

SECTOR ASSESSMENT (SUMMARY): AGRICULTURE, NATURAL RESOURCES, AND RURAL DEVELOPMENT¹

Sector Road Map

A. Sector Performance, Problems, and Opportunities

1. **Environmental pressure and climate change.** The unprecedented speed of economic development in the People's Republic of China (PRC) has beneficially transformed the lives of all people in the country and made the PRC economy the second largest in the world. These achievements, however, have not been without adverse environmental consequences, and the ongoing development is considered not environmentally sustainable. Availability of sufficient clean water is increasingly a concern, and land resources are declining because of urbanization, pollution, and degradation. Frequent water pollution incidents, rising reports of soil pollution and land degradation, long-lasting haze and smog pollution occurrences, and concerns about food safety and human health have become challenges for national and local governments. According to recent estimates by the Ministry of Environmental Protection, the national cost of pollution damage is equivalent to around 6% to 9 % of gross domestic product.

2. Despite significant efforts by the government to change to a more sustainable development model, it is expected that environmental pressures will continue to grow in the near future as a result of (i) continuing population growth combined with higher levels of per capita consumption; (ii) the likelihood that the industry sector and, more particularly, the heavy industry sector, will continue to play a prominent role as a driver of growth; (iii) the continued dominant role of the coal-fired thermal power subsector, which will further add to regional air pollution problems; and (iv) urbanization, which will continue as a necessary driver of economic growth, with the urbanization rate expected to reach 60% by 2020 and with much of the growth occurring in small cities and larger towns, few of which have adequate environmental infrastructure.

3. Adding to the serious concerns are the impacts of climate change, which already pose serious threats to the natural and ecological environment. Associated extreme weather events and the overall impacts of climate change may undermine economic progress and threaten food and water security in the PRC. The increasing irregular climate patterns are putting rural livelihoods at risk, including agricultural production and people's livelihoods.

4. **Water resources at risk.** Water is often considered the most pressing resource bottleneck to the PRC's ongoing economic growth. Annual per capita freshwater resources are among the lowest for a major country. Ongoing pollution issues are further reducing water resources. Policy makers in the PRC have also had to contend with a host of other natural challenges—uneven water distribution between north and south, uneven rainfall patterns, and a natural proclivity to droughts. Rapid industrialization and urbanization have accelerated the exploitation of water resources and caused a massive increase in the discharge of wastewater pollutants. The PRC's water crisis is already costing the country an estimated 2.3% of gross domestic product (of which 1.3% is attributable to water scarcity and 1.0% to the direct impacts of water pollution). These are probably conservative estimates of the true costs.

¹ This summary is based on the work that has been conducted to support the preparation of the 13th Five-Year Plan, including sector reviews and advisory technical assistance undertaken during the preparation of natural resources and agriculture projects, and on consultations with development partners and relevant PRC line ministries.

5. **Vulnerable land resources.** Much of the land resources in the PRC are highly vulnerable to drought and desertification. According to the PRC's most recent monitoring of land degradation and desertification, the total desertified land area comprised more than 2.6 million square kilometers in 2009, making up 27% of the national territory.² Serious problems include worsening salinization and wind erosion in northwestern PRC, rangeland degradation and loss of land cover on the Qinghai-Tibet plateau, and karst rocky desertification in southwestern PRC.

6. **Agricultural production.** Agriculture has developed rapidly and has made substantial contributions to the overall economic development of the PRC. Total grain production has grown for 11 consecutive years since 2004. Meanwhile, agricultural production has become more diversified and product quality has improved. As a result, farmers' incomes have increased substantially, supporting inclusive growth. Contributing factors include better introduction of market mechanisms and participation of multiple private stakeholders in the sector, larger scale production facilitated by land transfer practices, as well as increased application of equipment and advanced technologies.

