

Extended Abstract

Please do not add your name or affiliation

Paper/Poster Title	Gender Sensitive Resilience: A Latent Profile Approach in Kyrgyz Households
---------------------------	--

Abstract prepared for presentation at the 97th Annual Conference of the Agricultural Economics Society, The University of Warwick, United Kingdom

27th – 29th March 2023

Abstract	200 words max
<p>Many approaches for conceptualizing food security resilience as a capacity index either included headship as a proxy for gender or assumed an equal or gender-balanced decision making, which is not enough to build a gender-sensitive pathway in resilience thinking. Therefore, the main objective of this paper is to analyze how food security resilience is gendered by focusing on key approaches to assessing both resilience and gender roles in the household. The study is based on the “Life in Kyrgyzstan” survey including 2013 and 2016 waves. In the applications, we used a latent class cluster approach to identify homogenous profiles through different statements showing gender role dimensions in the household. Furthermore, we estimated the FAO’s resilience pillars and resilience index to define household resilience towards food insecurity. Finally, we analyzed the extent of relationship between attitudes towards the role of women under latent profiles and resilience. Our findings confirm that a higher egalitarian role in the household is positively associated with higher resilience pillars or resilience capacity to food insecurity. Therefore, the design of policy programs should consider gender-sensitive interventions in order to build or strengthen household food insecurity resilience.</p>	
Keywords	Latent profile analysis, Gender roles, Resilience, Food security
JEL Code	I3 Welfare, Well-Being, and Poverty: I32 Measurement and Analysis of Poverty Q1 Agriculture: Q10 General J1 Demographic Economics: J160 Economics of Gender: Non-labour Discrimination
Introduction	100 – 250 words
<p>A gender perspective in resilience thinking has become one of important aims for researchers, policy makers and practitioners (Smyth & Sweetman, 2015) allowing to conceptualize resilience in gendered experiences and responses to the shocks (Hirani, Lasiuk, & Hegadoren, 2016; Mersha & van Laerhoven, 2019). Particularly, incorporating gender equity in the framework can be regarded as a promotive measure for a better food insecurity resilience mechanism (Aipira, Kidd, & Morioka, 2017; Béné, Godfrey Wood, Newsham, & Davies, 2012). Although the conceptualization mostly remains gender blind, there is a growing trend towards</p>	

focusing on gender-specific effects in resilience thinking (Chanamoto & Hall, 2015), becoming the *gendered resilience framework* (Brownhill et al., 2016; Kiewisch, 2015). Therefore, the resilience framework is needed to be considered in the presence of gender roles by making the concept more *gender-sensitive* or *gender-transformative*. According to the definition, *gender-sensitive/transformational* interventions should recognize the needs and priorities of males and females by tackling gender inequalities (Gavrilovic, Jaramillo Mejia, Kaaria, & Winder Rossi, 2018). The objective of this paper is to analyze how resilience is gendered by focusing on key approaches to assessing both resilience and gender roles in Kyrgyz households. Therefore, we decided to apply a Resilience Index Measurement Analysis (RIMA) framework by Alinovi, Mane, and Romano (2009) to construct resilience towards food insecurity. For the case of gender roles, we used a model-based clustering approach to classify multidimensional aspects of gender attitudes based on item responses of gender roles (Braun, 2014; Scholz, Jutz, Edlund, Öun, & Braun, 2014).

