CLAY MIX & PROCESS FOR BUILDING BREAD OVEN

PICTURE OF PROCESS:

i) **Willow,** used to make a basket
ii) **Earth** (just sticky enough)
iii) **Leaves or Paper**, separating layer
iv) **First Layer** (hand width thickness) **of Clay and Sand** (high sand content – 2:1 / 1:1)
v) **Second Layer of Clay & Straw** (again hand width thick layer of clay and for final 1" as much straw as you can mix) Over all thickness should be 8/9"

CONSTRUCTION OF WILLOW BASKET

Two stout rods of willow or hazel are placed in the ground to form a crossing arch, like an upturned basket. The distance apart from the butt end to the tip end should not exceed 30" and the height of the dome should not exceed 24" ins. A further 2 stout rods are placed in the ground, working on a
30" diameter circle.

Bisecting the first cross. In this way a dome is created consisting of four sticks crossing at a central point forming the top of the dome. Two slightly thinner sticks are placed in the spaces between the eight sticks forming the arch. A total of 16 thinner sticks are required to do this. These thinner sticks do not need to go over the crossing point, only to reach the height of the dome.

Weaving the basket commences at the ground level using a simple weaving stroke, e.g. 3-rod wail or 2-rod pairing. Continue to weave the basket starting weaving rods in 2 / 3 different

places. As you reach the top and the gaps between the upright rods close in the start to treat 2 adjacent rods as 1 rod; skip 1.

When the basket is complete it is prised out of the ground, butt ends trimmed to equal length and transferred over onto the oven plinth, where it can be imbedded into a sausage ring of clay. It is now ready to receive its first layer of clay.

CONSTRUCTION OF THE PLINTH

Putting first earth layer onto basket.

Dimensions: for a 30” basket the plinth should ha e diameter of 48” minimum.

This could be made of a variety of materials, but do bear in mind that it will have to be constructed in such a manner so as to withstand the great weight of the wet clay oven. A stone base, filled in with rubble and earth is best as then there is no danger of it catching fire due to the intense heat that will develop in the oven.

The top plinth should be placed at adult waist height for this will be where the sole of the oven will be. This is a convenient working height for accessing the eventual oven. The sole of the oven is best constructed with fire bricks and a reasonably flat area just inside the door should be aimed for, as this is where you will do most of your cooking.

CLAY MIXTURE

The clay, which should be dug from the ground, should be mixed on one – two large flat sheets of wood.

The clay is first wetted with water 'puddled by feet' a wonderful group activity. It should be mixed to an even smooth consistency. Then sand is added according to how 'tight' or strong the natural clay is. The sand helps the clay to become more elastic, especially in the firing process. There is about a 10% shrinkage in clay in the drying out and firing process. With a natural clay with little or no sand in it, you will have to add sharp sand at about 75 % to the volume of clay.

The first layer –the thermal layer about 3"/4" does not require straw. Mix sufficient clay and sand for the first layer. Then to the remaining mix add cut straw about 3" > 6". The straw helps to bind the mix and adds to the insulation value. Keep some clay aside for the final layer, then add additional straw as much as you can mix in. This provides the oven with a good insulation layer.

The final mixture of clay should not be too wet or else it will most likely start to slide down the basket.

CONSTRUCTION OF CLAY OVEN

Work can now begin on constructing the clay oven. The first the layer to be put onto the 'sacrificial' basket is a layer of damp earth. The earthy mix (only earth, no clay, this layer will have the imprint of the woven basket in it after firing and will be made to fall away leaving a nice smooth inner surface to the oven) is made into pats and placed systematically around the basket starting at the bottom. As with all layers, it is important to ensure equal thickness of layers are built up.

Following the earth layer, large leaves or newspaper is layered over the earth layer. This ensures separation between the earth layer and the first clay layer and will leave behind a smooth surface.

A wooden arched door, made of a thick piece of wood is placed vertically up against the oven; this area will not be covered in clay. However, because of the great shrinkage in the clay it is very unlikely that the wooden door used as template at this point will fit the oven after firing. Another door will have to be made to fit.

Next the three layers of clay mix are put on, each layer covering the entire form before the next layer is patted on. Care should be taken to build up the layers evenly and uniformly. An oven wall of overall thickness of 8/9" should be achieved, however you may have to make it slightly thicker at the base to act as a kind of buttress, to help support the weight of clay above.

An exit or chimney space about 4 ins wide is made at the top but rear of the dome, opposite to the door. It can be built up slightly on the outside with coils of clay.

It is best to let the newly built oven dry out for a few days before attempting to 'Biscuit' fire it. If time and circumstances do not allow this, leave at least one night before cutting an opening in the willow where the door will be and placing inside glowing embers of wood. At this stage you need to dry the clay out as best and thoroughly as you can before firing it. This could take in the region of 6 – 8 hours.

Care must be taken not to burn the basket out before the clay has dried to ‘leather’ hardness or else the oven will collapse.

When the clay is sufficiently dry the fire in the oven should be increase to reach a temperature of 800 C so as to turn the clay into ceramic. This is an exciting process and can best be achieved with dry brushwood, sometimes known as ‘faggots’.

COOKING IN THE OVEN

Having fired the oven it should be left to cool down after which time the earth layer, the first layer placed on the basket is encouraged to fall away by knocking and scraping it out. Then a good fire can be made in the oven to heat up the sole and the mass of the oven. This may take an hour or so.

Push the ashes and charcoal to the outside base rim of the oven, wipe the sole of the oven with a wet mop and you are ready to do your first cooking. Place with a ‘Peel’ (a large wooden flat spoon as used by bakers) the prepared dough mix i.e. pizzas etc. onto the inner sole, cooking is achieved within minutes.

Remember to cook food that requires the greatest heat first, then other food that does not require so much heat or a steadier heat as your oven cools down. Loaves of bread can be cooked when the oven has cooled, the door can be placed on to store heat.

It is advisable to place a simple shelter above the oven to stop rain falling directly on it. Care would need to be taken that the roof is sufficiently high, so a to prevent it from getting burnt when heating up the oven.