ANNEX VIII: RE-LACTATION, HAND EXPRESSION AND CUP FEEDING A BRIEF GUIDE FOR AID WORKERS.

Introduction
In emergency situations infants are an especially vulnerable group. Breastfeeding is the safest and simplest way of ensuring that they reliably get the nutrients they need for adequate growth and for the development of their brains and central nervous systems. Breastmilk also provides priceless protection against illnesses that are rampant in natural and man-made disasters. Even under these very stressful circumstances, most mothers need only a little information and support to breastfeed their infants. Some mothers will need a little more help to establish or maintain a good milk supply. This annex outlines ways in which aid workers can be helpful to these mothers.

1. Establishing a Breastmilk Supply: Re-lactation (and induced lactation)
For many reasons a woman who is not lactating or only barely lactating may find herself in a situation with an infant who needs to be breastfed. A woman who has been pregnant at any time in the past can usually re-lactate. Even post-menopausal women have relactated successfully. Many women who relactate produce enough milk to breastfeed an infant exclusively. A woman who has never been pregnant can establish lactation (this is called induced lactation); although this is more difficult and the amount of milk produced may be less than is needed for exclusive breastfeeding. Establishing a milk supply depends primarily on the infant's suckling. Younger infants tend to be more willing to suckle than older infants, but there are reports of children over a year old who have been breastfed after relactation.

1a) How to establish a breastmilk supply.

What can YOU do to help?

- A woman who wants to relactate must be well motivated and have good support if she is going to manage it. **Give her confidence** that she can produce milk. Reassure her that you will help her.
- Let the mother know that it may take several days - perhaps even two weeks or more - for the milk to start coming in and possibly several more weeks (2-6 weeks) before she is able to breastfeed exclusively. A woman inducing lactation for an orphaned infant will probably need even longer.
- Explain to the mother, her family and her health care workers that it might help her, while she is building up her milk supply, if she can get someone to help her with her daily tasks. Look into getting her priority in food and water queues with other lactating mothers.
- Make sure that the mother has extra rations, the same as other lactating women.
- Assist the mother with breastfeeding advice, hand expression (see section 2a) and with any other needs she may have.

What should the MOTHER do?

- Skin-to-skin contact stimulates the release of the hormone prolactin, which is necessary for milk production. Encourage mothers to keep their infants close to them and have as much skin-to-skin contact as possible.
- Correct attachment and positioning of the infant to the mother's breast is important for stimulating a good milk supply, and protecting against any potential problems such as sore nipples. Make sure the mother understands how to position and attach her infant to her breast to ensure effective suckling and removal of her breastmilk. (Note: See box for a brief guide on positioning and attachment).
- The more often the breast is stimulated, the more milk will be produced. The mother should put their infant to each breast at least 10-14 times in a 24-hour period (every 1-2 hours in the day and whenever possible at night) for as long as the infant is willing to suckle. If a mother is not producing much (or any) milk, an infant may be reluctant to suckle long enough to provide good stimulation. The mother can encourage her infant to stay at the breast longer by dripping milk into the corner of his/her mouth or by using a breastfeeding supplementer (see section 1b). Remember that depending on how long it is since the mother stopped lactating, it can take a couple of weeks for the milk to arrive and even longer before a mother is able to breastfeed exclusively.
- The levels of prolactin - the milk producing hormone - are highest at night. Therefore, if possible, the infant should sleep with his/her mother and breastfeed whenever they wake at night. Frequently an infant is more willing to suckle when he/she is sleepy (or sleeping) than when he/she is wide-awake. Note: never force the infant onto the breast.
- The mother must learn to "baby-watch" so she can pick up her infant's signals of interest, for example, licking his/her lips, opening and closing his/her hands and mouth, moving his/her head around and so on (this is often called "mouthing" or "rooting"). If the mother can squeeze a small amount of her milk onto her infant's lips or tongue it may awaken his/her interest.
- The infant should not be given a dummy or pacifier. They may reduce the infant's interest in suckling at the breast and can be difficult to keep clean, especially in emergency situations.
- If the infant is not willing to suckle as frequently as needed, the mother can stimulate her milk production by hand-expression between feeds (see section 2a) or whenever possible, preferably

