



Review article: The use of fish scales for accessories

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ABSTRACT

This article reviews how to make accessories from fish scales, product quality and market. Based on the results of literacy information obtained that the manufacture of accessories from fish scales can be done through 3 methods. The quality of the accessories produced is quite good and the price is quite affordable. The market for accessories products in Indonesia is women

Keywords: quality, market, manufacture, fish scales

PRELIMINARY

In the fish processing will always produce waste in the form of solids and liquids. The waste must be managed properly so as not to pollute the environment. One of the solid wastes produced is fish scales.

Fish scale if not handled properly can have a negative effect on the environment. The effect is a very pungent odor. Other effects can block waterways so that it can interfere with activities around the place. Therefore, it is necessary to treat the scale waste.

One of the handling of fish scale waste is to make accessories. According to Enen (2004) in Marmata (2019), fish scale waste is interesting to be shaped, arranged, assembled and can explore creative ideas. Some creative ideas are shaped rose brooches, table cloth tongs, jewelry boxes, and bonsai trees. The purpose of this article is to review how to make accessories from fish scales, product quality and market.

Accessories Making

First Method

Materials for making fish scale waste include fish scales, dye, lime, sodium benzoate, spray *clear*, and various accessories such as brooches, earring wire, necklace rope, hair clips, and combs. The tools for making fish scales waste are sharp pliers, pans, spatulas, and stoves. Fish scale waste can be used as the main material for making accessories such as earrings, rings, necklaces, brooches, and bracelets. The result looks more unique, artistic, and

interesting. This fish scale waste craft in the form of accessories is quite easy and simple to do at home without using special tools.

Before making accessories, fish scales must meet appropriate standards as raw materials for making these accessories, here are the steps to make fish scales suitable for use as raw materials for handicraft products according to Paresti *et al.* (2017):

- 1) Fish scales were soaked for 2 hours with detergent water and rinsed with clean water 3 times until completely clean of detergent.
- 2) Soak the fish scales again with a mixture of lime juice and water for 2 hours so that the fishy smell disappears.
- 3) Separate fish scales according to size and thickness and drain through a sieve.
- 4) Giving color to fish scales requires caution. Boil water until warm with added benzoate solution as a preservative.
- 5) Add *wantex* dye or textile paint to the pan and add the fish scales. Be careful not to let the water boil, because the fish scales will become cooked and stick to each other.
- 6) Turn off the stove and let the fish scales soak in the dye for 20 minutes.
- 7) Drain the fish scales and air dry to prevent the surface from curling. To avoid warping on the surface of fish scales, fish scales should not be exposed to heat or direct sunlight.

Steps for making accessories from fish scales:

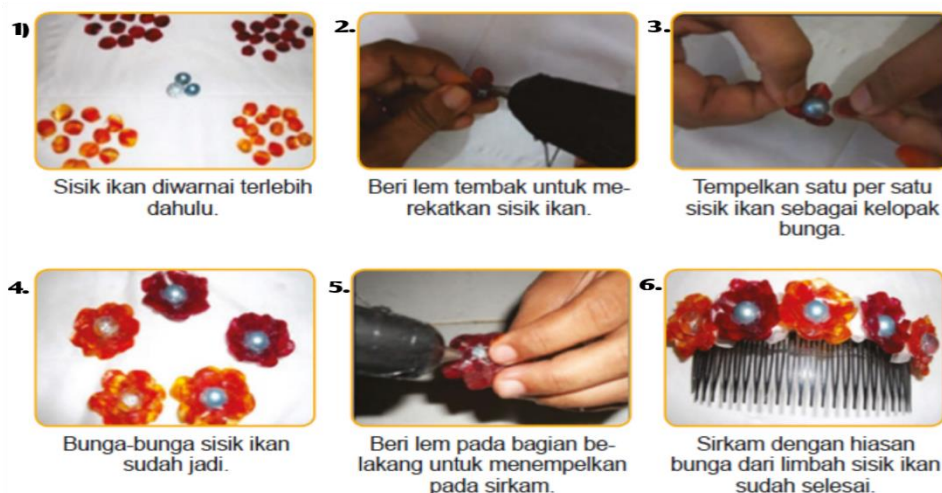


Figure 1 . Steps for making accessories
(Source: Paresti *et al.* 2017)

Second Method

Making beautiful accessories from fish scales includes several stages, according to Kusnadi *et al.* (2018) the first stage is to prepare raw materials, namely by soaking fish scales

with chlorine water and detergent for one hour, then rinsed thoroughly. The second stage is the coloring stage. The trick is to boil the clean fish scales with the desired textile dye for 5 minutes in boiling water. The third stage of the drying process, drying the fish scales in a place that is not too hot to avoid rolling the scales until they are completely dry for further assembly. The fourth stage is assembling the scales into a brooch according to the preferred shape, by attaching the flower-like scales to a flannel cloth that has been formed in the basic pattern and attaching it to a safety pin or stringing it on a necklace or bracelet chain.



