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Case study: The Ndlala household

Annexure A

Case Study (This case study arises from research in KZN and has been adapted by the writer to be used as a case study)

The Ndlala household lives in a rural area known as Kwa Mathleka under the tribal authority of Embo-Timuni, KwaZulu-Natal. It is located 60 kilometres inland from Isipingo on the South Coast. The area is hilly with an average rainfall of 1000mm. In this particular area there are about three homesteads to every square kilometre. The rains begin in August and usually continue through April. This is the season when food crops are grown. Winter occurs in June, July and August which have the lowest rainfall averages as well as the coldest temperatures. The average temperature is 25°C with the lowest ever temperature recorded as 3°C and the highest 40°C.

The Ndlala family lives in a homestead consisting of one large rondavel for Mr Ndlala, one 'rectangular' block house which has a living room and various rooms for children and Mrs Ndlala. There is a rain barrel (Jo Jo tank) located at the end of the building next to the kitchen that fills from the gutters. In addition, there is a cooking rondavel which has a gas stove, no running water and a fire ring for cooking. The family uses an outhouse enclosed in sheets at the edge of the yard. There is no electricity or running water, but the Ndlala's do have a stand pipe in their yard and access to adequate amounts of firewood. Someone has to fetch and cut this wood. This is usually the job of teenage girls in the household. There is another 'square' block house for living accommodation, being built to the side, but it is not completed yet. There are three sons and two daughters in this family. The eldest son is a truck driver in Northern KZN. The second son is away at Technicon studying to be a survey technician and comes home during the holidays which are in July and December. The third child is a daughter who lives in Umtata and works in an office 'with computers'. The fourth child is a daughter who is married and lives in Durban. The last born child is a son. He is 22 years and lives at home. He has recently showed interest in attending some courses designed by the Department of Agriculture on small-scale commercial sugar cane farming in KZN. He is not interested in farming for subsistence, he wants to farm as a business. There are six grand children under the age of 10 who live in this homestead. Their parents send money home when and if they have it. On land surrounding the Ndlala homestead, are other members (brothers, wives of deceased brothers, and families of deceased uncles) of Mr Ndlala's family. Since she was a teenager, MaShezi (Mr Ndlala's niece) who lives just across the stream has worked as casual labour on Mr Ndlala's farm. MaShezi is about 39 years old. Mrs Ndlala and MaShezi do all of the planting and weeding, unless there is

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money to hire help. Mr Ndlala works very hard with his main physical activity being hoeing and ploughing. He also carts cow manure in his wheel barrow when he buys from his neighbours. The youngest son has begun to help with the ploughing and sometimes planting as Mr Ndlala is becoming very old (70). Generally he tries to talk his father into hiring a tractor to plough. But this is expensive, costing about R200 for one half hectare of land. Land is not a problem for Mr Ndlala. He has access to more land than he uses, and does not even use all of the land currently allocated to him by the chief.

Until about five years ago, the Ndlala family planted about 2 hectares. During the summer rain fall growing season they planted peanuts, amadumbe, which is a variety of traditional beans for drying, maize, sugar cane, potatoes, sweet potato, chillies and pumpkins. These were all for household use. Although they only eat the maize when it is fresh, they plant about 70% of the prepared land to maize. Some is saved for seed, but most is not eaten or the children visit and take it home with them when they leave. In the past, they have been able to trade excess potatoes and sweet potatoes for manure and other food related items like planting material - things available in the local community that they have needed. There are always plenty of amaranth, pumpkin greens and a variety of other wild edible herbs to pick during the rainy season. The Ndlala's grown up children do not like these, but the grandchildren eat them happily as they do not understand what all the fuss is about. They are growing and are always happy to eat. The homestead has five tree tomato trees, three guavas, a grove of bananas and two mango trees growing on the edge of their fields. Many other people in the community have nut trees, avocado trees and occasionally a lemon tree planted in their yards. Lots of homesteads plant peach trees, but these do not do well in this climate.

