

# Subsidy Policies on Wool Sheep and Cashmere Goat Industry at the Background of Sustainable Development

Haiyan CHEN<sup>1,2\*</sup>, Haifeng XIAO<sup>1</sup>

1. College of Economics and Management, China Agricultural University, Beijing 100083, China; 2. Party School of Shandong Committee of CPC, Jinan 250021, China

**Abstract** Grassland ecological protection measures such as grazing prohibition and livestock changed traditional production mode of the cashmere goat industry, and exerted adverse influence on production of cashmere and income of farmers and herdsman. On the basis of the survey in Inner Mongolia, Xinjiang, Jilin, Liaoning, Shanxi, and Yunnan, this paper evaluated effect of subsidy policies on wool sheep and cashmere goat industry and present some existing problems in the implementation of these policies. Finally, it came up with following recommendations: strengthening cultivation and protection of wool sheep and cashmere goat varieties, increasing subsidy level of fine varieties and expanding coverage of subsidy policies, formulating wool sheep and cashmere price supportive measures, enhancing construction of wool sheep and cashmere goat sci-tech service system, and promoted standardized production of cashmere goat.

**Key words** Wool sheep and cashmere goat industry, Subsidy policies, Countermeasures and recommendations

The wool sheep and cashmere goat breeding is a primary industry in grassland pastoral areas of China. In recent years, the conflict between wool sheep and cashmere goat breeding and grassland ecological protection is growing. To stop ecological deterioration accompanied with rapid social and economic development, China implemented ecological protection projects such as returning grazing land to grassland, implementing rotational grazing, grazing land resting, and grazing prohibition system and livestock breeding. In wool sheep and cashmere goat industry, it has implemented many support policies, including subsidy for fine varieties of ram, subsidy for purchase of livestock breeding machinery, and subsidy award for grassland ecological protection. Making clear existing problems in these policies has important reference value for formulating support policy of wool sheep and cashmere goat industry and promoting sustainable development of grassland animal husbandry.

## 1 Existing subsidy policies of cashmere goat industry and comments of farmers and herdsman on subsidy effect

**1.1 Implementation of subsidy policies of cashmere goat industry** In recent years, China constantly explored mechanisms and policies for supporting and subsidizing agriculture according to social and economic development situation. In cashmere goat industry, China launched the subsidy policy for fine varieties of ram

from 2009; In 2011, goat was incorporated into the scope of subsidy; In the same year, provinces of grassland pastoral areas set up the subsidy award mechanism for grassland ecological protection, providing subsidy for grazing prohibition, award for grassland and livestock balance, and subsidy for production. Besides, they also provided subsidy for purchase of livestock breeding machinery and direct subsidy for agricultural means of production. In prevention and control of major animal epidemic diseases, they have implemented subsidy policies for funds of mandatory vaccine, subsidies for slaughter, and subsidies for grass-root animal epidemic disease prevention and control.

In 2012, the input of related state subsidies increased: the quantity of subsidy for fine varieties of buck goat rose to 247 000, and the scope of policy implementation also expanded; subsidy award mechanism for grassland ecological protection was implemented in main pastoral provisions, and central finance input increased to 15 billion yuan. From the survey in Inner Mongolia, Xinjiang, Jilin, Liaoning, Shanxi, and Yunnan, 95.9% breeders are willing to breed wool sheep and cashmere goat. Related state support policies stabilized confidence of breeders and played a certain role in promoting development of cashmere industry. However, with the development of China's woolen textile industry, the demands for quantity and quality of wool and cashmere constantly increase. Nevertheless, the overall level of cashmere goat industry is low, breeding method and technology are backward, and both quantity and quality of domestic wool fail to satisfy demand of woolen textile industry, thus it is required to further strengthen support for cashmere goat industry<sup>[1]</sup>.

**1.2 Comments of farmers and herdsman on effect of subsidy policies of wool sheep and cashmere goat industry** In order to study the implementation effect of existing subsidy policies of wool sheep and cashmere goat industry in depth, the economic research team of national wool sheep and cashmere goat industrial techno-

Received: December 3, 2013 Accepted: January 15, 2014

Supported by "Industrial Economic Research of National Cashmere Goat Industrial Technological System" of the Ministry of Agriculture and the Ministry of Finance (CARS-40-20), Young Scholar Project of National Social Science Foundation "Tracing of Social Performance of China's Agricultural Subsidies at the Background of Sustainable Development" (CJY061).

