Land tenure interventions reinforcing climate resilience should address preexisting gender disparities." (Cappelli, Tiberti, and Ticci) (#LandTenure #ClimateResilience #IntraHouseholdAllocation)

- Climate Smart Agriculture in South Asia and Sub Saharan Africa

Climate Smart Agriculture and Household Welfare in Nigeria: Evidence from Living Standard Measurement Survey

"This study investigated the household welfare effect of climate smart agriculture, focusing on crop diversification. The welfare outcomes investigated include household income and food security. Findings support the importance of promoting crop diversification to boost the welfare of agricultural households." (Onyeneke, Emenekwe, and Nwajiuba) (#ClimateSmartAgriculture #HouseholdWelfare #Nigeria)

Impact of Climate Smart Agriculture on Food Security: An Agent-based Analysis

"This agent-based model studies how adoption of climate smart agriculture (CSA) affects food security by investigating the role of social and ecological pressures in rural Ethiopia. Results call for an active policy in encouraging adaptation through CSA adoption by increasing access to capital, food market integration and information sharing among farmers." (Bazzana, Foltz, and Zhang) (#ClimateSmartAgriculture #AgentBasedModelling #FoodSecurity)

Understanding Adoption of Conservation Agriculture Practices in Southern Africa: Insights from Household and Community Surveys

"Implemented in Southern Africa, this study has established that limited access to inputs, drudgery of CA implementation and limited technical know-how are key technical and institutional factors for CA non-adoption. Our results suggest that establishment of demonstration plots coupled with vibrant extension networks and mechanizing CA can translate to greater CA adoption." (Kanyamuka, Tufa, Alene, Minofu, and Banda) (#ClimateChange, #ConservationAgriculture #SouthernAfrica)

- Agriculture & Geo Data I

Assessing the Impact of Carbon Dioxide on Agricultural Yield

“An increase in carbon dioxide increased yield of rice and wheat measured in kilogram per hectare over 2014 to 2017 after controlling for weather variables and other inputs of agriculture productions. Findings are imperative to develop policies for food security in the future, while it is known that extreme weather conditions negatively impact yield.”

(Thottappilly) (#CO2Fertilization #FoodSecurity #IndianAgriculture)

Combining Survey and Geospatial Data Can Significantly Improve Gender-Disaggregated Estimates of Labor Market Outcomes

“Combining geospatial data with survey data allows to estimate labor force statistics separately for men and women in urban Mexico, an approach further validated by the use of census data. This method can be applied to a wide variety of countries due to the global availability of the geospatial data and can significantly improve gender-disaggregated estimates of labor market outcomes.” (Merfeld, Newhouse, Weber, and Lahiri) (#Gender #LaborMarket #Geospatial)

Earth, Wind, and Fire: The Impact of Anti-poverty Efforts on Indian Agriculture and Air Pollution

“Implementation of the world’s largest anti-poverty program succeeded in increasing agricultural wages in rural India, but this induced farmers to shift towards using mechanical combines to harvest crops. This leaves more residue on the fields and requires more burning of residue to prepare the fields for planting. The increase in burning due to NREGA has large impacts on public health in both rural and urban India.” (Behrer). (#Poverty #India #Agriculture)

- Agriculture & Geo Data II

Mainstreaming Sustainable Agriculture: Using Multi-sectoral Predictive Analysis to Identify the Returns to Novel Technologies

“Mainstreaming sustainable agriculture by using predictive analysis can be used to identify the returns to novel technologies. Developing a Decision Support Tool (DST) allows to predict the multi-sectoral costs and benefits of agricultural technologies at the landscape level. Findings suggest that grain yields for the landscape are higher from dual-purpose crops compared to BAU. Thus, farmers should find it financially beneficial to opt for these kinds of improved crops.” (Narayan, Faye, Felix, Chen, and Usmani) (#Senegal #Technologies #GHG)

From the Bottom of the Ocean up to the Sky: Effects of Climatic Factors on Fisheries on Indonesia

“A large programme targeted to fishery communities in Indonesia through the promotion of a set of innovative technology for the local contest. Findings support the importance of considering fishery communities when developing policies addressing climate change.”