Figure 2 . Accessories from fish scales (source: Kusnadi *et al.* 2018)

Third Method

According to Arina *et al.* (2019) Processing fish scales can be done with the following steps:

1. Prepare tools and materials for the processing of fish scales
2. Wash the fish scales using detergent, then rinse until the mucus on the fish scales is clean.
3. Soak fish scales using clean water with a mixture of lime juice. Lime serves to remove the fishy smell that is on the fish scales. The soaking process is carried out for approximately one to two hours
4. Drain fish scales in a room that is not exposed to direct sunlight, so that fish scales do not curl. Drain fish scales over a colander for about 30 minutes.
5. Coloring fish scales using water that has been mixed with benzoate. Benzoate serves to strengthen fish scales. Prepare a pot of one liter of water, then add one tablespoon of benzoate to the water. Stir until dissolved. After that boil water that already contains benzoate until it feels warm. Do not overheat, so that the fish scales that are inserted do not stick. Put enough dye into the boiled water, then stir until the dye is evenly mixed. Add the fish scales to the dye solution and stir gently for 5-10 minutes. Remove the pot containing the scales from the stove. Let the fish scales sit in the pan for 5 minutes to allow the fish scales to completely soak up the color.

6. Drain fish scales using a sieve. Draining is done to separate the excess dye solution with fish scales. Rinse the fish scales using clean water until the remaining dye solution is still carried away. Dry the fish scales until no more water sticks to them.
7. Drying fish scales, after drying the fish scales are ready to be formed into various creations.
8. Designing accessories products from fish scales making accessories according to existing designs

Here are some ways to make accessories from fish scales that can be done, the first is to make fish scales key chains. The first stage is to make a pattern on the cloth in the form of a circle, then sew it and fill it with patchwork. Once filled with patchwork, the cloth will be shaped like a ball. Next, the fish scales are cut into the shape of small flower petals. Next, arrange the petals one by one to form a flower, where one flower is strung together as many as nine petals, five petals on the first level and four petals on the top level. Once assembled, stick it on the ball to cover the entire ball. The final step is to attach the keychain to the cloth that has been arranged with fish scales using hot glue.

The second accessory that can be made is a cactus with fish scales. The first step is to make a circle using knitting yarn. Wrap the knitting yarn on the cardboard, then tie the yarn to cut in the middle. Next trim the threads that have been cut to form a ball. The next stage is making cactus petals, cutting fish scales according to the pattern that has been made with large, medium, and small sizes. Next, arrange the petals on the ball of yarn until the ball is covered using hot glue. Next, make foam according to the shape of the existing vase. On the top of the foam, stick small stones using hot glue. The next step is to attach the cactus to the center of the foam that has been given small stones using hot glue. Then put the foam in a vase. The last step is to give the fabric that has been shaped then insert the vase into the fabric and use hot glue around the vase so that the fabric and the vase blend together.

Fish scales roses can be made in several steps, including preparing colored fish scales, then making large, medium and small flower petal-shaped patterns. Then place the pattern on the fish scales and cut out according to the pattern, cutting out as many petals as needed. The next step is to prepare a wire that has been wrapped with ribbon wire to be used as a flower stalk. Then arrange the flower petals using hot glue, starting from small to large. After it becomes a flower, then cut out the leaf-shaped fish scales. The last step is to paste the leaf until it blends with the flower stalk.



Figure 3 . Accessories from fish scales (key chains, fish scale cactus, fish scale roses) (Source: Arina *et al .* 2019)

Product quality

Science and technology to process fish scale waste into beautiful accessories craft products need to be continuously studied so that beautiful accessories that are in accordance with market demand and have more economic value can be found more easily. Various accessories products from fish scale waste, such as brooches, key chains, and decorative flowers that are designed with various and colorful patterns have a fairly high value for creativity and aesthetics. The advantage of this fish scale accessory craft is that the raw material is cheap and is an environmentally friendly recycled item so that it can process fish scale waste that has not been used so far. With the existence of beautiful accessories from fish scales, there will be no more waste of scales being wasted and there are beautiful accessories products from fish scales that can be liked by the wider community and in the end can increase the income of the community's economic value. Until now, accessories products from fish scales are still quite good and the price is quite affordable.

Market in Indonesia

Accessory products from fish scales can be found in online stores such as Tokopedia. The price range for brooches made from fish scales is between Rp. 22,000 – 25,000, this price includes an affordable price. The price of each product can increase if the product has its own uniqueness and the way it is made. The target market for brooches made from fish scales is women, brooches made from fish scales can be used as jewelry or used as safety pins or fasteners for clothes.

Conclusion

Based on the results of literacy information obtained that the manufacture of accessories from fish scales can be done through 3 methods. The quality of the accessories produced is quite good and the price is quite affordable. The market for accessories products in Indonesia is women.

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