

# Ticivara Robe Sewing Guide



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# 1. Sabong Sewing Guide

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## 1.1 Planning the cutting layout

Measure the cloth and plan how the sabong and the borders are going to fit.

If the cloth is not wide enough for the sabong to be drawn and cut as one piece, determine which khandas will be cut out separately. Draw them horizontally on the cloth, instead of the vertical orientation seen on the pattern diagram.

On the drawing, the cutting lines are the long vertical lines.

In the case of separate khandas, the pattern calculator implies a 1cm cutting buffer at the side edges where khandhas will be joined, and 5-10cm shifting buffers at the top and bottom edge of the khandhas.

The separate khandas will be joined along these lines after the first and second sewing is completed.

The thread orientation of the cloth has to be observed and kept consistent between the separate pieces. The cloth stretches to a different degree when pulled in the vertical or horizontal direction. If this is mixed up, the different orientation will cause the material to wrinkle.

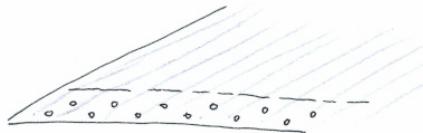
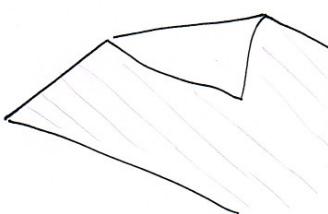
The borders may fit in one length, but may have to be sewn from joining separate pieces to maintain the thread orientation.

First, determine how much of the total cloth is going to be needed to fit the sabong and the borders, and cut off this approximate size from the main cloth roll.

Wash it at 40 degrees, to make sure the cloth shrinks before drawing the marks.

Dry and iron.

## 1.2 Determine the top and bottom side



*bottom / wrong / inward side*



*top / right / outward side*

Identify the top side (aka. ‘right side’) and bottom side (aka. ‘wrong side’) of the cloth. The top side is going to face outward for everyone to see, and the bottom side is going to face inward.

The top side is slightly more reflective, and the bottom is more matt. When a corner is folded over, the difference may be possible to tell when looking at a low angle to see how the light reflects off the fabric.

The ‘selvage’ is the edge of the fabric where the pins of the machine were holding the cloth during manufacturing, and so they have a slightly different colour.

If there is printed text on the selvage (such as a brand name), the text is on the top side.

The selvage has pinholes where the pins of the machine were inserted. The pins are inserted from the bottom side, and they leave a conical depression on the selvage. If you run your finger along the edge, you will feel raised dots on the top side.

## 1.3 Marking the cloth

Lay out the cloth with the **bottom side facing up**.

For a **sabong**, draw the marks on the **bottom side**.

Determine the final size with the pattern calculator and mark the cloth.

## 1.4 First sewing

Start with the broken lines. Pinch the cloth and crease it along the drawn line.

Fold and make the first sewing, at about 5mm from the edge.

Keep in mind to not sew too narrow, the second sewing will be made between this sewn line and the edge of the fold.



Observe the sequence of the lines: (1) broken vertical, (2) short horizontal, (3) long vertical.

The beginning and end of the lines don't need to be locked with reverse sewing. Around the edge of the cloth, the hem and the border will lock the threads. At the kusis where the broken lines end, the next line will cross it and lock the thread.

When sewing the broken lines, one may start at one end of the cloth, stop where the line crosses the kusi. The needle can be then lifted across the kusi, continuing to sew the broken line on the other side of the kusi.

When getting close to the 'T' intersection of kusis, keep in mind that the flap will have to be folded over. Take care not to sew the crossing part locked in the wrong folding direction.

After one group of lines is finished, such as after the broken lines, pinch and crease the cloth along one of the lines in the next group. Fold and sew along the edge, closing the T at the place where the lines meet.

## 1.5 Second sewing

The second sewing is in the same sequence as the first.

For the second sewing, fold the cloth outward from the kusis, flatten and sew between the first sewing and the edge of the fold.

When getting to a few stiches away from the 'T' intersection of kusis, stop the needle and turn the cloth slightly, sewing in direction towards the inner corner of the intersection. This allows less stress on the fabric, and reduces bundled areas.





This way on the outside of the cloth there will be one visible sewing line, and on the inside there will be two.

In the second sewing, the folding direction has to be observed so that the kusis are lower than the middle sections.

If it was cut from separate pieces, these have to be joined now. The join has to hide both open edges. The joining fold is made by two sewing lines, which are effectively the first and second sewing along the long vertical lines.

## 1.6 Trim and Fold a Hem

When sewing the pattern on a single piece of main cloth, the sewing lines pull in the fabric and the edge of the cloth is no longer going to be a straight line. The variation is usually about 3-5mm.

Place a ruler along the edges and determine if the edge has to be trimmed to make them straight.

