

An introduction of the special section on rural infrastructure and China's changing economy

As China moves up the middle-income ladder, the economy is constantly changing and the demands on the nation's infrastructure are likewise evolving. Nowhere is that as evident as in China's rural sector. In part, these new demands are due to the fact that the rural economy is still growing. In part, the needs of rural people also are shifting.

While a full listing of the forces that are shaping rural life is too long to explore in full, there are several that stand out. Migration, a salient feature of China's development since the 1990s, has become so much a part of rural life and livelihood that in many villages most of those individuals that are left are either children or the elderly (deBrauw *et al.*, 2002). And, laid over these trends is the process of aging (deBrauw *et al.*, 2008, 2013; Li *et al.*, 2013). Finally, and in part because of the high rates of migration and the higher wages that the migrants are earning and remitting back to villages (Li *et al.*, 2012), there is noticeably a higher standard of living as seen through better housing, more vehicles and other consumer goods.

These forces that define life in many villages are part of the process that is creating both new opportunities and problems. The wealth that is helping to change the physical environment of villages is both raising the demand for healthier lives as well as creating new health conditions, such as diabetes, heart problems and strokes (World Bank, 2016). As people age – especially in the more prosperous village economies, the elderly, who used to “work until they dropped” (Pang *et al.*, 2004), are now wanting to have access to income streams so they can retire (or at least quasi-retire) or have sources of funds to pay for rising health care expenses and other needs of the elderly. Migration and exposure to urban lifestyles are creating new demands for cleaner and more sanitary streets and public spaces (Ye and Qin, 2008).

While in part addressing these new challenges are the responsibilities of individuals and families, there are also rising demands for publically provided services and programs. The single largest rise in public expenditure over the past several decades has been in the provision of health services. In response, there has been a surge in demand for health care facilities and providers (World Bank, 2016). Even with this rise, however, China's expenditure on health services is still low (Long *et al.*, 2013; World Bank, 2016), meaning that we should expect further demands in the future. This is especially true in the rural economy where recent work has exposed the low quality of care (Sylvia *et al.*, 2014).

One of the most recent publically provided programs is the new rural pension plan. Creating such a program in an environment, such as that in China's rural areas, is obviously challenging. Policymakers have to decide how to enroll (and the criteria for enrolling) the current elderly, the near elderly and younger cohorts. The different groups have different needs. There are also different levels of willingness to participate in and capabilities for paying into the program. The question is not if there is a need (there is), but, the question is how to develop a program that can satisfy the demand in a sustainable way.

Finally, the rise of consumption has put pressure on the environment. Among other demands, there is a need to address solid waste disposal. Village officials and villagers must decide on how to collect the solid waste (or garbage). They must decide how to store it and/or dispose of it.

In this special section of the *China Agricultural Economic Review*, we have collected a set of five papers that seek to address some of the issues that have emerged in China's rural economy as the nation is growing through its middle-income phase. In some of the papers we document the forces that have appeared in recent years. In some papers we seek to understand the responses/outcomes that have emerged as a consequence. Finally, in some of the papers, we analyze the response of policymakers – regional and local – in providing the social services and programs that are trying to meet the challenges that have arisen.

Specifically, in the first paper, the paper by Chang *et al.*, the authors first document the rising trend for households to migrate. While there is nothing really new about the tendency for rural families in villages to increasingly move off the farm, the contribution of this paper is that it identifies the impact of these migration trends on the health of the elderly, who are being left behind – often in charge of the family farm and with responsibilities to care for grandchildren.

In the second two papers, the works by Ma *et al.* and Xue *et al.*, the research teams are documenting institutions and services (or lack thereof) that are emerging to meet the health care of the elderly as well as others in the rural economy. One of the papers examines the nature of the investments for and the facilities that are being invested in town and township health facilities in rural China's poorer and richer communities. The authors find large disparities that almost certainly translate into unequal access to health care.

The other paper examines the village counterpart to the town health services. In their paper, Xue *et al.* ask the question who is going to be providing health care in China's villages. To do so, they examine the trends in access of villagers to village clinician-provided health care. They authors also examine how the human capital and training and experience of village clinicians are evolving over time. While access to village clinics has not changed, there is an aging of village clinicians and the nature of the new providers that are entering the field to fill the gap of those that left is shifting toward lower quality providers.

The fourth and fifth papers move beyond health to examining rural China's new efforts at providing rural pension programs and solid waste disposal services. A research team, headed by Zhao, documents both the emergence of China's rural pension system and the correlates of villages and individuals in places where the program is better (and worse). In Wang *et al.* there is a rich description of the emergence of rural solid waste disposal. In both papers that authors look at trends and determining factors, answering questions about how some villages have succeeded in providing successful new programs and services and other villages have not.

While the papers are all addressing different questions on different parts of the rural economy, they share some common elements that enhance the contribution of the set of papers. All of the papers are empirical in nature. All the data sets are novel and are produced by primary data collection efforts carried out by the authoring teams. The papers are also national in scope. While the scope of the data collection is such that nothing can be said about subnational representativeness, the papers do sketch out national trends that can be considered national in scope. As a set, we believe the papers help us understand some of the key emerging challenges of China's rural population and the underlying forces that are creating those challenges. The biggest contribution is that the papers document the response of regional policymakers and local officials in trying to develop social programs and services to address the challenges.

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