7. However, the transition to modern agriculture has not been able to keep pace with urbanization and industrialization in the PRC. Natural disasters, which have become more severe and frequent because of climate change, have severely impacted agriculture in the country because of weak agricultural infrastructure and facilities. There is an urgent need to improve the resilience of the sector to climate change. The sector is also facing challenges such as rising prices of labor and inputs; increasing demand for safe, high-quality agricultural products; and constraints on environmental and land resources.

B. Government's Sector Strategy

8. **Overarching objectives.** The government recognized the massive environmental and ecological challenges that the country is facing, and placed building of an "ecological civilization" as one of the most important policy areas for the country in the Third Plenary Session of the 18th Central Committee of the Communist Party Congress.³ Renewed emphasis has been placed on control of air, water, and soil pollution. The unprecedented level of new actions plans and investments provides the timing and opportunity to accelerate the transition to the new path of addressing environmental and ecological challenges. The government's rural focus under the 13th Five-Year Plan will be to continue its efforts to improve resource conservation; undertake environmental friendly development; and more sustainable use and manage land, water, and other natural resources.

9. **Water security.** The changing demand for and supply of water in the PRC highlights the importance of water for any development and growth agenda. The country's ability to make more water available for domestic, agricultural, industrial, and environmental uses will depend on sector reforms and improved strategy development and planning, including better management and allocation of water resources, more cross-sector planning, restoration of water ecological services, deeper reform of the water rights and pricing system, and creation of a water services market. The 13th plan period will test the country's ability to close the supply–demand gap and its commitment to hold national water consumption to 670 billion cubic meters by 2020 and

² State Forestry Administration. 2014. 8th National Forest Inventory (1999–2013). http://english.forestry.gov.cn/uploads/Information_Services/Latest_Publication/Forestry_in_China.pdf

³ According to the PRC government, "ecological civilization" refers to achieving harmony between growth, people and nature, requiring people to respect, protect, and maintain a harmonious relationship with nature. It includes activities to mitigate ecological damage, relieve pressures on natural resources, and improve the balance between the environment and the economy.

implement its “three redline” policies, i.e., three binding water-related targets for water use cap, water use efficiency, and water quality. The government will also strengthen links with the energy and agriculture sectors.

10. **Sustainable land management.** The PRC has implemented a series of larger ecological improvement programs aimed at reversing the spread of desertification. During 2005–2009, the net degraded or desertified area decreased annually by 2,491 square kilometers. Nevertheless, challenges remain in implementing these programs, and continued efforts for a more balanced and comprehensive approach to ecological restoration is needed, including better planning and management practices. In 2014, the Government of the PRC updated its strategy for the PRC–Global Environment Facility Partnership on Land Degradation in Dryland Ecosystems.⁴ The sustainable land management activities aim at raising the living conditions of the affected population and reducing the vulnerability to climate change of production and ecosystems.

11. **Agricultural transformation.** Given its fundamental contribution to food security and improvement of rural livelihood, agricultural modernization has been prioritized by the Government of the PRC. The primary objectives are to ensure adequate supply of agricultural products and continuously raise farmers’ incomes so as to close the rural–urban gap. Policies to promote agricultural modernization will focus on improving the capacity, competitiveness, and resilience of agricultural production; supporting development of agri-business and agricultural value chain systems; promoting investment in technology, human resources, and innovative management for sector upgrading; and encouraging participation of private entities and partnership among multiple stakeholders in the sector.

12. The 2015 Decree No. 1 issued by the central government identified several approaches and tasks for accelerating agricultural modernization. They include (i) protecting farmland and upgrading, developing, or rehabilitating large or medium-sized irrigation districts, and constructing on-farm infrastructure to strengthen agricultural production capacity; (ii) developing agriculture suited to local geographical conditions; (iii) establishing information platforms to trace and share quality and safety information of agricultural products; and (iv) promoting water-saving techniques, eco-friendly fertilizers and pesticides, and other pollution-mitigating measures. In addition, the government also emphasized the importance of investing in strengthening the application of information technologies, improving pricing mechanisms for agricultural inputs and products, and insurance for agriculture, all contributing to improving rural livelihoods.