Methodology

100 – 250 words

The manuscript used a longitudinal multi-topic survey of “Life in Kyrgyzstan” (LiK) study conducted under “Economic Transformation, Household Behavior and Well-Being in Central Asia: The Case of Kyrgyzstan” project (Brück et al., 2014). For resilience, we applied the RIMA approach including Income and Food Access (IFA), Access to Basic Services (ABS), Assets (AST), Social Safety Nets (SSN) and Adaptive Capacity (AC). The estimation of Resilience Capacity Index (RCI) is implemented hierarchically, where pillars are constructed first before obtaining final RCI. The gender roles in the manuscript are measured by the means of seven item batteries (Lee, Alwin, & Tufiş, 2007; Walter, 2018). To construct a gender role variable, we used Latent Profile Analysis (LPA) since it uses continuous variables to construct a categorical latent variable. A latent class study has its enduring significance to describe population heterogeneity of individuals with certain characteristics, thereby the analysis is a *person-centered approach* (Lanza & Cooper, 2016). Although there is relatively less comprehensive way to examine the relationship between the auxiliary and latent class variables through a single-step approach (Vermunt, 2010), we used a three-step approach to incorporate LPA into regression analysis (Collier & Leite, 2017; Van Den Bergh & Vermunt, 2019). In order to model the relationship between gender roles and pillar or RCI outcomes, we included a corresponding lagged dependent variable. In the estimation, we focused on a time-lagged endogenous gender role variable as a reference to only sequential exogeneity but not strict exogeneity.

Results

100 – 250 words

Latent profiles are added one at a time to reach the best fit (Collins & Lanza, 2010), where male and female respondent profiles are generated separately. We conclude three-profile models for both male and female respondents as the best fit according to the measurement of entropy. Accordingly, we label the latent profiles as “High Egalitarian”, “Moderate Egalitarian” and “Low Egalitarian” households for both separated male and female respondents living together in the household.

In the class comparison, ABS, AST, SSN, AC and RCI itself are found to be high in the corresponding “High Egalitarian” households. For the regression analysis, we selected the “Low Egalitarian” profile as a base. Our findings generally confirm that both “Medium Egalitarian” and “High Egalitarian” households are positively associated with higher SSN, AC and RCI.

Discussion and Conclusion

100 – 250 words

A positive relationship between egalitarian roles and SSN indicates that a gender-based targeting is important to enhance SSN. By considering aids from friends and relatives as an important contributing factor to build SSN, building an unofficial social networking should also be strengthened, particularly in rural areas. In this case, Béné et al. (2016) found that social mechanisms through collective actions for rural areas are crucially important to build resilience. Our findings confirm that AC is likely to be strengthened through gender lens approaches in which men and women are able to engage in collaborative adaptive mechanisms. In this context, gender equality or empowerment, adaptation and resilience capacity are strongly interrelated (Alston, 2013). For this reason, policy interventions should focus on broader contextual elements that can help to build or strengthen AC. Looking at egalitarian gender attitude and RCI relationship, there is a positive relationship indicating gender role equity in the household for stronger food insecurity resilience. Generally, both outcomes from male and female respondents are statistically significant, except “Medium Egalitarian” from the female respondents. We also found an expected relationship between joint decision-making and some resilience pillar outcomes or RCI itself, which should be taken into account for further intervention programs.