(Cavatassi, Alfani, Mabiso, and Maggio) (#Indonesia #ClimateChange #Fishery)

Adaptation to Climate Change in Pakistan: Impacts on Disaster Preparedness and Resilience

“Extreme weather events are becoming more common due to climate change and damages from gradual warming are projected to be very high. Moreover, events disproportionately impact lower-income communities that are not able to prevent and mitigate the risks or costs of these events. Pakistan, one of the most natural disaster-affected countries in the world, is taken as a case study in order to illustrate existing climate change adaptation and humanitarian initiatives and programmes and their impacts.” (Avdeenko, Froelich) (#Pakistan #NaturalDisaster #Adaptation)

The Effects of Extreme Heat on Agricultural Productivity: The Case of Nigerian Subsistence Agriculture

“Despite 56% of the labor force in Sub-Saharan Africa being employed in farming, the region has the lowest agricultural productivity, being particularly vulnerable to climate change (i.e., weather shocks). How should farmers change and adapt in order to offset these negative effects? The case study of Nigeria illustrates the existing links between extreme heat and agricultural productivity in subsistence farming by helping to estimate the causal impact of extreme heat on farm-level TFP.” (Mayorga Garrido Cortes, Mishra, and Villacis) (#Nigeria #FarmProductivity #WeatherShocks)

- Agriculture & Geo Data III

Climate Instability, Weather Shocks and Agricultural Production

“How does aggregated agricultural production respond to weather anomalies? Upon data analysis from a global sample of countries (period 1968-2016), results suggest a negative, non-linear and significant relationship and that developing countries experience larger negative impacts. As future climate change will cause substantial adverse effects, mitigation, adaptation and development policies should be closely integrated to better respond to the linkages among climate instability, weather shocks and agricultural production.” (Nota, Olper) (#Agriculture #WeatherImpacts #ClimateChange)

Post Harvest Losses and Climate Conditions in Sub-Saharan Africa

“Climate is a core determinant of cereal losses. This paper analyzes the extent of climatic conditions on PHL for maize between 2000-2020. By using data from APHLIS, the main results indicate that temperature is the most relevant determinant of PHL in the region, with high-temperature leading to a significant increase in PHL.” (Curzi, Nota, and Di Falco) (#SubSaharanAfrica #Cereals #PHL)

Climate Shocks and Job Displacement. Evidence from Morocco

“Severe climate shocks occurred in Morocco in between 2000 and 2009 caused a large job displacement effect in the most exposed sectors, such as agriculture. The largest share of shocked workers was absorbed by other - less exposed – economic sectors, but a small share remained unemployed for several years after the shock. The impacts were unevenly distributed across different socio-economic groups, being larger for women and the least

educated workers.” (Alfani, Molini, Pallante, and Palma) (#Unemployment #ClimateInequality #Morocco)

Extreme Weather and Agricultural Input Management in Rural Thailand and Vietnam: Intensify or De-intensify?

“In response to droughts, farmers in Thailand and Vietnam de-intensify agricultural production in terms of number of crops grown, irrigation and durable good investment. Findings indicate the urgent need to put drought risk on the local policy agenda.” (Jaretsky, Liebenehm) (#InputsUse #Drought #ThailandAndVietnam)

- Bioeconomy

Bioeconomy Options and Sustainability

“The bioeconomy is driven by innovation for alternative uses of biomass. We introduce Arrow et al (2012)’s framework and advance by including uncertainty and irreversibility explicitly and link with the EU bioeconomy strategy. We discuss the implications for measuring the development of the EU Bioeconomy.” (Cingiz, Kardung, and Wesseler) (#Bioeconomy #Sustainability #Measuring)

Measuring the Bioeconomy Transition in European Member States: An Economic Perspective

“Modernisation, the development bio-based sectors and the emergence of new ones pave the way of the transition towards the bioeconomy. They triggered labour productivity gains in the European Union’s Bioeconomy over the last decade although through different pathways across Member States.” (Ronzon, Iost, and Philippidis) (#Bioeconomy #Sustainability #GreenTransition)