Five years ago, Mr and Mrs Ndlala both joined a farmer's organisation called the Ezemvelo Farmers Association. The EFO's goal is to supply the national food chain with organically certified indigenous vegetables. A research team from the local university are working with the EFO. This team is working with farmers to find innovative technologies that take advantage of farmer's indigenous knowledge for commercial production of indigenous crops. The market niche which has been identified is for organically certified vegetables. Woolworths has seen the EFO as an opportunity to meet the new wave of business ethics which encourages supporting community outreach. Woolworths has committed to paying for the very expensive fees required to certify the farmers as organic producers, and purchase EFO produce from season to season. Because of this involvement, Mr Ndlala has reduced the amount of maize which he grows and has increasingly given more space to monoculture cropping of amadumbe, Zulu potatoes and green beans. Because of problems with the high standards for no blemishes on green beans, Woolworths has only been able to guarantee that they can take amadumbe and Zulu potatoes. Mr Ndlovu has noticed that the cost of manure and ploughing is increasing and manure is becoming more difficult to obtain as the other farming enterprises around him get bigger.

Last year, Mr Ndlala took part in a community training session offered by an extension officer from the Agricultural Research Council and was given a small wormery (worm farm) that produces liquid manure. Mr Ndlovu did not have to pay for his wormery because the cost was subsidised by both Wizzard Worms a SMME (small to medium enterprise) who makes the wormeries and by SANPAD (South African Netherlands Partnership for Alternative Development), a Non Profit Organisation (NPO) that supports the research activities of the University research team. Mrs Ndlala was using this liquid as a foliar feed for her bean plants. She says that it worked very well to make the plants grow. But the worms have all died as Mr Ndlala gave them too much water (because he hoped to encourage more liquid manure) and the worms all drowned. A researcher from the team has promised to replenish his worms and help him learn to maintain a healthy population.

Every year, Mr Ndlala is cautioned by internal organic certification inspectors (trained members of the EFO) that the chemicals used on his sugar cane will prevent him from being certified. Last year, the inspector for SKAL (the organic certification body used by Woolworths) said that he needs to make a decision by next year whether he wants to go fully organic or not. Planting amadumbe's for the organic market is very labour intensive, but the price per kilogram has always been quite good. The sales to Woolworths have brought in about R4 000 per year since he joined and varies with the number of tons that the Ndlala's can produce.

With the growing of more crops for Woolworths, the family has relied heavily on sweet potatoes. The family is now very tired of eating boiled sweet potatoes and miss the variety of their previous diet. One month ago, Mr Ndlovu was invited through the EFO to attend a value adding training session for using sweet potatoes. The training session was conducted by staff from the Department of Agriculture. Mr Ndlovu sent MaShezi as his representative and she learned how to make cookies, juice, bread, French fries (chips) and salad with sweet potato and amadumbe. These have been welcome additions to their diet.

Everyone's favourite is the sweet potato chips. Last year, Mr Ndlovu asked the extension officer from the ARC what to do with the fruit from his tree tomato trees. Many farmers have planted these trees as they had been given to them, but no one knew whether the fruit could be eaten or how to do so. In response to this request, a research team associated with the EFO held a value adding session where the farmers brought their own fruit and were taught how to make tree tomato jam. The local agriculture extension officer was included in this session as she also did not know what to do with the fruit. The children especially love to have the jam – and now also eat the fruit straight from the tree.

The family also grows 2 hectares of sugar cane which they sell. Eight years ago, Mr Ndlala joined a community structure called the Illovo small-scale farmers co-operative. The sugar cane is sold to the local sugar mill through a farmers' co-operative. The sugar cane fields are re-planted every three years by a contractor. The sugar mill supplies planting material (if needed), fertilizer and weed killer throughout the growing season and then deducts the cost of these from the sales. Sugar cane sales bring about R5000 net income into the family coffers each year.

During winter, Mrs Ndlala grows vegetables in a community garden located near a stream. This is because there is a permanent supply of water here for the vegetables. These crops are only grown during winter, because in the summer, they are too busy with their fields of food and commercial crops and temperatures are also too high for vegetable crops. The plants are watered using hand buckets filled at the stream. The vegetable patches are hand hoed and weeded. Here they grow just enough spinach, cabbage, beetroot, onions, tomatoes, carrots and green peppers for use in the family cooking and to trade for various things from other community members.

The net income from the sugar cane is about R5 000 per year. Mr and Mrs Ndlala both qualify for state pensions of about R800 per month each and Mr Ndlala gets about R250 per month from the Church as a stipend for being a retired minister. When they pay (usually about 8 times per year), the parents send home about R150 per child each month.