When sewing from separate pieces, the places where panels are joined usually have some variation in the alignment as well, and they may need to be trimmed along the edges all around the cloth, to create even and straight edges.

After trimming the edges, fold up 1cm on the edge of the cloth to make a hem, but instead of sewing, it is sufficient to iron and pin it. When placing the border on top, sewing the border is going to fix the hem in place as well.

## 1.7 Borders

Add the borders.

## 2. Civara Sewing Guide

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### 2.1 Marking the cloth

Lay out the cloth with the **bottom side facing up**. (See how to determine the top and bottom side.)

For a **civara**, draw the marks on the **bottom side**.



Mark the diagram lines on the cloth with a pencil. Note that the vertical buffer length for the squaring stage is already included at the ends of the panels. This will allow 10cm vertical manoeuvring when joined the cloth has to be trimmed.

You can mark the panels joined end-to-end, and the vertical buffer will be left in between.



Remember to leave cloth for the borders along the edges of the cloth. The thread orientation of the border strips have to be the same as when they are placed on the cloth, otherwise the border will shrink in a different direction from the cloth under it. Small border pieces can be joined if the entire length can't be obtained from the sides of the cloth.

When the size of the cloth allow, the long borders can be cut out from the horizontal length, and the short borders from the vertical length of the cloth.

Cut out the panels. Take care to make clean cuts at the edges which will be joined, if the cloth is not cut straight or the thread is allowed to fray, it will make joining the edges difficult.



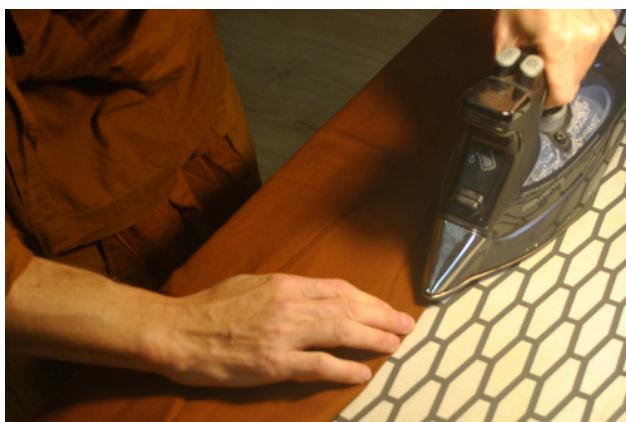
## 2.2 First and second sewing

Make the first sewing and second sewing, same method and sewing order as with the sabong. First (1) the broken vertical lines, (2) then the short horizontals (3) and the long continuous vertical lines.

The finished sewing will show one thread on the outside, and two threads on the inside.



If you iron the folds before sewing it, the crease will hold better and the cloth needs less arranging while on the sewing machine.



Start sewing the broken lines from the outside of the cloth toward the kusi.



When you reach the kusi, you can lift the needle, pull out a bit of thread, pull the cloth to skip over the kusi, and continue sewing on the other side.



Later, you can secure the loose threads by tying knots on the end at the kusi. This allows to pinpoint carefully where the sewn line stops, i.e. how close to the line. An alternative method is to go reverse and forward with the sewing machine at these places to lock the thread.

The thread has to be secured one way or another, because if left loose, it can undo itself and unravel the sewing.

The outer edges of the thread (at the end of the cloth) don't have to be tied, because it will be closed when adding the border.

## 2.3 Joining: method overview

Place the two layer on top of each other, aligned at the joining edge, with the front sides facing each other. The front, or outer side is where you see a single line of sewing at the kusi.



The width of the fold is determined by the distance of the first joining thread to the edge of the upper layer, which has its back side facing up. The lower layer extends beyond that edge.

On the lower cloth layer, the distance from the sewn line to the edge has to be at least twice as wide or more, as the fold that you determined on the upper layer.

If the fold is about 5mm, the complete distance should be about 10 to 15mm.

If you make the fold too narrow, there won't be space to add the second joining thread.

Sew the two layers.



Open up the two layers, and iron them toward the long overlap. The short overlap lies on top of the long.



While ironing, pull the cloth tight against the sewing line, so that the ironed line doesn't add a gap where the cloth is loose.



Fold the long overlap on top of the short overlap, maintaining the edge of the cloth below. You turn the cloth over the edge, not folding the edge along the sewing line.



Trim off the excess cloth.



Fold both overlaps underneath, turn the long overlap over short one along the edge, and crease it with the iron.



Sew along the edge of the fold.



The join is complete.



When you look at the front side, the kusi is lower than the area next to it on the right.

If you compare it to rice paddies, the kusis are the paths between the fields of rice. When the rice has grown and is ready to be harvested, the field is higher than the path.