C. ADB Sector Experience and Assistance Program

13. The PRC government and the Asian Development Bank (ADB) have developed a diverse portfolio of projects in agriculture, natural resources, and rural development. Environmental sustainability and climate resilience have been promoted through projects supporting water resource management and conservation, ecosystem management and biodiversity conservation, lake and wetland protection, renewable biomass energy development, and support for dryland farming. Sovereign lending in the natural resources and agriculture sector in the PRC increased sharply during 2011–2015. Nonsovereign lending to agribusiness was also initiated with two transactions (one in cold storage and one in greenhouse agriculture) during 2012–2015. Technical assistance has complemented lending by supporting capacity development, policy development, and introduction of good (international) practices. Technical assistance has also

⁴ Government of the PRC, State Forestry Administration. 2015. *Integrated Strategy for Sustainable Land Management in Western PRC*. Report by the Central Project Steering Committee of the PRC–Global Environment Facility Partnership on Land Degradation in Dryland Ecosystems. Beijing.

been initiated in the areas of public expenditure in agriculture, rural finance, and payment for ecological services and ecocompensation regulation. The country assistance program evaluation assessed the agriculture, natural resources, and rural development sector interventions in the PRC as *successful* and *highly relevant*, and highlighted the strong and direct link between agricultural modernization and inclusive growth.

14. **ADB's sector strategy.** ADB will support the PRC to realize its "ecological civilization" ambitions and will assist in identifying and applying innovative interventions that demonstrate increased climate resilience and environmental sustainability through more sustainable use and better protection of natural resources, in particular for those areas where environmental degradation and climate change most impact rural and urban livelihoods. Support will be provided for integrated water resource management and sustainable land management, including strengthening water security and governance, and water and air pollution control; improving forestry management and disaster risk management; and promoting environmental regulation and compliance, innovative ecocompensation mechanisms, and other market-based instruments to support environmental protection and pollution control. The interventions will be aligned with ADB's Environmental Operational Directions, 2013–2020.⁵ The interventions will also support ADB's Water Operational Plan, 2011–2020, recognizing the increasing demand for water and its impacts on food production.⁶ ADB will work with the government to implement the memorandum of understanding on cooperation with the Ministry of Environmental Protection.⁷

15. ADB will promote inclusive growth and improve rural livelihoods by helping to increase agricultural productivity, strengthening agricultural and rural infrastructure, promoting application of information technologies, and expanding financial services in rural areas, in line with ADB's Operational Plan for Agriculture and Natural Resources.⁸ Support will be provided for developing value chains, including linking agribusinesses and local entrepreneurs with poor farmers through extension services, rehabilitating rural infrastructure, food safety and possibly food security, environmental sustainability and climate resilience, sustainable agribusiness mitigating soil and water pollution, and access to credits and markets. Nonsovereign assistance will be targeted to farming companies including large-scale livestock farms, food processors, logistics companies, financial intermediaries, and to other projects that enhance productivity and standardization, inclusion of smallholder farmers in value chains, food safety, and pollution control. Agricultural transformation projects will be designed using a participatory approach to ensure that low-income rural farmers in environmentally fragile areas earn higher incomes through market-driven opportunities, resource-friendly management systems, support for rural finance, and effective institutional arrangements. Special focus is given to improving the well-being of and opportunities for women and ethnic minorities, including through improving women's access to and roles in land management and decision making positions in village committees, farmer associations, water user associations, and similar rural decision-making bodies.

16. Emphasis will be accorded to securing timely and efficient project implementation. Because there can be numerous implementing agencies, sector projects can be complex in some of the less-developed parts of the PRC. Project readiness will be emphasized in project design, and special efforts will be made to provide training and other support in project management and administration. Synergies will be nurtured between projects in different sectors of ADB support and between sovereign and nonsovereign operations in the sector.