The Ndlalas live near a reasonably well maintained district road and about 600 meters from the general dealers (KwaMathleka store). They purchase their bulk dry goods from Isipingo (carting them back by taxi) or purchase them at the KwaMathleka store. There is a Vodacom tower within 1 km and the taxis, mobile clinic and pension payouts use the local store as their interface point with the community. Two months ago, Mrs Ndlala went to Durban for 2 weeks to visit the youngest daughter. While they were visiting her Mrs. Ndlala became very ill and died. This was a tremendous shock to the family. She was only 60 and although she had been struggling to keep up with the heavy demands of farming for several years now, it was not understood that her life was at risk. Mr Ndlala's youngest son has been thinking about marrying the mother (Slindile) of his child but he has no source of income to pay damages, before he can marry her.

He is now wondering if he should make a plan since bringing a young strong wife into the homestead would help deal with some of the needs created by his mother's death. Slindile dropped out of school in her matric year to have her baby. To help out in this time of crisis, MaShezi has taken over much of Mrs Ndlala's responsibilities. Since she is not being paid for this, she has come to live at the Ndlala's and has brought her own teenagers with her (2 girls and 1 boy who attend the local high school). A niece of MaZhezi's has also been coming across from her homestead during the day to help MaShezi with the daily household chores of washing and cooking and cleaning. She eats twice at Ndlala's, but otherwise is not paid for her help.

Annexure B

Integrating Food Security And Traditional Knowledge: Permaculture Approaches For Poverty Alleviation In South Africa



Tshepo Khumbane (South Africa) [Conference Day 1 @ 09:30 - Submitted Paper] **Conference Proceedings**

Chapter One - Keynote Presentations

Introduction

Food security is a system that rests with people. It is a system of meeting long-term food needs. It goes beyond production to include preservation and storage. Land, water, forests, grasses and livestock are important components of food security.

In situations of mass poverty as currently exists in South Africa, where malnourishment of children under 5 is almost at 60% in areas in which we work, food security interventions have to be addressed within the broader context of poverty alleviation. Through food security awareness building, avenues are created for questioning and debating the frame conditions provided by government policies such as the Land Reform Policy.

In South Africa food security is an activism issue. It starts with what people have, which is in most cases the right to occupy land without long-term security. Those alienated from land have lost the technologies, the feel for the land and production systems based on traditional patterns of co-operation which take ritualistic significance around the production cycle.

The future to me is not just to have enough food for one year but also take into account the next 2 to 3 years in case of drought. Food security is not just having vegetables such as spinach, cabbage, onions, tomatoes, green beans, pumpkins, etc. It means taking into account the basic food needs which sustain food requirements the households are accustomed to. Different food requirements of cultural groups of the indigenous people of South Africa vary from mealie-meal, processed mealies, sorghum, millet, dry beans, peanuts, melons, sweet

cane and the traditional pumpkin which also provides a green vegetable for a period stretching into winter.

All these crops are produced through multi-cropping in dryland fields. Without access to animal products food production is incomplete. Animal husbandry is an integral part of food security to ensure that households have milk, meat and eggs. The question for food security is, is the combination of crop production and animal husbandry possible for the majority of the households in the rural areas of South Africa?

Food Security in Historical Perspective

The description I have outlined above existed historically when communities could still contain and control their own lives. There are presently very few households in rural areas able to produce enough to survive even for a day. I am not an academic to scientifically analyse how events unfolded to destroy the traditional subsistence food patterns which ensured food security for all in rural South African communities. The following case descriptions inform what I understand as food security and how communities were organised to ensure it.

I grew up in the Northern Transvaal in a rural village within the Tribal Reserve areas. The community relied on farming for a living. They produced from the dryland fields all their food needs. They preserved and stored away surplus for future years. The following discussion represents how production was organised.

Ownership of land was not through title deeds. Land was a communal property for all who lived in the village. Residential land was not planned according to the planning systems of today. The small communities or villages were spread out, each village with its own authority structures like headmen and counsellors to co-ordinate with the tribal chief. The tribal chief was the custodian of the cultural and social systems, ensuring that communal values and norms were respected and adhered to. Food security systems which existed at the time made it possible for people to be committed to working the land, they ensured that the food production cycle of activities was respected by all and that the means of production were accessible to all through people's social groups.