## 2.4 Joining: marking the position

When the first and second sewing is completed on the three pieces, lay them out in the way they will be sewn together, to mark the cloth for joining.

Use a long ruler to align the horizontal kusis across the three pieces.



Make a pencil mark where the kusis are going to meet. The cloth may move or stretch along the cut line, and the ends will be trimmed off at the squaring stage, but the kusis have to stay in line.

Use pencil marks such as a V-shape, to make them recognizably different and avoid mixing them up with the lines of other marks.

Mark both edges of the cloth so that the position is not lost later.



Pin the two sides together where the kusis meet the other side, so that these points don't move.

On the upper layer, two threads should be seen, on the lower layer, only one thread.



Sewing them together will start from the kusi, toward the outer edge.

The cloth toward the edges can be allowed to move and stretch a bit, the outer edges don't have to meet exactly.

The kusis must remain in the pinned positions. If there is an extra or missing few cm in the cloth between the two kusis, or a difference between the upper and lower layer, the cloth has to be stretched or gathered up to absorb the difference.

## 2.5 Joining: first sewing

Start sewing from one end of the kusi, across the kusi and moving outward.

When starting from one side, the kusi shows the sewing lines:



When starting from another side, the sewing lines are not visible:





When you have sewn to the end, turn the cloth around, start from the kusi again in the other direction.

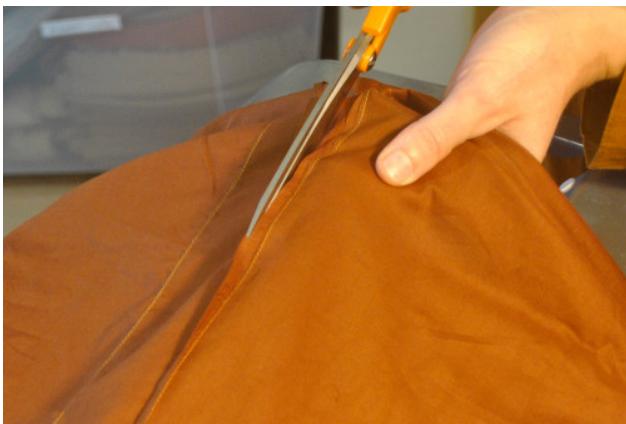
(If you start sewing from the outside in, the kusis will not necessary meet.)

## 2.6 Joining: folding and second sewing

The following photos show the above joining method on the civara cloth.









## 2.7 Squaring

Lay out the joined cloth, top side facing down. You should see the two threads of the back, or inner side.

Tape the cloth to the floor. You only want it to lie flat, not stretched. If the shape of the cloth is distorted, the trimming lines will be wavy. Attach the tape at the sewn lines, where the cloth doesn't stretch as much.

Use the short side as the base and align the rulers at 90 degrees.

Find the line which you can cut straight along the edge without gaps.



Mark the line with a pencil.

Later, when you put the border on the cloth, in the border area the cloth is doubled and less prone to stretching than the middle part of the robe. The result is that over time, the middle part of the robe sags and doesn't fold into a neat line.

This can be counteracted by shortening the cloth at the middle.

Find the horizontal center point of the robe and mark a point 1.5cm above the line at the edge. Mark a line from this point to the corners, creating a roof or  $\Lambda$  shape. Do this at both the top and bottom side.



Cut the cloth along the marked lines.



## 2.8 Borders

Add the borders.



# 3. Sanghati Sewing Guide

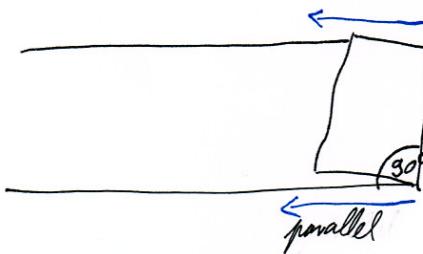
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## 3.1 Drawing and Cutting

Cut off the length of the cloth and iron it, so that the cloth lies smooth and flat.

Cut off 10cm longer on each side to allow for mistakes.

Fold up a short length, align the edges to be parallel, this will establish a 90 degree corner. Crease the corners of the fold to create a mark.



Fold out and use the creased marks to measure where the edge of the drawing is going to start.

Mark the bottom edge above the holes of the selvage on the edge. Use this as the bottom side of the drawing.

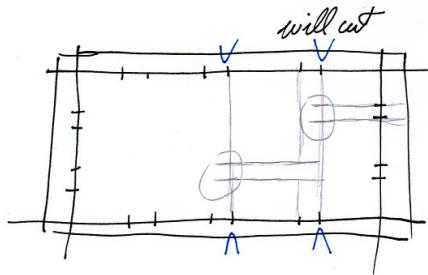
## 3.2 Marking the cloth

Lay out the cloth with the **top side facing up**. (See how to determine the top and bottom side.)