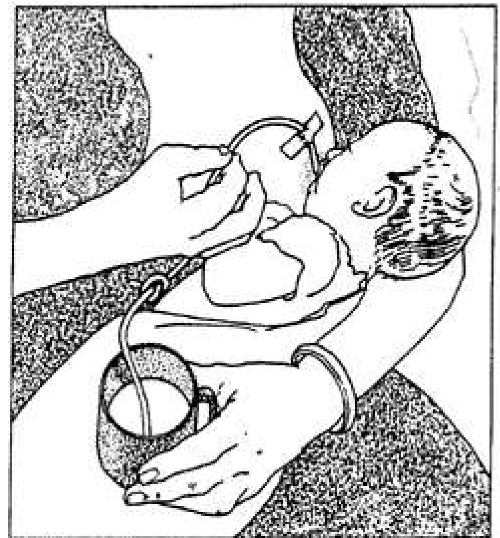
every 1-2 hours. Keep in mind, however, that the infant's suckling is the best way to stimulate milk production. In order to stimulate her milk production the mother should also touch her nipples frequently until they become erect.

A brief guide on positioning and attachment during breastfeeding

- *Breastfeeding should NOT hurt; if it does hurt it is wrong, take the infant off the breast and start again.*
- *Correct positioning. The infant's head and body should be in line and turned towards the mother. The infant's nose or upper lip needs to be opposite the nipple.*
- *When the infant attaches to the breast the mother should wait until the infant has a wide mouth - about 90 degrees. If he/she doesn't open spontaneously, the mother can stroke her infants lower lip with her breast or finger until he/she does.*
- *As soon as the infant has his/her mouth open she should quickly take the infant to the breast, with the infant's chin leading and aiming his/her lower lip below the nipple well back on the areola (the dark area surrounding the nipple) and the nipple towards the infant's nose.*
- *There should be more areola visible above the infant's mouth than under the chin. [The infant should be breastfeeding not nipple feeding, the nipple is only part of what should be taken into the infant's mouth; the rest is breast tissue taken in by the tongue from below the nipple. Nipple sucking is very painful and is not effective in stimulating milk production.]*
- *If attached correctly the infant's chin should be touching the breast and the infant should have a wide mouth. The infant's lower lip should also be flanged out - however this may be hard to see so don't check for this if it means that you will unintentionally break the infants attachment.*
- *If the infant is well attached he/she will be swallowing and will have slow deep sucks followed by pauses. [The infant will suck quickly at first before getting into a slow deep sucking rhythm. The infant will pause occasionally (he/she is waiting for more milk to come down) this does NOT mean that the infant has finished.]*

Note: The infant should be left to come off the breast when he/she wants. A mother will know when her infant has finished the first breast when he/she comes off the breast or falls asleep. She can then burp him/her and offer the second breast, which he/she may or may not take.

1b) How should an infant be fed before enough breastmilk is produced?



