

# Potency of Wool Handicrafts Production in Indonesia

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## Abstract

*Wool from local sheep have not been utilized and become a waste when the farmers shear the wool for sanitation purposes. The wool of local crossbred sheep can be still processed for a handwoven handicrafts. Study of the wool processing in Indonesia are still very limited, it was therefore this study was conducted to investigate the potency of the product itself and the economic potency of this product. This was a case study in a wool processing small industry in Indramayu, West java. Wool materials used were from local crossbred sheep. Wool product potency evaluated were types, capacity and favorability of the product through primary and secondary data from observation, questioners and references. Economic potency was analyzed with descriptive and financial analysis. Descriptive analysis was used to describe value chain and labor absorption. Financial analysis used indicator of NPV (net present value), IRR (internal rate of return) and PBP (payback period. The results show that the wool processing products were mostly wool woven wall hangings (size of 60 x 120 cm<sup>2</sup>) which were only produced at 4 % of its production potency. The consumers liked the products as they were beautiful as natural fiber product and had high value of arts. The wool handicraft production also had good economic potency in terms of its NPV, IRR and PBP. In addition of financial profit, the small industry also provided jobs to community. It is concluded that this wool handicraft small industry can be recommended to develop as a profitable small business in Indonesia.*

*Keywords: economy, hand woven handicrafts, potency, product*

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## Introduction

Wool from local sheep in Indonesia have not been utilized and become a waste when the farmers shear the wool for sanitation purposes. For crossbred sheep that have been well adapted for decades (called as local sheep) still had potency to process. They had much finer fiber diameter (FD) around 25  $\mu$  and produce around 3-4 kg/year of greasy wool (Lupton *et al.* 2004), as they were crossing sheep

between dual purpose sheep (meat and wool type, such as Dorset, Texel or Merino) and native local sheep that had FD more than 40 mμ and produced only 0,4 kg/year of greasy wool (Parakkasi *et al.*, 1994; Syamyono *et al.*, 2003). There had been small industry in Indramayu, West Java, that processed this type of crossbred sheep wool and had been quite successful to run its business until national crisis occurred in 1999, the small business was collapsed. At present, national economy has been progressively achieved. It is therefore, this current work was conducted to study present potency of paper discussed work was conducted to research that had been conducted as a case study in the wool processing small industry was reported based on present conditions, to show its great potency to develop as a profitable business. This objectives of this study were to study product and economic potency of wool processing small industry in Indonesia.

## Materials and Methods

### *Product Potency of Wool Handicraft*

To study this wool product potency, a case study in wool small industry in Indramayu was conducted. Some parameters of this potency were:

- a. Type of wool products: Questioners were used and direct observation were conducted in this study. Respondents of the questioners were the owner of the small industry and some experienced employees in the industry for technical matters of the products.
- b. Percentage of products capacity: was the capacity of wool products made in the industry was compared to availability of raw materials based on secondary data of sheep population.
- c. Product Favorability: Ten female academic staff at faculty of Animal Science IPB became the respondents for the favorability and marketability of the products.

### *Economic Potency of Wool Handicraft*

Data on Economy potency were analyzed with descriptive and financial analysis. Descriptive analysis were used to describe value chain and labor absorption. Financial analysis used indicator of NPV (net present value), IRR (internal rate of return) and PBP (payback period).

$$NPV = \sum_{t=1}^n \frac{Bt - Ct}{(1+i)^t}$$

$$IRR = i_1 \frac{NPV_1}{NPV_1 - NPV_2} (i_2 - i_1)$$

Where:

$NPV_1$  ( $NPV_2$ ) = NPV with discount factor  $i_1$  ( $i_2$ )

$i$  = discount factor;       $Bt$  = benefit year- $t$ ;       $Ct$  = cost year- $t$

## Results and Discussion

### *Products Potency of Wool Handicraft*

**Type and characteristic of wool products.** The results of this case study show that the wool product produced were woven handicrafts which could be included wall hangings, prayer mats, lounge cover, bags, hand phone cover, place mats, lamp cover and carpets. It was reported that among the products, wall hangings were dominantly produced. Others were made based on special order from certain consumers. The wall hangings were made in the size of 60x120 cm<sup>2</sup>, with different design such as contemporary, ethnic, natural pictures depending on location of wall hangings would be placed. The product can be placed in a living room, dining room, bedroom or lobby inside houses, offices or hotels. This type of product is an art work, it is therefore that beside quality of materials, design is very important to consider before making the products. One example of wall hangings is shown in Figure 1.



Figure 1. Wool handicraft product as a wall hanging with an ethnic design.

**Percentage of products capacity.** At present population of local crossbred sheep producing meat as well as coarse wool (Merinos x Texel x local sheep) were concentrated in West Java in Banjarnegara and Wonosobo. In Banjarnegara itself the local sheep population was around 107.272 heads and it was predicted that there were 20.000 heads of local crossbred sheep including 10.000 heads of adult sheep producing around 30 tones of coarse wool (Yamin *et al.*, 2009). The wool could be processed to make for 18.000 pieces of wall hanging (60x120 cm<sup>2</sup>) per year. This study found that Indramayu wool handicraft group produced only 60 pieces per month or 720 pieces per year. This only contributed around 4% of product capacity compared to its potency. This means that the small business can be further developed



by increasing wool production and quality as well as preparing professional craft men and businessmen in this area.