For a **sanghati**, draw the marks on the **top side**.

Mark the lengths and draw the pattern.

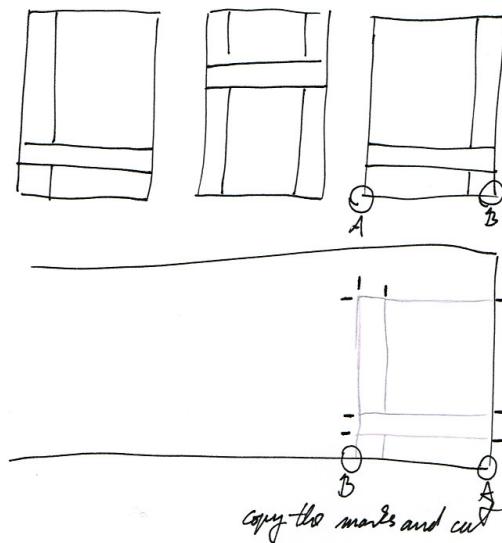
On the *khanda lines* that you are intending to cut, carry the crossing line over a few centimeters to keep a mark of the positions after the cut.



After the lines are drawn, cut the edges around, and cut the dividing line of the khandas.

For the second layer, the already marked cloths can be placed over the blank cloth and the marks can be copied over easily.

The top and bottom side of the cloth have to be observed. The marks again have to be drawn on the top side of the second layer, but the first layer have to be flipped on the vertical axis when marking, to produce a mirror image.

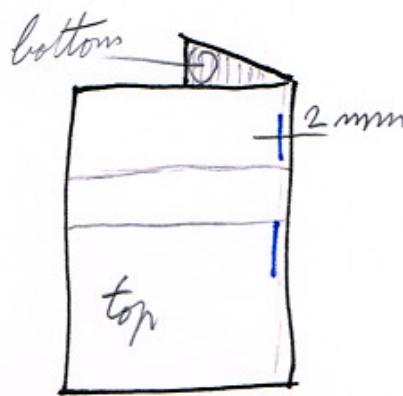
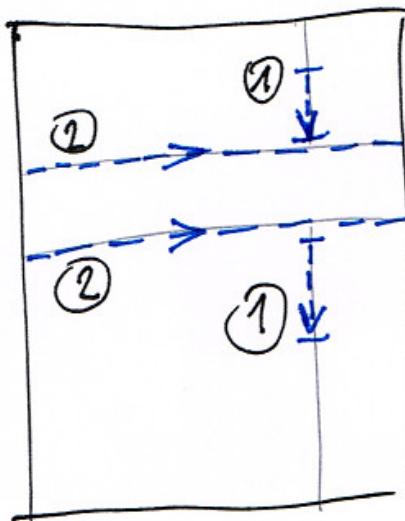


### 3.3 Cutting the Borders

See the Border Sewing Guide

### 3.4 First Sewing

Start the first sewing from the broken lines (1).



Sew on the marked side. Start from a hand-span away from the kusi, lock the thread at the start with reverse sewing.

Sew towards the kusi, and stop at 2mm before the kusi line.

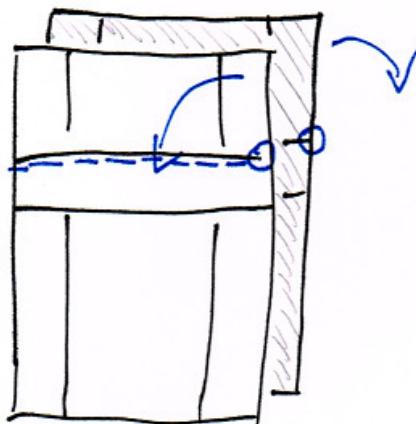
Move to the other side of the kusi, and continue the line. Lock the far edges by reverse sewing. The inner edge doesn't have to be locked, the second sewing will cross and lock it.



### 3.5 Joining the Layers

Start with the middle khandha, take both layers and arrange them with the sewing inside.

Take the horizontal kusi line and fold it down on the two sides.



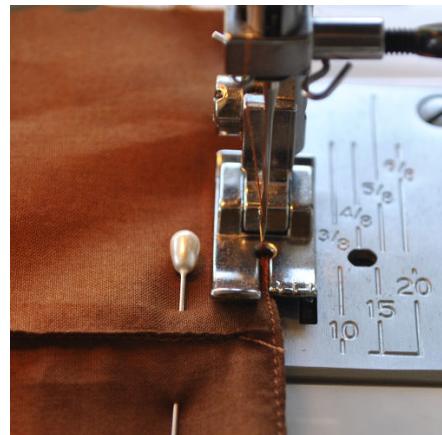
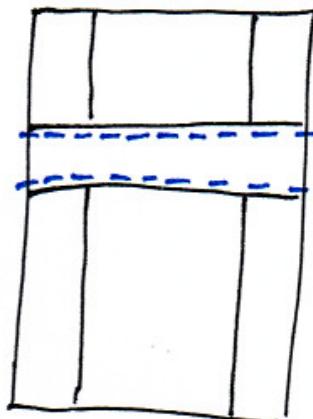
Pin them below the sewn line and fold back to check that the kusī will be on a lower level than the middle section.