\* Corresponding author. E-mail: 376279102@qq.com

logical system carried out a survey in Inner Mongolia, Xinjiang, Jilin, Liaoning, Shanxi, and Yunnan in 2012. Farmers and herdsmen interviewed are major decision makers of cashmere goat breeding and management, thus the survey data has high credibility. Total samples of the survey: 395 farmers and herdsmen in 6 provinces (autonomous regions), 12 counties (cities, banners), and 13 villages.

**1.2.1** Recognition of farmers and herdsmen about existing subsidy policies is relatively low and regional difference is enormous. In recent years, China promulgated many agriculture supporting and benefiting policies. However, the recognition of farmers and herdsmen about existing subsidy policies is still very low. Some farmers and herdsmen even do not know specific content of subsidy policies despite they have received related support funds. The survey data indicates that 49.62% farmers and herdsmen do not know support policies related to wool sheep and cashmere goat breeding.

**Table 1** Recognition and acquisition of farmers and herdsmen for existing support policies

		Know related support policies or not		Have obtained related support funds or not	
		Yes//%	No//%	Yes//%	No//%
All sample farmers and herdsmen		50.38	49.62	40.00	60.00
Varieties	Fine wool	59.33	40.67	35.33	64.67
	Semi-fine wool	60.00	40.00	74.44	25.56
	Cashmere goat	36.13	63.87	24.51	75.48
Regions	Inner Mongolia	98.41	1.59	100.00	0
	Xinjiang	63.33	36.67	20.00	80.00
	Jilin	33.33	66.67	14.04	85.96
	Liaoning	31.75	68.25	6.35	93.65
	Shanxi	9.68	90.32	7.94	92.06
	Yunnan	60.00	40.00	74.44	25.56

**1.2.3** High satisfaction of farmers and herdsmen for policies and measures. Breeding of wool sheep and the is mainly concentrated in grassland pastoral areas. The survey indicates that support funds obtained by farmers and herdsmen mainly include buck goat subsidy, subsidy for grazing prohibition, award for grassland and livestock balance, and comprehensive subsidy for production means of herdsmen. Thus, farmers and herdsmen only can make comments on implementation effect of these policies. Here, farmers and herdsmen refer to those who know these policies because if they do not know policies, they can not make comment.

**Table 2** Comments of cashmere goat breeders on support policies

	Satisfied	General	Dissatisfied
	%	%	%
1. Subsidy for grazing prohibition	74.24	19.70	6.06
2. Subsidy for buck goat	82.58	13.64	3.79
3. Award for grassland and livestock balance	86.44	13.56	
4. Comprehensive subsidy for production means of herdsmen	82.14	17.86	

Table 2 indicates that cashmere goat breeders who know these policies have high satisfaction for these policies. In the early period of ecological protection, the state input was mainly focused on fence construction and vegetation restoration. In comparison, ex-

isting support policies pay more attention to living of farmers and herdsmen and economic development of pastoral areas after grassland enclosure<sup>[4]</sup>, and make up compensation for input of farmers and herdsmen. Therefore, farmers and herdsmen make high comments on effect of these policies.

As to breeding varieties, 63.87% are cashmere goat breeders; as to sample region, Shanxi Province is the highest (90.32%), as listed in Table 1. Besides, there is a distinct regional difference in recognition of farmers and herdsmen about support policies. In Inner Mongolia, 98.41% farmers and herdsmen know related support policies, while in Jilin, Liaoning and Shanxi, this figure is less than 1/3.

**1.2.2** Distribution of farmers and herdsmen obtaining support funds is not uniform. In the aspect of farmers and herdsmen obtaining support funds, only 40% breeders obtained related subsidies or awards from government. And the support funds are not uniform in different varieties and regions. In the aspect of varieties, semi-fine wool breeders obtained the highest proportion of support funds; in the aspect of regions, all breeders in Inner Mongolia obtained related support funds<sup>[3]</sup>.