The Implications Of The Green Transition For The EU Labour Market

“The green transition is set to accelerate over the next decade and trigger structural change in EU labour markets. The note provides descriptive evidence on regions and demographic groups expected to be most affected by shifts between sectors, firms and occupations, and discusses the policy implications.” (Vandeplas, Vanyolos, Vigani, and Vogel) (#FitFor55 #JustTransition #LabourReallocation)

- Climate Change & Resilience I

Pathways towards Durable Adoption and Weather Shocks: evidence from Malawi

“A large programme targeted smallholder farmers in Malawi through the promotion of a set of sustainable agricultural practices. Findings support the importance of developing a medium-term holistic approach to guarantee that farmers will persistently adopt sustainable agricultural practises.” (Cavatassi, Maggio, and McCarthy) (#SAPP #Adaptation #Malawi)

The Adoption Determinants of Climate-Smart Production Practices and their Impacts on Farm Outcome in Uganda

“Past climate shocks raise the farmer’s adaptive capacity. Using a control function approach, we estimate the adoption determinants of climate-smart production practices and their

impacts on farmer welfare. Findings suggest that consumption is affected differently by adopters and non-adopters in terms of education, livestock and farm size.” (Coromaldi, Auci, Castellucci) (#ClimateSmartAgriculture #Welfare #Adoption)

The Hidden Social Cost of Climate Change: Evidence on Climate Shocks and Child Mobility in Uganda

“Weather shocks affect the decisions of rural households, such as whether to abandon the child in agriculture-based economies. The aim is to investigate the determinants of child mobility and its impact on households’ welfare. Our findings suggest that child abandonment doesn’t appear a “fruitful” strategy to improve farmers’ outcomes.” (D’Amato, Coromaldi, and Mirra) (#ChildMobility #Welfare #Agriculture)

Land Tenure, Climate Shocks and Women Resilience in Rural Benin

“Land demarcation can increase tenure security, promoting climate resilience strategy, especially for vulnerable groups. However, demarcation in Benin does not reduce female farmers’ vulnerability to rainfall anomalies. Evidence instead supports pro-men intrahousehold reallocation after adverse climate events. Land tenure interventions reinforcing climate resilience should address preexisting gender disparities.” (Cappelli, Tiberti, and Ticci) (#LandTenure #ClimateResilience #IntraHouseholdAllocation)

- **Climate Change & Resilience II**

Diversification Across Thresholds: Evidence from Rural Households in Tanzania

“Income diversification helps farmers against risk and poverty but not all activities are equally rewarding. Testing for non-linearities between off-farm diversification and Tanzanian households’ wellbeing, we show that diversification sustains poorer households’ income and food security under droughts, while fostering wealthier households’ assets accumulation.” (Malevolti, Romano, and Scognamillo) (#Tanzania #IncomeDiversification #Threshold)

Exposure to Climate Shocks and Subjective Wellbeing During the Pandemic Period: Evidence from a Small Island Developing State

“Several years of crop income are needed to compensate for the impact of climate shocks on subjective wellbeing on farmers in the Solomon Islands. Environmental stress indicators significantly increase as well as objective wellbeing indicators (nutrition problems). Investing in dwellings and agricultural associations would alleviate the impact caused by the strong interdependence existing between climatic and social shocks.” (Becchetti, Mancini, and Savastano) (#ClimateShock #SubjectiveWellbeing #PacificIslands)

Reducing Vulnerability To Weather Shocks Through Social Protection: Evidence from the implementation of Productive Safety Net Programme (PSNP) in Ethiopia

“The findings of this study support the effectiveness of agricultural trainings on Ugandan refugees’ food security and access to market, although such impact is heterogeneous across different segments of the population. Conversely, business trainings are found to be ineffective, regardless of the sub-group considered.” (Mastrorillo, Scognamillo, and Ignaciuk) (#UgandanRefugees #Resilience #Trainings)

- CREA Session

Regulation (EC) N.396/2005 and Radish Leaves: an Issue of Implementation

“Regulation N. 396/2005 established for radish to comply with the MRLs for roots and leaves. Experimental data are needed in order to identify an appropriate allocation of radish leaves within the Regulation. The purpose is to identify feasible residue values of active substances, for the discussion at the EC level. EU Member States are collecting and verifying data to support the legislative process.” (Fidanza, Faraglia, Salituro, Falconi, Lamberti, Pennuzzi, Monteleone, and Di Stefano) (#Regulation #Active)