Food production activities started with the ploughing season in August, which marked the beginning of the new year. This was followed by the first rains called "Kgokgola Moko". During this time all crop waste from harvesting decomposes, grains scattered all over after thrashing the corn germinates, and wild green vegetable (morogo) grows in the fields. Kraal manure from cattle, goats, sheep and donkeys is scattered throughout the fields in preparation for ploughing. The chief then called for a sacred ceremony to bless the seed. This activity

occurred in September. The custodian of the ritual in the form of the tribal traditional doctor performed an environmental cleansing ceremony. Old women and young girls dressed up in traditional clothes carried water from the river or wells to the chief's kraal. The traditional doctor would then perform the ritual, after which he would lead the community into the veldt to collect rubbish to be burnt at the chief's kraal. The occasion was then followed by dancing and feasting.

The ploughing start as soon as the rains fall. Ploughing carries on until December and January. Because of these ceremonies multi-cropping was a conscious process. Every household planted a variety of seeds, from sorghum and millet for food and beer, mealies (where conducive), beans, cowpeas, jugo beans, green lentils, peanuts, melons, water melons, pumpkins and calabashes. The process of planting in between the main crops occurred during weeding when the main crop would have gained height. The creeper crops cover the soil to suppress weeds and also to protect the soil from extreme heat.

In February the women and young girls started to pick melons, cowpeas and pumpkin leaves to preserve as dried green vegetable (morogo). This is then stored away in big clay pots and sealed with fresh cow dung to prevent pest encroachment. This activity continues into March and April. Beans, jugo and lentils from earlier crops are harvested, dried and stored away. To keep pests out wood-ash is added. These can keep for up to 3 years without pest infestation. During this period melons and pumpkins are also ready for harvesting. Women prepare mud floors (diboya) to thrash the corn while men prepare silos to store grain. Some of the melons are dried and stored away for the future.

To ensure food supply for the future, green mealies, cowpeas and jugo beans are cooked in big pots with the skin on and dried. These are then stored away in big clay pots or bags for the future. This method of preservation controls pests. The households can re-cook the preserved food whenever it is needed. Sweet cane and pips from melons are also dried and preserved. A variety of nutritious dishes are prepared by the mother in the household to feed the family (extended family included).

Methods of preserving grain varied from grass baskets able to take 10-20 bags of sorghum and millet buried in the kraal. The corn on the edge of the grass basket would soak up but not germinate. This would have the taste and smell of kraal manure, but the inside grain would remain fresh.

Processing grain was through grinding stones and stamping blocks to get a variety of products from a whole embryo meal rich in protein, oil and mineral salts to feed young babies. Other products would be mealie-meal, samp, mealie-rice and bran. The bran leftovers were used as

feed for pigs and chickens. Cowpeas, melon pips and peanuts were processed into powder and stored away in clay pots or calabashes ready to be used as soft porridge mixed with milk and mealie-meal for children. The main use of peanuts and pips is to make nutritious dishes from mixing with preserved green vegetable. Fresh green vegetables (morogo) is also a delicious dish when mixed with either peanut or pip meal.

Most of the practices mentioned above still exist in some areas in the Northern Province and Mpumalanga such as Sekhukhune, Tzaneen, Athol, Bushbuckridge and Venda. However, the majority of the people have no land. Where they have access to land, it is so small that people can only produce food at less than subsistence level, and they are compelled to supplement their food needs by purchasing. What needs to be addressed is why there is hunger and malnutrition in the rural areas of South Africa when there is potential for the achievement of food security.

Factors Which Contributed To The Destruction Of Food Security Systems In Rural South Africa

In South Africa land dispossession has been going on from as early as the arrival of the European settlers, a gradual grinding machine for the displacement of the South African indigenous people through state legislation. The Land Acts of 1913 and 1936 dispossessed people of their land, and the separate development strategies which introduced the Betterment Schemes were the last blow. The consequences of these strategies are clear and visible - the once content, coherent and confident communities able to control their food needs are presently going hungry and live under conditions of immense poverty.