**2** Problems in the implementation of existing subsidy policies of wool sheep and cashmere goat industry

## 2 Problems in the implementation of existing subsidy policies of wool sheep and cashmere goat industry

### 2.1 Small scope of ram subsidy and low subsidy level

To solve the problem of the ram, the state has constantly increased protection and subsidy for high quality rams. However, the existing subsidy effort is still not sufficient. Now, we take an overview of implementation of subsidy policy for fine rams. As for subsidy varieties, the state included sheep into the scope of subsidy from 2009, and incorporated goat into the scope of subsidy from 2011. However, most qualified rams are meat goat and the cashmere goat variety is few. As for subsidy criterion, since the subsidy policy was implemented, the subsidy criterion was 800 yuan for each goat all the time, which was far lower than the existing price of high quality ram. Thus, the same subsidy criterion for all rams regardless of performance is not scientific. As for the scope of subsidy, at the beginning of policy implementation, it was implemented only in major pastoral areas, and expanded in 16 provinces in 2012,

but not covered in the whole country. As for subsidy object, only breeders with amount of goats on hand able to breed more than 30 goats may obtain subsidy when purchasing fine rams. Such criterion is lower, but many breeders are still unable to obtain subsidy. In the process of survey, we also found that the coverage of fine variety policy is small and few breeders can obtain the corresponding subsidy. Some animal husbandry competent authorities and farmers and herdsmen expressed that price of rams incorporated in the subsidy scope had increase since the fine buck goat variety subsidy policy was implemented, and the effect of benefiting farmers has certain reduction.

## **2.2 The function of subsidy for purchasing livestock breeding machinery is not significant in improving mechanization level of wool sheep and cashmere goat breeding**

The subsidy policy for purchasing livestock breeding machinery is to encourage farmers and herdsmen and animal husbandry production and service organizations to buy advanced livestock machinery, so as to raise the overall equipment level of animal husbandry production and processing. In reality, however, the breeding method is still very backward. Many breeders still use spade to clean up enclosure and use scissors to shear wool. In survey areas, the mechanization level of cashmere goat breeding is relatively low. At present, the implementation of subsidy policy for purchasing livestock breeding machinery has not promoted China's mechanization level of cashmere goat breeding substantially. This is mainly resulted from following reasons; (1) The implementation of subsidy policy for purchasing livestock breeding machinery is not long and policy propaganda is not enough. Although China launched the subsidy policy for purchasing agricultural machinery from 2004, the subsidy for livestock breeding machinery, livestock product collection and processing machinery was included into subsidy scope only from 2010. As a result, farmers and herdsmen in remote areas do not know significance of subsidies for agricultural machinery and types of machines and tools. (2) There are few types of cashmere goat breeding machinery and enterprises qualified for subsidy for purchasing agricultural machinery, and the subsidy is mainly oriented towards large and medium sized agricultural machinery, which is beyond the purchasing power of farmers and herdsmen. (3) After-sale service and maintenance of some agricultural machinery enterprises are not put in place, which influences operating efficiency and quality of machinery and reduces enthusiasm of farmers and herdsmen for purchasing agricultural machinery.

## **2.3 Grassland ecological protection policy increases production cost of breeders and difficulty in management**

Implementation of ecological protection policies such as grassland grazing prohibition and controlled grazing in mountain areas makes cashmere goat breeding change to stabling rearing from grazing. Accordingly, it increases breeding cost and management difficulty. Traditional grazing depends largely on free food intake of goats. However, after implementation of grazing prohibition, public grassland that can be freely used originally has to be paid for grazing. Besides, farmers and herdsmen have to invest large funds

to build housing, and conduct proper maintenance every year. The above factors directly lead to rise of breeding cost of farmers and herdsmen. In addition, breeding management technology is far more difficult than traditional grazing management technology. For example, all feeds for breeding sheep and goats need to be supplied by breeders, which not only needs sufficient feed reserve, but also needs grasping feed processing and nutrition matching technology, and needs higher requirement for epidemic prevention of goats. Many farmers and herdsmen do not understand breeding technology and just enclose goats within yard or pen, and the epidemic prevention and feed matching are at will. As a result, both the goat quality and economic benefit drop <sup>[5]</sup>.