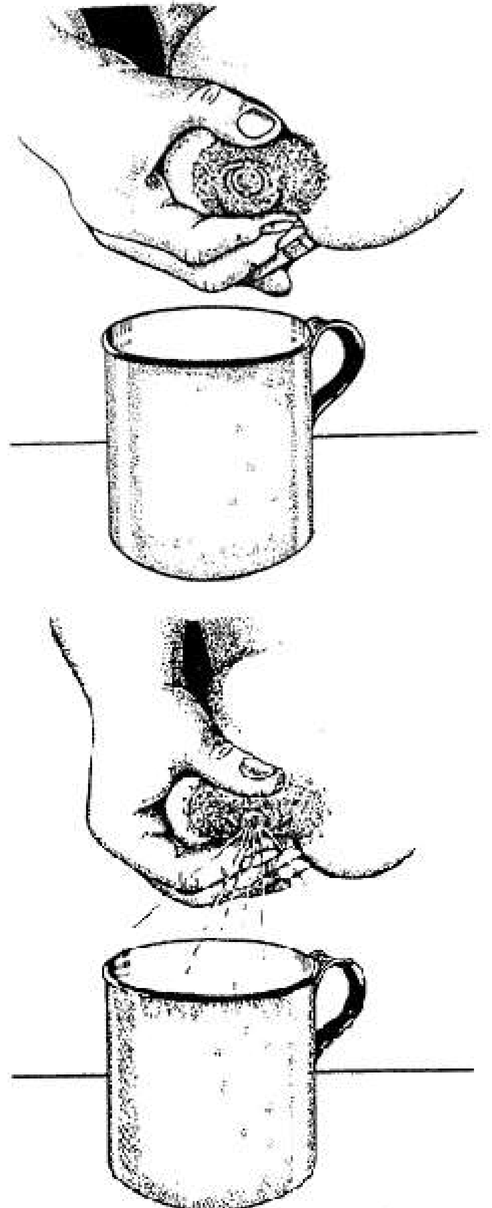
- While lactation is being established the infant will need to be artificially fed. Give the full amount of artificial milk required (150mls per kg per day) until the milk starts coming.
- Feed the breastmilk substitute (BMS) by cup (see section 3) or with a breastfeeding supplementer (see below).
- As soon as her breastmilk appears the mother can start to reduce the amount of BMS she is giving her infant. Start by reducing the BMS given by 30-50mls a day - either in one feed or spread out over each of them. If the infant continues to gain weight and has 6-8 very wet nappies a day the BMS can be reduced by another 30-50mls every two to three days. However, reducing the BMS too quickly can compromise the infant's growth and cause the mother unnecessary additional anxiety.
- In order to determine that the infant is getting enough milk it is important to check the infant's weight gain (over 125g a week), urine output (it should be abundant, pale yellow or clear in colour) and fontanel (it should not be sunken). If the infant appears not to be getting enough milk then give the same quantity of BMS for a few days and if necessary increase the amount of BMS for a day or so. Moreover, it may sometimes be necessary - during a growth spurt, for instance - to increase the BMS a little and then go back to reducing it slowly again.
- Supplementing while breastfeeding. A helpful method of re-establishing or inducing lactation is to feed the BMS to the infant while he/she is suckling. In this way the infant's efforts are rewarded, and the infant's suckling stimulates the production of milk. This method is useful if an infant is not interested or is too weak to suckle from a breast that does not produce milk yet. The supplement used can be artificial milk, pasteurised donated breastmilk or preferably the mother's own expressed milk (if she is producing any). The supplement can be put into the side of the infant's mouth using a syringe or dropper while the infant is suckling, it can be dripped onto the mother's breast so that it goes into the infant's mouth while the infant suckles, or, if **cleanliness and sterilisation can be assured,** then a "breastfeeding supplementer" can be used. This consists of a cup or bottle of supplement, with a fine tube which leads from the bottom of the container, along the length of the mother's nipple (at the top or side) and into the infant's mouth (see diagram 1).

What **you** can do to help a mother use a breastfeeding supplementer.

- Show the mother how to use the supplementer and how to keep it absolutely clean. The tube needs to be sterilised after every feed and changed every few days.
- Show the mother how to regulate the flow of milk from the supplementer so that the infant does not feed too fast and so that the breast is stimulated; the infant should suckle for about 30 minutes at each feed if possible. If the flow is too fast it can be regulated by closing the tube a bit with a paper clip, a knot, or by lifting or lowering the container.
- Explain to the mother and her family or friends that she may need some help during this procedure, for example, by holding the cup.
- Remind the mother to let her infant suckle at any time he/she is willing - not only when she is using the supplementer.

2. Expression of breastmilk

All mothers should learn how to express their milk. This is useful if the mother is separated from her infant; if the infant is too weak to suckle; if the breasts are severely engorged; or to stimulate milk production, for example, when relactating. Expression can be done by hand or with a pump (hand or electrical); however, in emergencies it is very unlikely that pumps or electricity will be available so this section will concentrate on hand expression.



What should the MOTHER do to express her breastmilk?

2a) Hand expression

What YOU can do to help:

- Ensure that the mother has some privacy.
- Help her to relax.
- Provide practical support by providing her with the equipment she needs e.g. a container.