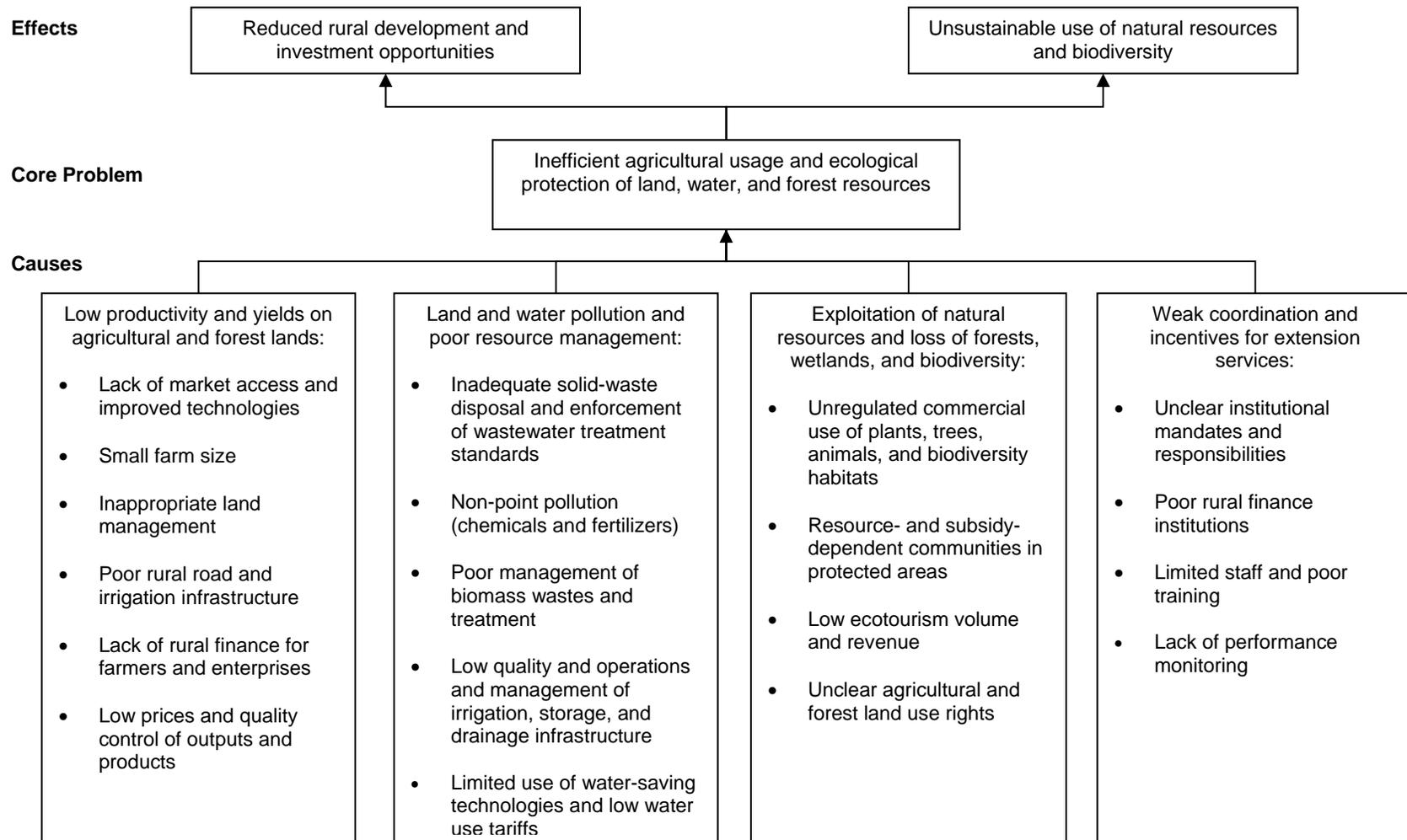
⁵ ADB. 2013. *Environmental Operational Directions, 2013–2020*. Manila.

⁶ ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.

⁷ Signed on 8 January 2014.

⁸ ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.

Problem Tree for Agriculture, Natural Resources, and Rural Development Sector



Source: Asian Development Bank.