This is also called the “canal” and the “shore”, if you imagine the kusis being the watering canals between rice paddy fields.

Sew the layer together below the first sewing, within 1-2 mm. Sew both horizontal kusi lines this way.



It is possible to fold the first one in the wrong direction, and when you fold it back, the kusi ends up higher. When folded in the wrong direction, there will be a flap at the corner.

When it is folded in the right direction, the flap will be inside.

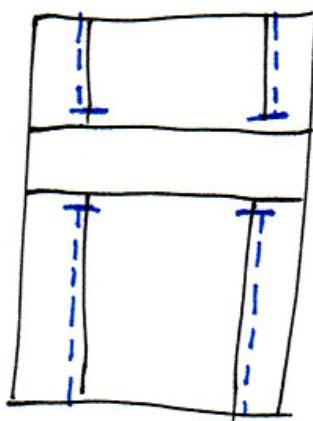


Pin the layers, and double-check by folding it back out, that the kusi is lower than the middle section.

Join the horizontal lines this way.

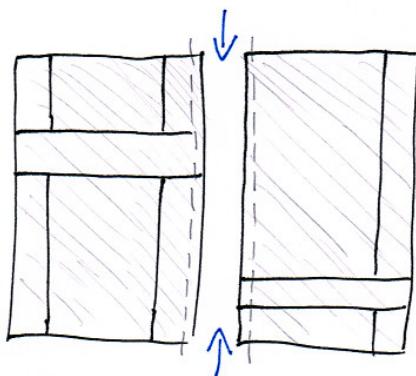


Join the vertical lines in the same manner, but stop at 2mm from the horizontal lines.



## 3.6 Joining the Khandhas

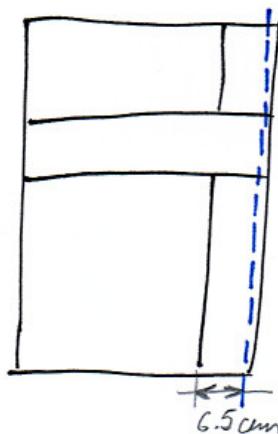
Join one of the side khandhas to the middle khandha.



Measure the visible kusi width on the middle khandha. If you started with a 6cm kusi, and did the sewing at 2mm on both lines, the result shuld be about 5.5mm visible kusi width on the cloth.

When joining the side khandha, allow 1cm from the edge for sewing.

To get a 5.5cm kusi, mark the cloth at 6.5cm and trim the egde.



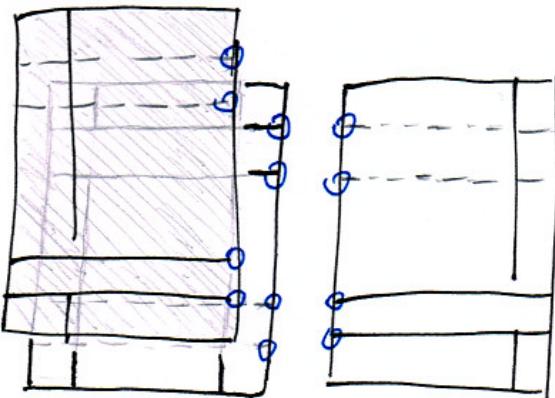
Pull the sewing line against the edge of a ruler to straighten the cloth.



Trim.



Place the side layers on top and bottom of the middle layer. Find the pencil marks of the kusi lines and align them evenly.





Pin the four layers and sew them at 1cm from the edge of the cloth. Before sewing, you can double-check the arrangement by folding the layers out along the pins. Check that the kusi lower, and kusis are aligned across the cloth.







After sewing, trim the edge at 3mm from the sewn line.



The other lines of the side khandhas are joined the same way as before.

Continue with joining the other side to the middle khandha and proceed outward until all the khandhas are joined.

## 3.7 Sewing the Borders

See Borders.

# 4. Borders

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## 4.1 Cutting

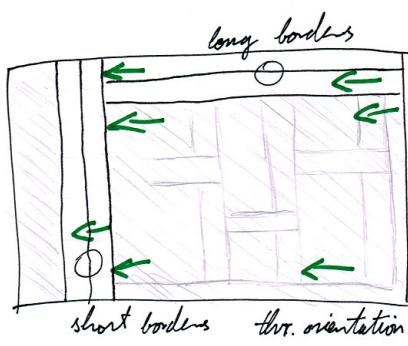
If there is space for it on the cloth, use the remaining part at the top for the long borders, and the side for the short borders. Cutting them this way preserves the thread alignment.