I would like to explain the Betterment Scheme which was part and parcel of the separate development strategy of the National Party government. In my area the Betterment Scheme was explained as the best way to deal with district planning for rural areas. Small scattered villages were clustered in small homestead plots of 50m x 50m for those who owned cattle and 30m x 20m for those who didn't. Those who had cattle were designated as small farmers and some land for farming was allocated some 10km away from the residential area. The betterment strategy was explained as a process which would ensure that people got infrastructure services such as water, schools, roads, telephones, etc. This promise was made when people got resettled in the late 1950s but to the time the new government took over in 1994, nothing had happened except for small piece-meal solutions.

The consequences of this strategy was the disorganisation of the social systems on which food security systems were anchored. Migratory labour escalated and most of the able bodied men left the villages leaving mostly women and children at home. Subsistence farming was

undermined and the small farmers did not emerge as was expected. The donkey and goat cleanup campaign by the Department of Agriculture of the time dispossessed the majority of the people of the means of transport and draft power. The reason given was that goats and donkeys destroyed the environment. People resisted but were unsuccessful. The donkeys were railed to the game reserves to feed the lions and the owners got 25c compensation per donkey.

Evictions from the white owned farming areas in the neighbouring farms intensified, increasing the population density in the resettlement areas. Those who tried to work the land gave up because of vandalism. The mode of life simply changed. Working the land was no longer feasible. People resorted to other ways of survival, throwing out the values and norms which sustained their survival. Survival by any means - selling of dagga and beer, stealing cattle and chickens from those who had them - became the order of the day. Tribal structures to deal with the situation failed. Communities moved from a situation of pockets of poverty to mass poverty. In communities such as Mmalebogo in Bochum where there was intense resistance to betterment schemes in the form of reduction of cattle populations, planning of villages and fields and imposition of the authority of the Bantustan Lebowa government, the government of the day designed a strategy to undermine the resistance. Communities from other areas such as the Batlokwa Ga-Machaka, Ga-Makgato and Ga-Senthumule were dumped in Bochum with their chiefs and headmen. More people from white-owned farms were evicted or settled voluntarily in Bochum.

The same process was pursued for Sekhukhune. Removals of communities from Lydenburg-Boomplaas were brought to Leboeng next to the Strydom Tunnel. Some came from Doornkop and went to Ga-Mampuru in the Praktiseer district of Sekhukhune. Most of the people came from the farming areas through evictions from white farming areas around Rossenekraal, Lydenburg, Ohrigstad, Loskop, Stofberg, Middleburg, Grobblersdal and Marble Hall. Around Jane Furse population density left people with no land except homestead plots. Many more villages in Sekhukhune are swelling up, taking more land for residential purposes and leaving people with small areas for field crop production.

Another factor that disturbed the social systems around food security was the church. As people got converted into Christianity, everything that was associated with traditional culture was undermined. This process affected or spilled over into the traditional tribal institutions for mobilising efforts and commitment around food production activities. The converted looked down upon the traditional technologies. Traditional knowledge and wisdom gradually faded away, leaving the present generation with no skills for survival except in very exceptional villages such as Manganeng, Mohlaletsi, Rakgoadi and very few others.

What Is To Be Done

With many people not able to access land, the systems described above have no meaning. The norms and values that sustain food security are no longer respected. Through community development by non-government organisations working with community-based organisations (CB0), some efforts to revive some of the skills and knowledge are in progress. In Sekhukhune, Tsoga-O-Itirele group around Jane Furse, with the help of EDA, has launched food processing workshops which started in 1991. EDA gave this group support in accessing grains such as mealies and beans as well as peanuts, cowpeas, lentils, jugo and soy beans. The technology used for food processing is traditional. Government officials from agriculture, health and welfare in the region as well as civil society groupings working in the area were invited. This process is now built into Hlatlolanang, a primary health care CBO serving the people of Sekhukhune. EDA facilitated a process of capacity building in permaculture design, training and implementation integrating the food processing component to make sure that the poorest of the poor can have a base of support in their own communities to begin the struggle to achieve food security, given what is available in terms of land and traditional knowledge and skills.