At present, 27 provinces, cities, and autonomous regions have implemented such ecological protection policy as grazing prohibition, while the subsidy award for grassland ecological protection is implemented only in 13 provinces and autonomous regions, including remaining formulation stage in some provinces, and local farmers and herdsmen have not obtained relevant subsidies yet. In the process of survey, we found that some areas have not obtained corresponding compensation due to strict grazing prohibition policy and their goat breeding cost increases substantially. Some breeders even have to exit from cashmere goat breeding.

## **3 Countermeasures and recommendations for strengthening support for wool sheep and cashmere goat industry**

China has long history of sheep husbandry and a number of farmers and herdsmen. Thus, the wool sheep and cashmere goat industry has certain industrial development foundation. In recent years, macro development environment of wool sheep and cashmere goat industry is deteriorating; domestic mutton price remains high, but wool price remains low; the import volume of wool from Australia and New Zealand is huge, and the dependence on foreign countries is still very high. At the background of increasing resource and environment restraint, some areas already have the problems of shrinkage of fine wool production, and dull of sales of fine wool and cashmere, and the cashmere industry development is not optimistic. Thus, we come up following countermeasures and recommendations.

### **3.1 Increasing input in protection policies of fine cashmere goat varieties**

Due to constraint of resource and environment conditions, the benefit of wool sheep and cashmere goat is comparatively low. In addition to impact of meat sheep and goat, the reverse change problem is worse and worse, which is particularly serious for fine wool goat varieties with high performance of wool and low lambing percentage. After the reverse change of fine wool goats, the lambing percentage rises substantially, but the wool quality drops by a large margin. At present, fine wool sheep in some areas are faced with crisis of extinction. Therefore, it is recommended to implement fine wool goat protection policy, to provide guarantee for sustainable development of wool sheep and cashmere goat industry. (1) The state should set up cashmere

goat fine variety protection system and incorporate fine varieties of them into the protection system. (2) It is proposed to properly plan the wool sheep and cashmere goat breeding regional distribution, implement subsidy for variety protection with comprehensive testing station and goat farms as subjects, allocate protection funds according to quantity of sheep on hand, construction scale and scientific and technological strength, and encourage various organizations to do well in protection and breeding of core cashmere goat varieties. (3) It is recommended to increase fund input, encourage breeding farms (stations) and surrounding farmers and herds-men to conduct joint venture, and participate in protection of the wool sheep and cashmere goat varieties.

**3.2 Increasing subsidies for fine varieties of arms** Cultivation and use of rams are major measures for stabilizing wool quality and avoiding variety degradation. Although the subsidy scope and quantity of fine ram goat varieties are increasing, the subsidy criterion remains at 800 yuan for each ram, which is far lower than the market price of fine ram. Therefore, it is recommended to raise the subsidy criterion and connect the subsidy criterion with market price. For example, it is feasible to determine the subsidy level according to 30–50% of market price, to increase enthusiasm of breeders for purchasing fine rams. Besides, in the subsidy objects, it is recommended to incorporate goat farms, large scale breeding farms and individual breeders into the scope of subsidy policy, and connect the subsidy criterion with varieties and generation performance of goats, to realize fine varieties and excellent subsidy.

**3.3 Working out measures for supporting wool and cashmere price, to protect domestic wool and cashmere production** According to the survey on demands of farmers and herds-men for subsidy policies, most farmers and herds-men urgently expect issue of price support measures for wool and cashmere. Low cashmere price not only brings economic losses to farmers and herds-men, wastes wool and cashmere resource, but also reduces enthusiasm of farmers and herds-men for breeding, and influences development of downstream wool textile processing industry. Therefore, it is recommended to work out measures for supporting wool and cashmere price, to protect domestic wool and cashmere production. With reference to experience of domestic minimum grain purchase price policy and foreign wool price support policy, we recommend adopting price difference subsidy mode, namely, government departments determine reasonable target price according to cashmere production cost and market price in recent years. If the market price of the current year is higher than the target price, breeders can sell wool (cashmere) at the market price; if the market price is lower than the target price, government do not have to purchase all wool (cashmere), but may directly compensate breeders according to the difference between current market price and the target price, to safeguard benefits of breeders, keep enthusiasm of breeders for production, and prevent shrinkage of cashmere industry. When formulating price difference policy, it is required to connect target price criterion with wool and cashmere quality and increase subsidy for high quality cashmere, to encour-

age breeders to increase wool and cashmere quality.

