AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Domestic Solid Waste Discharge: Volume, Structure and Determinants in Rural China

Kaixing Huang

Center for Chinese Agricultural Policy, Chinese Academy of Sciences
Institute of Geographical Sciences and Natural Resources Research
Jia 11 Datun Road, Anwai, Beijing, China 100101
Email：huangkx.09s@igsnrr.ac.cn

Jinxia Wang

Center for Chinese Agricultural Policy, Chinese Academy of Sciences
Institute of Geographical Sciences and Natural Resources Research
Jia 11 Datun Road, Anwai, Beijing, China 100101
Email：jxwang.ccap@igsnrr.ac.cn

Junfei Bai

Center for Chinese Agricultural Policy, Chinese Academy of Sciences
Institute of Geographical Sciences and Natural Resources Research
Jia 11 Datun Road, Anwai, Beijing, China 100101
Email：jfbai.ccap@igsnrr.ac.cn

Huanguang Qiu

Center for Chinese Agricultural Policy, Chinese Academy of Sciences
Institute of Geographical Sciences and Natural Resources Research
Jia 11 Datun Road, Anwai, Beijing, China 100101
Email：hgqiu.ccap@igsnrr.ac.cn

Selected Poster prepared for presentation at the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguaçu, Brazil, 18-24 August, 2012.

Copyright 2012 by [authors]. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

Domestic Solid Waste Discharge: Volume, Structure and Determinants in Rural China

Kaixing Huang[1]*, Jinxia Wang[1], Junfei Bai[1], Huanguang Qiu[1]

1) Center for Chinese Agricultural Policy, Chinese Academy of Sciences

Institute of Geographical Sciences and Natural Resource Research, Chinese Academy of Sciences

Backgrounds

- Rural domestic solid wastes accounts for 53% of all rural pollution sources in China
- The massive discharge of rural domestic solid wastes has posed serious impact on rural environments
- The research on rural domestic solid wastes is not enough, there even have no statistical data about the discharge of rural domestic solid wastes in China

Questions

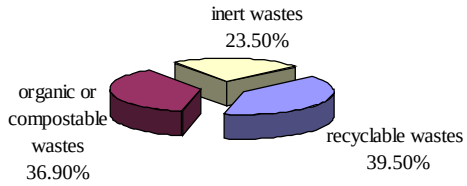
- What is the total discharge volume of rural domestic solid wastes in China?
- How about the characteristics of the rural domestic solid wastes discharge?
- What are the determinants of discharge volume of the rural domestic solid wastes in China?

Methods and Data

- Econometric model analysis.
- Data come from a face to face field survey conducted in 2010, covered 1,104 farmers, 105 villages and 18 counties in 6 provinces in China.

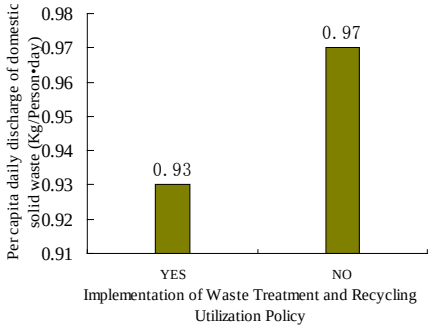
Discharge Volume and Structure

- In 2010, Rural domestic solid wastes discharge volume was 0.96 kg/person• day, overall discharge volume reached 236 million tons in China.
- Discharge Structure

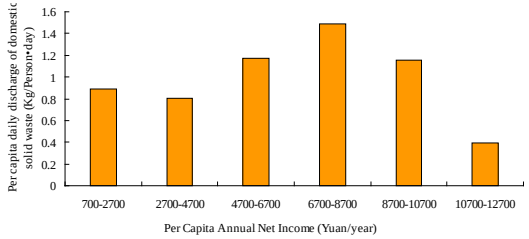


Determinants of Discharge Volume

- Solid Waste Recycling and Disposal Policies and the Per Capita Waste Output.



- Per Capita Net Income and Per Capita Waste Output



Econometric Analysis

- Econometric model (OLS):

$$W_i = \alpha + \beta P_i + \delta I_i + \rho D_i + \varepsilon$$

Wi: Per capita domestic solid waste discharge volume (kg/person• day); *Pi*: whether implementation of Solid waste recycling and disposal policies; *Ii*: socio-economic conditions; *Di*: control variable.

Estimation results of key variables:

	Coefficient	T Value
Solid waste recycling and disposal policies （1=yes；0=no）	-0.600	（1.78）*
Per capita net income of farmers (RMB 10000/year)	2.494	（1.81）*
Square of per capita net income of farmers (RMB 10000/year)	-2.184	（2.42）**
Number of enterprises	0.046	（2.19）**
Proportion of non-agricultural labor force (%)	-1.366	（1.83）*
Observed value	-0.05	(1.12)
Adjusted R^2	*0.28*	

Note: "*", "**" and "***" respectively means P<0.1, P<0.05 and P<0.01.

Conclusions and Political Implication

- Daily discharge per capita of rural domestic solid wastes in China in 2010 was 0.96 kg.
- Recyclable wastes occupy the largest proportion in the discharge structure of rural domestic solid wastes, say, 39.5%, while organic or compostable wastes and inert wastes respectively occupy 36.9% and 23.5%.
- Solid waste recycling and disposal policies can significantly reduce the discharge per capita of rural domestic solid waste.
- the relationship between daily discharge per capita of rural domestic solid wastes and per capita annual net income of farmers is of an obvious inverted U-shaped curve.