The thread has to be aligned in the same direction in the borders and the main cloth, otherwise during washing the border and main cloth will shrink at a different rate and produce wrinkles.

These are ready to be ironed and used later.

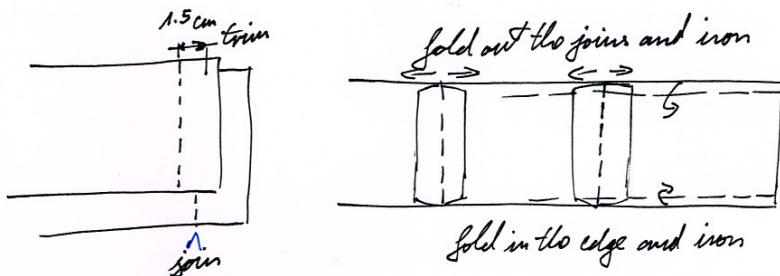
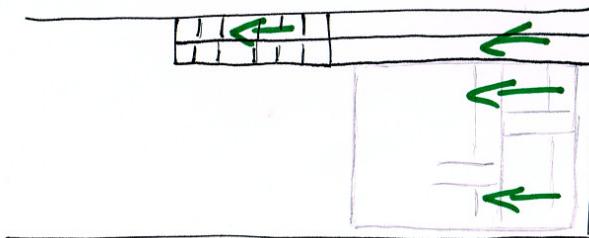
Fold and iron the edges by gently tapping with the iron. A strong force on the iron will push the edges out. 0.5 cm is sufficient along the edges.

After ironing, roll up the borders to preserve the ironed edges. Tie up the rolls with the trim from the edges.

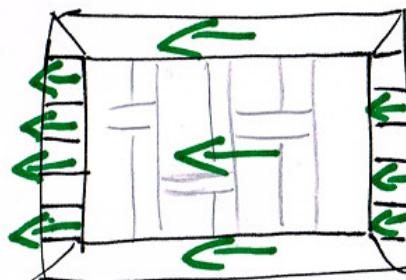


When the borders have to be cut at a different orientation, sections of it have to be joined up to preserve the thread alignment.

The short borders sometimes have to be cut horizontally from the cloth. Cut the length to pieces which are the width of the border, and join them one after the other.



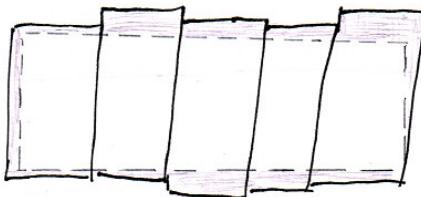
This will preserve the thread orientation when the border is placed on the main cloth.



## 4.2 Sewing

Find the distance at which the joined khandhas can be cut.

Take the line of the kusis and measure which edge is the closest. Draw that line.



Keep in mind that 1cm will be taken up by the hem for the border.

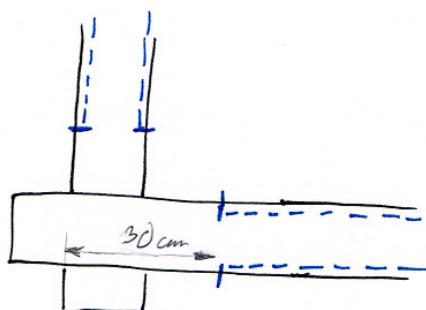
The drawn area is the available maximum size for the robe. If this is larger than desired, measure back from the edges evenly and draw the lines for an even size.

Trim all around.

Examine both sides of the cloth for any defects and choose which side is better. That will be outside, the borders will be placed there.

Place the cloth on the ironing board with the outside up. Fold up 1cm, iron the edge by tapping with the iron, and pin it as you go all around the cloth.

Spread the cloth on the floor with the outside up and place the borders along the edge. Pin it and sew both sides to about 30cm distance from the corners, so that the ends at the corners are free to manipulate.