**3.4 Strengthening construction of sci – tech service system for wool sheep and cashmere goats and promoting standardized production** After implementation of grassland ecological protection policy, traditional production and operation mode with grazing as major part will certainly be changed to the mode with breeding as major part. China's wool sheep and cashmere goat production mode is backward, the fine varieties are few, breeding housing and production facilities of most farmers and herds-men are backward, farmers and herds-men have low educational level, and the information is comparatively blocked. If farmers and herds-men fail to grasp breeding management technology, it will influence their economic income and affect the implementation effect of the grassland ecological protection policy. Therefore, it is recommended to strengthen grass – root scientific and technological extension and practical breeding technology training of farmers and herds-men. On the basis of the development of wool and cashmere industry in the implementation of grassland ecological protection policy, it is recommended to take following measures. (1) Enhancing construction of grass – root animal husbandry technician team. The development of wool sheep and cashmere goat industry is inseparable from knowledge reserve and expansion of specialized technicians, especially those engaged in cashmere goat industry. (2) Attaching importance to training of practical breeding technologies, such as variety selection, breeding, epidemic disease prevention and control, artificial grass planting, silage making, and pen building, to gradually realize scientific breeding of cashmere goat. In the course of technical training, it is required to pay attention to making necessary improvement in connection with breeding characteristics and natural environment of cashmere goats in all regions, to bring into play functions of these technologies. (3) Increasing fund support for standardized production of farmers and herds-men, encouraging those farmers and herds-men with better breeding foundation and higher enthusiasm to build standardized model farms, providing them with fund support, and encouraging them to cooperate in production, moderately enlarge breeding scale, and push forward industrialized operation. (4) Increasing propaganda and implementation of support policies related to wool sheep and cashmere industry. In view that many pastoral provinces are situated in remote areas, traffic and information are not convenient, cashmere goat breeders are older in ages, and their educational level is low, government departments should take more feasible measures to propagate policies, make farmers and herds-men know subsidy contents and criteria, and speed up implementation of related policies, to bring into play functions of support policies in pastoral areas to the maximum extent.

## References

- [1] XIAO HF, ZHOU XY, SUN ZL, *et al.* Study on industrial economy of goat or sheep for cashmere or wool in China (first series) [M]. Beijing: China Agriculture Press, 2012: 175–220. (in Chinese).

In Fig. 3 below,  $mn$  denotes the number of inadequate demand, and the area  $omn$  refers to market failure loss due to inadequate demand.

## 5 Conclusions

Migrant workers' education and training are related to harmonious development of the whole society and final solution of the issues concerning agriculture, farmer and rural area, and its fundamental way out lies in the quality of farmers. The supply and demand for migrant workers' education and training are two aspects of one thing, and the way to effectively resolve the conflict between the two will affect the quality and effect of migrant workers' education and training directly. Therefore, analyzing migrant workers' education and training market economically can provide a better understanding of the supply and demand situation for the market, and it has an important practical guiding significance in the establishment of effective migrant workers' education and training system. It should be also noted that the whole society must make great efforts and collect wisdom and efforts of everyone to build migrant workers' education and training system during the establishment of the migrant workers' education and training market, so as to make migrant workers be able to gain hope, ample scope for abilities and results after learning in this training system. And it will improve migrant workers' quality and promote their ability of become citizens and have a far-reaching significance in building a harmonious society and facilitating the construction of socialism new countryside and agricultural modernization.

## References

- [1] Theodore Schultz [US]. WU ZH(Translator) On human capital investment [M]. Beijing: Beijing Institute of Economic Publishing House, 1990. (in Chinese).
- [2] LIU HQ. Study on training for rural labor immigration[D]. The Chinese Academy of Agricultural Sciences, 2007. (in Chinese).
- [3] Investigation Team of Ministry of Agriculture. Speeding up the transfer of surplus rural labor from multiple channels and various forms [R]. Internal Research Data of Ministry of Agriculture, 2005. (in Chinese).
- [4] GU YK. Improving the qualities of peasantry and modernization process [N]. People's Daily, 2005-9-2. (in Chinese).
- [5] WEI LQ. Seven schemes for solving current problems of migrant workers [J]. Party and Government Cadres Abstract, 2006(6): 13-14. (in Chinese).
- [6] ZHAI JB. Training on emploment transfen of the labor force in countryside [J]. Journal of Huanggang Polytechnic, 2006, 8 (2): 29-31. (in Chinese).

