Contents

The Carbon Cycle in Yanqi Basin and Bosten Lake: IntroductionXiujun Wang, Jiaping Wang, Zhitong Yu and Juan Zhang	1
Introduction of the Yanqi Basin and Bosten Lake	5
Climate Change Over the Past 50 Years in the Yanqi Basin Fengqing Jiang, Junyi Wang and Xiujun Wang	19
Characteristics of Soil Organic Matter and Carbon and Nitrogen Contents in Crops/Plants: Land Use Impacts Juan Zhang, Xiujun Wang, Jiaping Wang and Qingfeng Meng	41
Dynamics of Soil CO₂ and CO₂ Efflux in Arid Soil Junyi Wang, Xiujun Wang, Jiaping Wang and Tongping Lu	55
Land Use Impacts on Soil Organic and Inorganic Carbon and Their Isotopes in the Yanqi Basin Jiaping Wang, Xiujun Wang and Juan Zhang	69
Distribution of Pedogenic Carbonate and Relationship with Soil Organic Carbon in Yanqi Basin Xiujun Wang, Jiaping Wang and Junyi Wang	89
Spatial Distribution of Organic Carbon in Surface Sedimentof Bosten LakeZhitong Yu, Xiujun Wang and Hang Fan	103
Temporal Variability of Carbon Burial and the UnderlyingMechanisms in Bosten Lake Since 1950Zhitong Yu and Xiujun Wang	117
Carbon Sequestration in Arid Lands: A Mini Review	133

Contents

The Carbon Cycle in Yanqi Basin and Bosten Lake: IntroductionXiujun Wang, Jiaping Wang, Zhitong Yu and Juan Zhang	1
Introduction of the Yanqi Basin and Bosten Lake	5
Climate Change Over the Past 50 Years in the Yanqi Basin Fengqing Jiang, Junyi Wang and Xiujun Wang	19
Characteristics of Soil Organic Matter and Carbon and Nitrogen Contents in Crops/Plants: Land Use Impacts Juan Zhang, Xiujun Wang, Jiaping Wang and Qingfeng Meng	41
Dynamics of Soil CO₂ and CO₂ Efflux in Arid Soil Junyi Wang, Xiujun Wang, Jiaping Wang and Tongping Lu	55
Land Use Impacts on Soil Organic and Inorganic Carbon and Their Isotopes in the Yanqi Basin Jiaping Wang, Xiujun Wang and Juan Zhang	69
Distribution of Pedogenic Carbonate and Relationship with Soil Organic Carbon in Yanqi Basin Xiujun Wang, Jiaping Wang and Junyi Wang	89
Spatial Distribution of Organic Carbon in Surface Sedimentof Bosten LakeZhitong Yu, Xiujun Wang and Hang Fan	103
Temporal Variability of Carbon Burial and the UnderlyingMechanisms in Bosten Lake Since 1950Zhitong Yu and Xiujun Wang	117
Carbon Sequestration in Arid Lands: A Mini Review	133