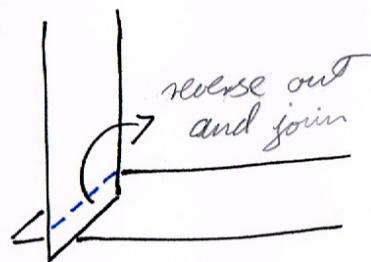
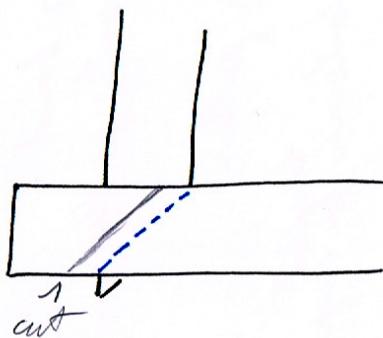
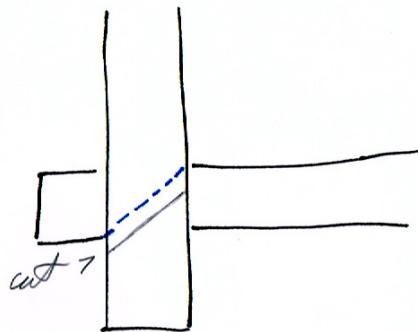
After sewing, arrange one corner on the ironing board and iron the edges flat. Take care that the edges should meet at the exact corner of the main cloth.

Draw the diagonal on both border layers.



Fold out the border, measure 1cm from the diagonal on the flap and trim.

It is difficult to align the flaps using the diagonal mark, since it is covered. Use the 1cm distance cut edge to align the flaps and pin them before joining.





Join the two flaps.



Cut off the edge corners at a lower than 45 degree angle to not let loose edges protrude on the sides. Trim any small irregularities which may protrude.

Fold out the flaps and iron flat.

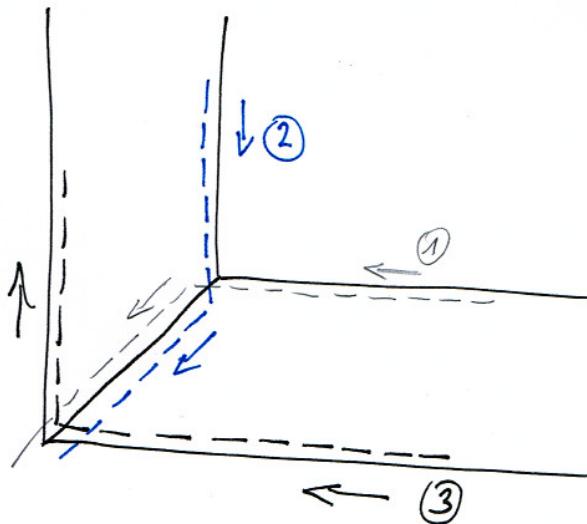


Fold back on the corner, arrange the edges and corners carefully and pin them.



First sew the inner edges, up to the inner corner, then across the diagonal, then down along the diagonal on the other side and off the corner.

Then sew the outer edge.





Repeat with the other corners to finish the border.

## 5. Borders: Folding Method

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This is an alternative method to add the borders, by placing them on the outside first, then folding them over to reverse them out. This method is sometimes called *French corners*.

Prepare the border strips in the same way as in the first border guide.

Check that the border strips extend beyond the main cloth at least by about 5 cm.

After the second sewing is complete on the main cloth, place the border on the *outside* of the main cloth, with the folded hem of the border on the inner edge.

The outside is the one with a single sewing line visible.



Start the sewing at about 10-15 cm from the corner, to allow working on the corner later.

Sew the edge while keeping the main cloth aligned with the border strip.



Continue with sewing the other border strips on the outer edges. Remember to leave space at the corners.



After attaching all the border strips, lay out the cloth.

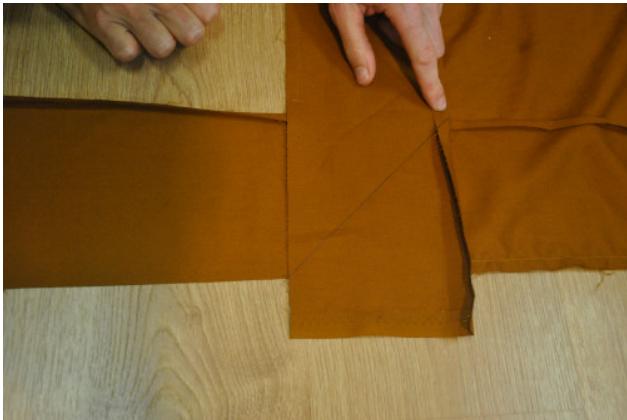


Align the layers at the corner so that the edges are flush, and mark the diagonal on the top and bottom border layers.



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To help finding the position later, make a pencil mark in inner the corner on the main cloth.



Cut the border strips at a distance on the outer side of the diagonal.



Align and pin the corner layers, then sew along the marked line to join.



Iron the joined line to flatten the cloth.



Sew along the edge, completing the line on the outer edge of the cloth.



Trim the very corners at a low angle, to reduce the cloth material which will be inside the corner when reversed out.



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Fold over to reverse out the corners. Use a blunt point, for example the tip of a pencil, to arrange the inside of the tip of the corner.



Open the inner side of the border and iron the edge to make the edge sharply creased.



Lay out the cloth and pin the loose inner edges.



Add the final sewing lines along the inner and outer edge of the border.