- [7] Industrial Policies and Regulations of Ministry of Agriculture. Investigation and research on rural policies and regulations [M]. 2005. (in Chinese).
- [8] ZHAO BT, XIAO ZQ. Training of the rural workers: Significant problems in human resource development in China [J]. Journal of Huaibei Coal Industry Teachers' College(Philosophy and Social Sciences), 2004, 25(4): 72-74. (in Chinese).
- [9] YAO XG, YU L. The occupational categorization of farmer laborers and human capital restriction [J]. Journal of Zhejiang University (Humanities and Social Sciences), 2006, 36(5): 16-22. (in Chinese).
- [10] LIU ST. Continuing education: A necessary way of development for new farmer workers[J]. Continue Education Research, 2009(11): 70-71. (in Chinese).
- [11] CHEN D. Farmers' training: should also pay attention to the improvement of survival skills [N]. China's Reform, 2004-4-20. (in Chinese).
- [12] PAN QD. Three levels of farmers' training [N]. Beijing Youth Daily, 2003-10-14. (in Chinese).
- [13] WEI LB, RUAN JQ. Analysis on the influencing factors of suburban farmers' willingness to participate in quality training ——Empirical study on farmers of Sandun Town, Hangzhou City [J]. Chinese Rural Economy, 2007(3): 32-37. (in Chinese).
- [14] ZHANG QL, ZHANG YL. On the migrant peasant laborers' two-stage initiative training investment influencing factors from demand perspective [J]. Journal of Nanjing Agricultural University(Social Science Edition), 2008, 8(2): 1-7. (in Chinese).
- [15] Arriagadar, A. M. and A. Ziderman. Vocational secondary schooling, occupational choice and earning in Brazil, Population and Human Resources Development WPS 1037, Washington D. C. : World Bank, 1992.
- [16] Mankiw, N. G. , Romer, D. and Weil D. N. A contribution to the empirics of economic growth [J]. Qrater Journal of Economics, 1992, 16(2 ): 471-486.
- [17] HOU FY. Study on human capital return in rural China [J]. Economic Research Journal, 2004(12): 75-84. (in Chinese).
- [18] LIU WX. The influence of vocational education on migrant workers employment——Based on empirical analysis of national migrant workers [J]. Management World, 2013(5): 64-75. (in Chinese).
- [19] LUO YY. Analysis on the contradiction between demand and supply in migrant workers education and training [J]. Adult Education, 2008(10): 33-34, 35. (in Chinese).
- [20] DUAN XL, ZHANG LQ. Analysis of rural workers vocational education D-conflicts[J]. Economic Research Guide, 2011(13): 125-126. (in Chinese).
- [21] XIA DD. The economic analysis and policy choices of peasants' training [J]. Agricultural Economy, 2012(5): 112-114. (in Chinese).
- [22] Harris, J. R. & Todaro, M. P. Migration, unemployment and development: A two-sector analysis [J]. The American Economic Review, 1970, 60(1): 126-142.
- [23] JU XH. The effective path choice and motive mechanism for new peasants' training [J]. Modern Agriculture, 2010(2): 78-82. (in Chinese).
- [24] JU XH. The analysis of influencing factors about migrant workers' willing to participate in further education based on the verification of Logistic regression model [J]. Journal of Distance Education, 2013, 31(3): 87-92. (in Chinese).

(From page 13)

- [2] XUE JL, LI BL. Study on sheep industry supply under the grazing ban policy in China [J]. Journal of Agrotechnical Economics, 2010(12): 78-83. (in Chinese).
- [3] CHEN HY, XIAO HF. Evaluation and expectation of herders to grasslands environmental protection policy [J]. Modern Economic Research, 2013

(8): 42-46. (in Chinese).

- [4] CHAI XL, WANG ZJ. Reward-compensation mechanism of rangeland ecological protection [J]. Xinjiang Xumuye, 2011(4): 14-16. (in Chinese).
- [5] HUO KM, PAN Q, SUI ZP. How can break the dilemma of banning grazing for goat-raising industry [J]. Modern Journal of Animal Husbandry and Veterinary Medicine, 2007(3): 17-18. (in Chinese).