The Agroecological Approach as a Model for Multifunctional Agriculture and Farming. Some Evidence from Italian Experience

Agroecology can be considered an approach to farming and food systems which integrates the use of ecological principles and biological cycles methods of the traditional systems to the design and management of sustainable agriculture. The study shows that Italian multifunctional farms anticipated the agroecological approach and can inform the agroecological transition. (Gargano, Zanetti, Licciardo, and Verrascina) (#Multifunctionality #Agroecology #RuralDevelopment)

Economics Implications for Farmers in Adapting to Climate Adaptation Measures

Adaptation and mitigation measures represent global challenges for the agricultural sector. The concerns about the effects of climate risks on agriculture it seems required an adaptation by the agricultural sector to contain the damage. Findings support the importance of sustainable access to climate adaptation measures to limit the effects of climate risks on agriculture. (Giuca, De Leo, Di Fonzo, Gaito, Bonati) (#ClimateChange #CostAndBenefit #Italy)

Posters

“This study analyzes the causal relationship between agricultural values (as a % of GDP) with climate change indicators. The finding confirms that temperature and Greenhouse Gas Emission are found negative and significantly determine Ethiopia’s agricultural value. Natural resource conservation and climate smart agriculture need to be the priorities of the Ethiopian government.” (Senbeta Mebratu) (#Ethiopia #ClimateChange #AgriculturalValue)

“Based on the case of the Colombian coffee sector, this study argues that voluntary sustainability standards, as governance mechanisms of agri-food value chains, have the potential to spark the necessary collective action to attain sustainability goals in war-affected areas among downstream actors (farmers and exporters).” (Navarrete-Cruz, Birkenberg, and Birner) (#Coordination #Certifications #Colombia)

“Interventions targeted to convert farmers’ innovations to rural enterprises created employment, job and business opportunities in remote villages of Kerala, India. The approach promoting home grown solutions for specific needs enhances local innovation capacity. The project also helped to establish a vibrant network of farmer innovators, rural entrepreneurs and other stakeholders.” (Therukattilinchamudikaran, Surendran, Sebastian, Xavier, and Jose) (#FarmersInnovation #RuralEnterprises #India).

“The primary sector will play a key role in the economic and employment growth of Ghana, highlighting the neediest regions to be tackled by policies specifically focused on promoting equality and development. Findings support the importance of promoting specific commodities to ensure the development of the Northern region.” (Ferreira, Almazán-Gómez, Nechifor, and Ferrari) (#Northerndevelopment #Agriculture #Ghana)

“A SWOT framework used to provide pathways and vision of how to develop and improve an efficient date palm value chain in Oman. A profitable and competitive date palm sector could be achieved by focusing on high yield and commercial varieties to ensure higher productivity and the orientation toward adoption of quality standards to meet international market demand.” (Dhehibi, Makhoulf, Nejatian, Niane, Hilali, Al-Abri, Al-Amri, Al-Ghabshi, Al-Khanjari, and Alkhamisi) (#DatePalm #ValueChain #Oman)

“The recent food security emergency in the Grand Sud of Madagascar has historical precedents, which stemmed from high levels of governmental centralization, lack of infrastructure, a naturally arid environment, and ineffective development policies. The popular perception, then, that the 2021/2022 crisis is the first ‘climate change-induced famine’ is only a small, possible part of the picture.” (Camurri, Marchetti, Morreale, Porcaro, and Rabe) (#MadagascarFamine #ClimateChange #DevelopmentPolicy)

“European rural areas are characterized by lower well-being than urban areas, especially in countries with a lower average income. The results of this review support the importance of rural development policies, with a greater focus on the poorest European countries.” (Meloni, Rocchi, and Saverini) (#WellBeing #RuralUrban #Europe)

“Livestock interventions show an increase in the outcomes of Economic Mobility, Market Access, Empowerment and Nutrition, where it is possible to define investments to target all outcomes jointly and specific investments to target specific outcomes. Results indicating the importance of using systematic reviews and IFAD portfolio for learning and not just accountability.” (Garbero, Massotti, and Adriano) (#SystematicReviews #InnovationChallenge #IFADportfolio)