## 6. Tag Knots

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On the *civara* and *sanghati*, the tags function as buttons to fasten the loose ends of the robe. These are made by tying small strings into a knot and a loop. The button side is otherwise known as the *Chinese Button Knot*.

The string used below is thicker than usual, to help seeing the structure better.

Start with the string around a pencil or a finger.



Bring the right strand across in an over-hand loop.



Take the loop, and give it a half-twist, away from you, turning the lower edge over to the top.



Pull the left strand through the loop.



The left strand goes under the right,



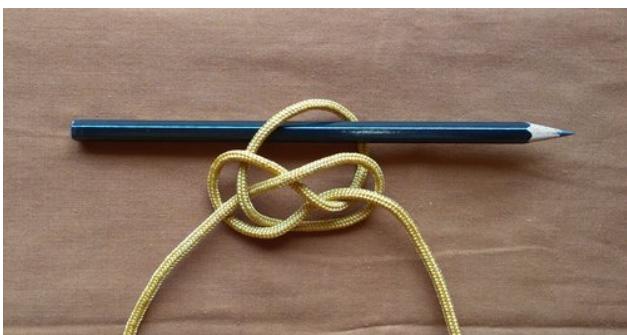
and through the new loop, as you see below.



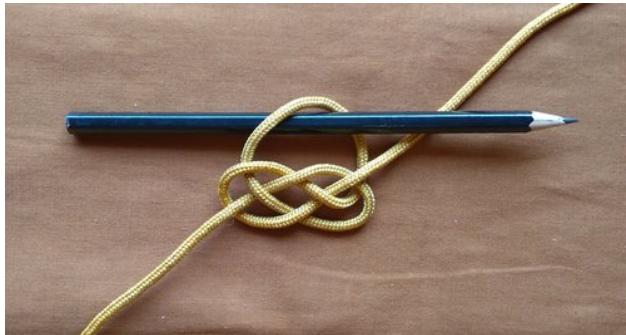
Pull in the slack, but don't tighten the knot.



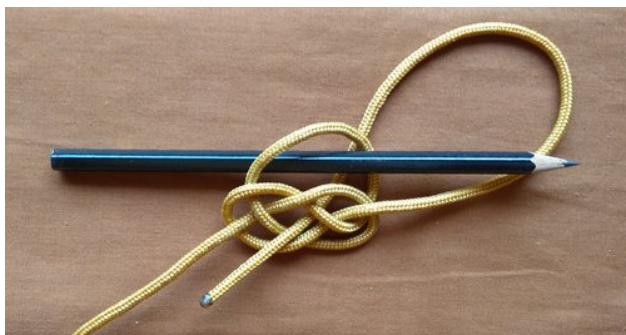
Pulling further...



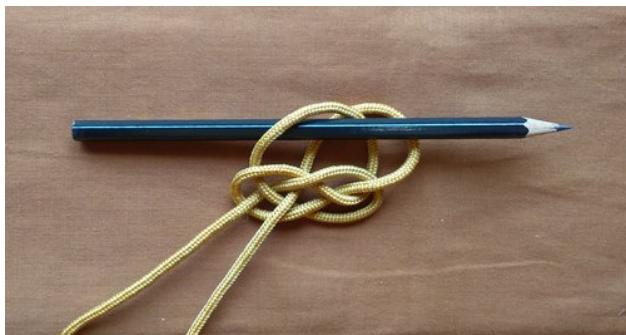
The knot should have this form, in a figure-of-eight and a diamond shape in the center.



Take the right strand under and through the diamond shape in the center.



Pull in the slack.



Same with the left strand, take it under and through the center.



The structure of the knot is complete.

Pull in the slack, remove the pencil and keep tightening the knot while maintaining its form.





# 7. Dyeing Manual

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This manual describes different procedures to dye cotton, polyester and other types of material to a colour which we use for our robes and cloth requisites in the Thai Forest Tradition.

The current version is *v1.4, 3 June 2019*.

Downloads:

- Dyeing Manual (PDF)
- Spreadsheet (MS Excel)
- Spreadsheet (LibreOffice)
- Dyeing with Washing Machine Instructions (PDF)



# 8. Tools Checklist

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## 8.1 Checklist before sewing

- thread
- sewing machine condition
  - needle, bobbin, engine
  - extra needles in case it breaks
- standing lamp to direct light on the sewing machine
- extension lead
- large sharp scissors
- short trimming scissors
- tape measure
- long straight edge
- ruler
- marking pencil (2B - 4B soft)
- pencil sharpener
- pins
- undo tool, picker and blade
- fabric dye
- rotary cutter
- cutting board
- iron
- ironing board
- pure water for the iron (distilled or from a dehumidifier)
- cutting pattern
- container to collect cut-off scraps and thread