**Product Favorability.** The results show that the product of wool handicraft were mostly wall hangings are basically art materials, therefore design of the product should be interesting, beautiful and touchful as well as it must have characters. The results of this case study showed that 80 percents of the respondents liked the products very much. Main reason of the answer was that the materials were from natural fibers of Indonesian local sheep coarse wool which were amazing things to see an unexpected product of wool in Indonesia.

*Economic Potency of Wool Handicraft*

Economic potency of wool handicraft was illustrated from market pontency, financial feasibility and labor absorbtion of wool handicraft industry.

**Market potency.** Hand made wool handicraft was an art product, therefore its price was relatively expensive. The price of this product varied, depending on design of handicraft (motif), raw materials used, level of difficulties and period/length in making the handicraft.

The average of the price for the wall hanging at craftsmen size 60 x 120 cm<sup>2</sup>, was Rp 220,000,-/piece. The products were sold by the craftsmen around 48.89% to souvenir shop, 22.22% to inter-regional middlemen trader, and 28.89% sold directly to consumers visiting the craftsmen workshop. At retailer (souvenir shop), the selling price of those product varied depending on design. Minimum selling price was Rp 280,000,-. The more interesting of its looks, the selling price would be more expensive (Figure 2).

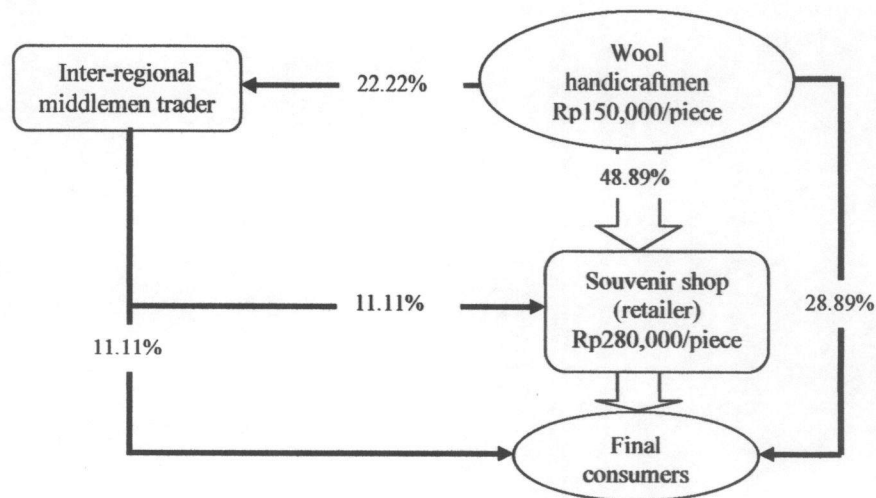


Figure 2. Market chain of wool handicraft wall hangings

The market destinations of the product were outside Indramayu such as Jakarta, Bandung and other city shopping centers in West Java Province. Souvenir shops were located in other tourism cities outside West Java (e.g. Jogjakarta, Bali) were also a potential market for the products. Beside domestic market, international markets were also potensial for this product market.

**Financial feasibility and labor employment.** Gittinger (1986) stated that financial analysis is an analysis to compare cost and benefit obtained to determine whether a project is profitable for period of the project. Handwoven craft industry need capital invesment for building, non-machine spinner and equipments. Financial feasibility analysis need to be calculated to know wether the investment was economically feasible or not. Invesment and variable cost of handwoven craft industry (in the case of Indramayu with the assumption of production capacity of 60 pieces per month) were calculated.

Investment needed for producing 60 pieces of wall hangings per month was Rp 89.82 million with operational cost of Rp 217 404,-/piece. Total production cost per piece was Rp 258 494, and selling price was Rp 280 000, then net profit will be Rp 21 505,-. This net profit could be higher if the selling price is higher by selling to better promotion, more exclusive target and better design.

Based on those technical coefficient and prices, it obtained financial feasibility indicators, as shown in Table 1. Internal rate of return (IRR) was 36%, meaning that handwoven craft industry financially feasible because the IRR was greater or the sama with discount level (Kadariah *et al.*, 1999). At interest rate of 15%, invesment of handwoven craft industry obtained net present value (NPV) of Rp 107 654 046,- with the total capital invesment of Rp 116 511 900,-. This indicates that the business is feasible because its NPV was larger than 0 (Kadariah *et al.*, 1999).

In addition of financial profit, handwoven craft industry also provided job to spinning and woven labors for 5 and 3 mandays per piece, respectively for the two activities. At production capacity of 60 pieces per month, handwoven craft industry employed 25 female labor of spinner and 15 women of weaver, with 20 working days / month, respectively each. Labor wage of weaver (Rp 25.000/mandays) was higher than spinner (Rp 15.000/mandays), because it needs special skills for weaving.

Table 1. Indicators of financial feasibility of handwoven craft industry

Indicator	Unit	Value
IRR	%	36
NPV (15% interest rate)	Rp	107 654 046
Pay back period (15% interest rate)	year	4
Capital (Investment + 2 month operational cost)	Rp	116 511 900

## Conclusions

Development of Wool Handicrafts Production in Indonesia had great potency, either the product itself or its economic potency. The product was an art work using natural wool fibre from local sheep, was beautiful and interesting. Economic potency was also good. Wool processing products were mostly wool woven wall hangings, the small industry only used 4% of its production potency. The consumers liked the products as they were beautiful as natural fiber product and had high value of arts. The wool handicraft production also had good economic potency in terms of its NPV and IRR. It is concluded that this wool handicraft small industry is recommended to develop to become a profitable small business in community.

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