“In agripreneurship, participating in agricultural trading is more profitable than being a farmer. Access to credit urban markets and education encourage youth participation in agripreneurship. The findings suggest that governments and development partners focus on enhancing young people’s access to credit, markets (through infrastructural development) and mentorship or formal education.” (Akrong, and Kotu) (#YouthAgripreneurship #IITA #EntrepreneurshipEcosystem)

“The aim of the study was identifying indicators for assessing the economic sustainability of small scale family farming. The results revealed that in the economic dimension, indicators in regards to incomes and expenses of the exploiters, investment in agriculture and crop waste are indicating the sustainability of small-scale family farming” (Bahadori, Ahmadi, Santucci, and Torquati) (#EconomicSustainability #RuralWomen #SmallscaleFamilyFarming)

“In Tunisia, small-scale breeders suffer from the lack of cooling systems thus leading to a rejection of 20 % of the collected milk. To fill this gap, a solar milk cooling system was used in 10 small-scale farms in Central Tunisia. Findings show that the adoption of green energy in rural areas could enhance smallholders’ livelihoods.” (Oueslati Zlaout, Dhraief, Hilali, Dhehibi, Ben Salem, and Rekik) (#DairyValueChain #SolarEnergy #Tunisia)

“The introduction of low-cost Conservation agriculture and infield water harvesting technologies in the Insiza and Matobo districts of Zimbabwe showed that cereal productivity can be increased. Findings support the importance of promoting such technologies for farmers who rely on rain-fed cultivation in the drylands.” (Muzamba, Mujeyi, Dube, Moyo, Dera, Ndlovu, and Mhike) (#ConservationAgriculture #Zimbabwe #PoorValueChains)

“Efforts towards sustainable cocoa achieves modest results while the upsurge of small-scale gold mining (galamsey) results in rampant conversions enabled among other things by institutional challenges. Findings suggest that galamsey directly causes induced unsustainability in cocoa, and this must be recognized and incorporated into sustainability initiatives.” (Montford, Bosch, and Birner) (#Cocoa #LandConversions #InducedUnsustainability)

“The project BROTWEG proposed a responsible mechanization approach to small agricultural enterprises in alpine regions, to mitigate the transformation of mountain food systems in the context of social, economic and environmental changes. BROTWEG offered technical solutions to the short cereal-flour-bread value-chain. Besides arranging post-harvest processing lines, the core of the project consists of the development of new seeding and harvesting machines developed for working steep slopes up to 80%.” (Mandler, Becce, Carabin, Sacco, and Mazzetto) (#ValueChains #Cereals #MountainFarming #AgriculturalEngineering)

“Economic theory states multi-product firms prevail in a market due to economies of scope. We propose a test for economies of scope for public sector projects where we observe joint production. As some joint production may involve multisectoral collaboration, we suggest a method for estimating budgets.” (Acharya, Glandon, Hammaker, and Masset) (#MultisectoralCollaboration #SDGs #Development)

“An index-based insurance targeting staple food production in Senegal increased maize and rice cereal net income. Findings support the importance of risk management tools to promote agricultural resilience to climate change.” (Bonou, Olapade, Garbero, and Wantchekon) (#IndexBasedInsurance #Cereals #Senegal)

“The research focused on wetland ecosystems of Nigeria with flood disasters, assessed the impact of flooding, adaptation strategies, level productivities and per capita crop income per season. Findings of this research supports the extension of climate-smart technologies and private sector partnerships to increase efficiency.” (Treasure, and Nnamerenwa) (#Wetlands #CropIncomeAndProductivity #Nigeria)

“Rural residents feel psychologically more comfortable and safer, better assess their family relationships, and adhere to traditions and customs. Respondents suggest equal rural and urban well-being, even though urban areas show better economic and social (e.g., infrastructures, medical care) conditions. Findings are useful for policymakers to improve state program.” (Chaplitskaya, Heijman, and Ophem) (#UrbanRuralWellBeing #StavropolTerritory #Russia)