(see diagram 2)

She should:

1. Wash her hands thoroughly.
2. Prepare a very clean cup or container with a wide neck to collect the milk in.
3. Relax, get comfortable and think of her infant, if her infant is not there it may be useful if she has something of her infant with her, e.g. a photograph or a piece of her infant's clothing to smell.
4. Stimulate her breast to release milk (this is called the let-down reflex) by gently massaging and stroking her breasts from the outside in towards the nipple and touching her nipples until they are erect.
5. Lean slightly forward so that the milk can be collected in the container.
   (Note: the following is just one method, she may find a way that suits her better.)
6. Hold her breast by placing her four fingers underneath and her thumb on top. Her index finger and thumb should be about 4cm (an inch and a half) away from the base of the nipple; this may or may not correspond to the outer edge or her areola depending on its size. Her fingers should be over her lactiferous sinuses, which are the areas in the breast where the milk collects; some women can feel these as small round thickenings under their fingers.
7. Press her fingers in slightly towards the chest wall.
8. Compress the breast tissue (lactiferous sinuses) between her fingers, and then release. Press and release, simulating as much as possible the rhythm of her infant's suckling. This should not hurt; if it does hurt she is doing it wrong and needs to improve her technique. She should not hurt herself by squeezing, rubbing, pushing or pulling too vigorously. Some mothers find that using a rolling motion with their thumb and fingers compresses and empties the milk reservoirs without hurting the sensitive breast tissue.
9. Be patient, even if no milk comes at the beginning.
10. Move her hands around her breast so that she expresses from all areas of her breast

11. Express one breast for at least 3-5 minutes until the flow slows; then express the other side, then repeat both sides. She can use either hand for either breast or both hands.

Note: Expressing breastmilk adequately can take 20-30 minutes or even longer; especially in the first few days when only a little milk is produced. The mother should be encouraged to express for at least this long several times a day.

2b) Storage and use of stored breastmilk

Expressed breastmilk must be stored in a sterilised, closed container in the coolest place available. Current guidelines are that it can be stored for up to 6-8 hours at room temperature (26°C/78°F or lower) - although it is best to refrigerate the milk as soon as possible if it is not being used - and for 24-48 hours in a refrigerator (4°C). After 48 hours all milk should be frozen at -18°C. It can be stored in the freezer for 3 months, as long as the temperature is maintained. If there is a power failure then the milk being stored in the fridge or freezer should be consumed within 8 hours, after this time it should be thrown away.

Note: (i) It is easier to use if milk is frozen in small, portion-size amounts. Never re-freeze it, but keep it in the refrigerator for use within 48 hours. (ii) Let the breastmilk thaw in the room, it should be used when it is at room temperature. It should not be heated, if necessary it can be thawed by placing the container in some warm water.

3. Feeding by cup

Most babies do not need to feed from anything other than the breast until they are about 6 months old. However, if the infant does need supplementation then this should be given by the supplementation techniques described in section 1b or by cup; bottles and teats should **not** be used as they may cause sucking confusion. Moreover, in emergency situations it is difficult - or impossible - to ensure the cleanliness and sterility of this equipment.

How do you cup feed an infant? (see diagram 3)

- Place the wide-awake infant in an upright position sitting on your lap.
- Support the infant's shoulders and neck with your hand, so that you have some control over the infant's head. It may also be helpful to tuck the infant's arms away by wrapping him/her up; this can also help to support him/her.
- Half fill a small cup. It is best if it is transparent so you can see the milk and with a thin rim (the rim must not be sharp).
- Place the cup at the infant's mouth, resting the cup gently on the infant's lower lip and so that the edges of the cup are at the corners of the infant's mouth (where the top and bottom lips meet)
- Tip the cup so that the milk reaches its rim and the infant's lower lip. Aim to keep the cup in this position.
- A pre-term or sick infant may lap the milk at first with the tongue, while a full-term infant will sip the milk. DO NOT pour the milk into the infant's mouth.
- Be patient. Take the lead from the infant; let him/her decide when he/she has had enough.
- In order not to waste milk some people like to use a saucer to catch the spilt milk. With practise the mother can do this or somebody else can hold it (see page 24).
- Measure the infant's intake over 24 hours; the amount the infant has at each feed will vary.

All the diagrams in this annex have been taken from Breastfeeding counselling: a training course (see annex III).