References

- Aipira, C., Kidd, A., & Morioka, K. (2017). Climate Change Adaptation in Pacific Countries: Fostering Resilience Through Gender Equality. In W. Leal Filho (Ed.), *Climate Change Adaptation in Pacific Countries: Fostering Resilience and Improving the Quality of Life* (pp. 225-239). Cham: Springer International Publishing.
- Alinovi, L., Mane, E., & Romano, D. (2009). Measuring household resilience to food insecurity: application to Palestinian households. *EC-FAO Food Security Programme Rom*, 1-39.
- Alston, M. (2013). Women and adaptation. *WIREs Climate Change*, 4(5), 351-358. doi:<https://doi.org/10.1002/wcc.232>
- Béné, C., Al-Hassan, R. M., Amarasinghe, O., Fong, P., Ocran, J., Onumah, E., . . . Mills, D. J. (2016). Is resilience socially constructed? Empirical evidence from Fiji, Ghana, Sri Lanka, and Vietnam. *Global Environmental Change*, 38, 153-170. doi:<https://doi.org/10.1016/j.gloenvcha.2016.03.005>
- Béné, C., Godfrey Wood, R., Newsham, A., & Davies, M. (2012). *Resilience: New Utopia or New Tyranny? Reflection About the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes*. Retrieved from <https://doi.org/10.1111/j.2040-0209.2012.00405.x>
- Braun, M. (2014). *Gender-role attitudes (ISSP 94)*. Paper presented at the Zusammenstellung sozialwissenschaftlicher Items und Skalen.
- Brownhill, L., Njuguna, E., Bothi, K. L., Pelletier, B., Muhammad, L., & Hickey, G. M. (2016). *Food security, gender and resilience: Improving smallholder and subsistence farming*: Routledge.
- Brück, T., Esenaliev, D., Kroeger, A., Kudebayeva, A., Mirkasimov, B., & Steiner, S. (2014). Household survey data for research on well-being and behavior in Central Asia. *Journal of Comparative Economics*, 42(3), 819-835. doi:10.1016/j.jce.2013.02.003
- Chanamoto, N. J. C., & Hall, S. J. G. (2015). Gender equality, resilience to climate change, and the design of livestock projects for rural livelihoods. *Gender & Development*, 23(3), 515-530. doi:10.1080/13552074.2015.1096041
- Collier, Z. K., & Leite, W. L. (2017). A Comparison of Three-Step Approaches for Auxiliary Variables in Latent Class and Latent Profile Analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 24(6), 819-830. doi:10.1080/10705511.2017.1365304
- Collins, L. M., & Lanza, S. T. (2010). *Latent Class and Latent Transition Analysis: With Applications in the Social, Behavioral, and Health Sciences*: Wiley.
- Gavrilovic, M., Jaramillo Mejia, J., Kaaria, S., & Winder Rossi, N. (2018). Introduction to gender-sensitive social protection programming to combat rural poverty: Why is it important and what does it mean?—FAO Technical Guide 1.
- Hirani, S., Lasiuk, G., & Hegadoren, K. (2016). The intersection of gender and resilience. *Journal of Psychiatric and Mental Health Nursing*, 23(6-7), 455-467. doi:<https://doi.org/10.1111/jpm.12313>
- Kiewisch, E. (2015). Looking within the household: a study on gender, food security, and resilience in cocoa-growing communities. *Gender & Development*, 23(3), 497-513. doi:10.1080/13552074.2015.1095550

- Lanza, S. T., & Cooper, B. R. (2016). Latent Class Analysis for Developmental Research. *Child Development Perspectives*, 10(1), 59-64. doi:10.1111/cdep.12163
- Lee, K. S., Alwin, D. F., & Tufiş, P. A. (2007). Beliefs about women's labour in the reunified Germany, 1991–2004. *European Sociological Review*, 23(4), 487-503.
- Mersha, A. A., & van Laerhoven, F. (2019). Gender and climate policy: a discursive institutional analysis of Ethiopia's climate resilient strategy. *Regional Environmental Change*, 19(2), 429-440. doi:10.1007/s10113-018-1413-8
- Scholz, E., Jutz, R., Edlund, J., Öun, I., & Braun, M. (2014). ISSP 2012 family and changing gender roles IV: Questionnaire development.
- Smyth, I., & Sweetman, C. (2015). Introduction: Gender and Resilience. *Gender & Development*, 23(3), 405-414. doi:10.1080/13552074.2015.1113769
- Van Den Bergh, M., & Vermunt, J. K. (2019). Latent Class Trees with the Three-Step Approach. *Structural Equation Modeling: A Multidisciplinary Journal*, 26(3), 481-492. doi:10.1080/10705511.2018.1550364
- Vermunt, J. K. (2010). Latent Class Modeling with Covariates: Two Improved Three-Step Approaches. *Political Analysis*, 18(4), 450-469. Retrieved from <http://www.jstor.org/stable/25792024>
- Walter, J. G. (2018). The adequacy of measures of gender roles attitudes: a review of current measures in omnibus surveys. *Quality & quantity*, 52(2), 829-848. doi:10.1007/s11135-017-0491-x