This has now been institutionalised into an annual event following harvesting. The women's groups come together for a week to hold a special event to re-educate the youth so that we can reach a level where some of our cultural systems of production can re-emerge through community efforts. Through Hlatlolanang this process reaches out to 48 villages in the Sekhukhune region. Using permaculture designs around homestead gardens, fruit tree planting was also introduced. Some of the poorest households have reached a high level of fruit production on homestead plots, using water harvesting methods of catching rain water from the roof, run-off water through swales and trenches, recycling the household grey water, mulching and composting to maximise what can feasibly be produced on household plots.

Awareness of the environment and conservation has reached levels where permaculture approaches are institutionalised within the women's groups' approaches to production. The groups are calling on the local government to give a hand in soil reclamation activities to fight the degradation of the environment through community efforts. The move is to take the struggle out of the homestead into the surrounding communal land, to draw in government resources and available technologies to deal with dongas that are as deep as 10m and 10m wide, cutting across some residential land as well as fields around villages.

These are just but some of the potential existing in some of the village communities. Much can still happen, but food security is a much deeper and broader issue which will remain a struggle for a long time to come. It requires institutions such as non-government organisations and governments to understand and acknowledge the knowledge and institutions of people affected by poverty, so that their strategies can affirm them and re-dress the injustices of the past. The pressing issue is land access and ownership, so that people are enabled to engage in food production for food security within ecological perimeters. Thank you.

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Annexure C Recipes to use at home

Banana Jam

| 6 large bananas (about 9-10 little ones) | Wash, peel and slice the bananas, mix |
|--|---|
| 1 cup lemon juice | with the lemon juice and water. Measure |
| 1/2 cup water | in cupfuls and add an equal amount of |
| sugar | sugar. Bring to the boil while stirring and |
| | then boil fast until it is a good red colour. |
| | Bottle in clean hot jars. |

Guava and pawpaw jam

| 2 cups cut up guavas | Boil the guava in the water until soft. Sieve |
|----------------------|---|
| 1 cup water | to remove the seeds. |
| | |
| | |

2 cups peeled cubed paw paw4 cups sugar4 tablespoons (60ml) lemon juiceFinely grated rind of one lemon

Add these ingredients to the cooked guava and boil fast until slightly thick. Pour into clean hot jars and seal.

Pineapple jam

| ps of finely chopped (peeled) pineapple | Mix the pineapple and sugar will together |
|---|--|
| 3 cups of sugar | and leave for several hours. Add the |
| 3 Tablespoons of lemon juice | lemon juice and boil until thick. Bottle and |
| | seal. |

Apricot or Peach jam

| 4 cups of crushed/chopped fruit | Add the sugar to the fruit and bring to a |
|-------------------------------------|--|
| 4 cups of sugar | boil while stirring rapidly and constantly |
| 2 tablespoons (30ml) of lemon juice | (this jam will burn very easily) until the |
| | mixture is 'set'. |

Guava syrup

| 2 cups of chopped up guavas no need to peel) | Boil the ingredients for 30 minutes, sieve the liquid from the pulp and bottle in clean, |
|--|--|
| 3 cups of sugar | hot bottles. |
| 2 cups of water | To drink – dilute with water to suit your taste. |
| Lemon Syrup | |
| 1 cup lemon juice | Bring to the boil, Pour into clean small |
| ¾ cup sugar | bottles and screw on airtight lid. |

Preserving with Vinegar (acid)

Pickling in vinegar can preserve young fresh vegetables of many types, as well as some fruits.

Green Tomato Chutney

| 3 cups of chopped green tomatoes | Sprinkle the tomatoes with 11/2 teaspoons |
|----------------------------------|--|
| 2 teaspoons salt | of salt and the onions with the rest. Leave |
| 1 cup chopped onions | overnight. Drain off the liquid, add the |
| 1 cup sugar | remaining ingredients and bring to the boil, |
| 1-3 red chillies | stirring well. Boil fast for about 1 hour till |
| 1 cup vinegar | set. Bottle and seal. |
| | |

Mango chutney

3kg of green mangoes (or green pawpaw)
2 cups (about a 250g pkt) of seedless raisins, minced finely with a knife
2 cups of sugar
4 cups (1 litre) of vinegar
1 teaspoon (5 ml) ground ginger
1 teaspoon (5 ml) salt Peel the mangoes and slice thinly. Sprinkle with the salt and mix with all the other ingredients in a large saucepan. Simmer uncovered until the chutney is thick. Pour into hot bottles seal immediately. **Annnexure D**

