Summary

The Hebei province, as one part of the North China Plain, is an important area of grain production within the People’s Republic of China. Over the three decades since the start of the reforms in 1978 rural institutions changed tremendously. The responsibility for agricultural production was reassigned from the collectives to individual households and land use rights were assigned according to the household size. Combined with a strong population growth this led to a rather small average size of farms in Hebei compared to world averages but also compared to other Chinese regions. Migration of the rural population and especially the rural labor force was and is still regulated and restricted by the household registration system. This and other imperfections in (rural) labor markets led to a surplus of agricultural labor. But due to the development of the Chinese economy since the beginning of the 1980s the importance of the industry and service sector increased and more opportunities were created for rural laborers to earn income outside agriculture.

Agricultural production systems change stepwise and the changes are fueled by drivers that are both external and internal to the agricultural sector. The intra-sectoral changes, e.g. in land and water institutions not only affect agricultural production but also the well-being of the rural population. Therefore, it is important to understand the characteristics of different farm types and how they affect households’ decision making and well-being. It is the first time that an extensive panel data set covering the period from 1986 to 2006 was used to assess the development of poverty in rural Hebei, to decompose poverty, to decompose income and income inequality, and to explain labor allocation decisions of agricultural households and farm type persistence. The interplay with the other sectors, whose institutions changed tremendously as well during the last decades in China, also contributes to changes in rural institutions such as incentive systems and labor allocation behavior.

Present research has emphasized that it is important to assess the development of inequality among the rural population in China, to analyze poverty trends and to decompose poverty in its components, and to assess the interaction between geographical diversity, poverty trends and farm households’ labor allocation decisions. To the best knowledge of the author it is the first time that this assessment is done for Hebei province based on a comprehensive longitudinal data set. In addition this work provides an understanding of the determinants of Chinese rural households’ labor allocation decisions which helps in the assessment of applied and intended policy measures that focus on rural development.
This study provides valuable information to policy makers about the declining importance of agricultural production for well-being of the rural population. Income was decomposed by sources applying the coefficient of variation method and the Shorrocks decomposition method. The share of agricultural income in total household income declined in the rural areas of Hebei from 47% in 1986 to 24% in 2002. In addition the non-farm wage income contributes strongly to income inequality within villages. The increase in the importance of income that is earned outside the own village is shown by the fact that migratory wage income increased on average by 8% per year, and by this is the income source with the fourth highest growth rate. The per year growth rates of income from fruit production (14%), income from transportation (12%) and income from other family businesses (10%) are higher but fewer households receive income from those sources than from migratory wage income. It is also worth to mention that the share of households earning migratory income is constant and is 36% in 1986 and 2002.

Foster-Greer-Thorbecke-type poverty indicators have been calculated for rural Hebei to assess the hypothesis that absolute poverty declined in Hebei between 1986 and 2002. In general, poverty declined over the assessed period. Poverty elasticities are decomposed according to different location specific and individual characteristics of the assessed households. This was done by using one approach that links poverty to an average in welfare in comparison to an approach that links poverty to ill-fare statuses experienced by households. The amount of land holdings of farmers became less relevant for the explanation of poverty differences between rural households in countries that experienced agrarian change. The results of the decomposition of poverty elasticities indicated that education, the provision of training to the rural population and less restrictions in labor markets are much better measures to increase the chance of long-lasting (sustainable) improvements in rural well-being than transfers or other non-earned income measures. Regarding the results of the decomposition of poverty into transitory and chronic poverty both methods differ strongly. With the approach of Jalan and Ravallion (1998) all of the estimated poverty was explained as transient whereas with the approach of Duclos et al. (2008) two thirds of poverty could be explained as chronic poverty.

Fixed effect regression models have been applied to test the hypothesis that labor demand and supply decisions of rural households are not separable. For the full sample but also for population sub-samples separability was rejected. So it can be concluded that labor time, as one important production factor, was not allocated in the most efficient way.

A static agricultural household model was used here to identify the determinants of farm households’ labor supply after reviewing the development of indi-
individual and household level models to assess labor supply and allocation decisions. Interestingly, households with more family members used relatively more family labor in agricultural production. This might be an indication for restricted possibilities to provide family labor off the farm. In comparison to common labor supply models this kind of probability model to assess the labor market participation of agricultural households allows to assess the determinants of agricultural households’ demand for non-family labor.

A hazard model was applied to reflect dynamics in the farm structure in Hebei. It was found that the chosen states (either full- or part-time farming) were relatively stable over time, beside the fact, that state changes did occur. The longer a household remained in one of the two labor market states the lower was the probability of a change to the alternative state. As a consequence of this duration dependence it can be recommended to provide full-time farm households with support to increase the degree of specialization in agricultural production so that they improve their production efficiency. It would be beneficial for those households allocating some or all labor to non-farming activities if labor migration was less restricted and if more possibilities for job specific trainings outside the agricultural sector were provided. Increased possibilities for the leasing of land would offer the chance to better utilize the agricultural land that is not longer farmed by migrating laborers by increasing the farm size of the full-time farm households.

In this study different methodologies have been discussed and combined to best utilize the information contained in the data set. The approach of combining parametric and non-parametric methods should be the basis for future in-depth assessments of panel data sets covering rural areas in China.

The Research Center for the Rural Economy (RCRE) started the collection of socio-economic and production data on rural households in China in 1986. So, with the comprehensive data set at hand it is possible to assess institutional changes in the agricultural sector and changes in well-being in the rural areas that are closely related to the beginning of the transition period in the end of the 1970s and the beginning 1980s.

Several data quality and variable content problems, e.g. regarding the unique identification of observations, could be solved by carefully cross-checking the data for every year and observation and by restricting the analysis only to those years (1986 to 2002 for the income and poverty analyses and 1995 to 2002 for the other assessments) where variable information is compatible from year to year. Remaining limitations of the work at hand are the application of static approaches, the use of partial models and the restriction of the analysis to the household level. For further studies it seems promising to use the most recent panel data for rural Hebei which also include more individual level information.
than the data set used here to assess the characteristics of individual labor allocation decisions of rural laborers. Also recent shifts in fiscal institutions like the abolishment of agricultural taxes since 2006 might be interesting to be analyzed with respect to their impacts on rural development and intra-sectoral changes in Hebei and other rural provinces in China.