SOCIAL DISPLACEMENT AND ENVIRONMENTAL DEGRADATION: THE CASE OF NORTH ARCOT DISTRICT, TAMIL NADU

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TO APPA AND AMMA
FOR EVERYTHING

जवाहरलाल नेहरू विश्वविद्यालय
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CERTIFICATE

This is to certify that the thesis entitled, "SOCIAL DISPLACEMENT AND ENVIRONMENTAL DEGRADATION : THE CASE OF NORTH ARCOT DISTRICT, TAMIL NADU", submitted by **SAMUEL ASIR RAJ, S.** *is in fulfilment of the award of the Degree of Doctor of Philosophy. It is his own work and to the best of our knowledge has not been submitted for the award of any other degree of this or any other University. We recommend that this thesis be placed before the examiners for evaluation.*

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CONTENT

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INTRODUCTION

The most serious environmental crisis facing India is also the most ignored in conservation research and action, partly because they arise from invisible process of destruction or destabilisation of soil-water-vegetation systems, and partly because they affect the silent, overwhelmingly poor majority that directly depends on the resource for their survival and livelihood. Water resources are central to life-support systems since water is a precondition for plant, animal and human life and an essential input in all economic activity. In most parts of India and particularly Tamil Nadu untreated industrial effluents are becoming a major source of pollution of hydrological systems, and rivers which were seen as "life-givers" have overnight transformed into killers. The destruction of such ecological resources put pressure on the weaker sections and primarily the women and children who have to spend much of their time either fetching water or scourging for food and fuel, scarcity of which leads to lower nutritional intake and higher social costs in terms of health, and loss of productivity. Displacement of whole populations from agricultural sector has a direct implication for urban slum growth. Further pressure on the scarce ecological sources increase leading to failure of conservation and greater exploitation which ultimately

leads to desertification.

Environment plays an active role in sustaining populations in any given territory, place or locality. Exploitation of the natural environment for useful material has always been an important facet of interaction, between man and nature. In societies possessing low technology, this interaction was woven into a pattern of natural and human systems to retain a fine balance despite short-term modifications. In highly organised societies of today treating environment as a passive background to human interaction, technological expertise help to carry out exploitation of nature on a massive scale, taking into consideration only the material gains. Central to this idea of passivity is the faith espoused in the role of science - which was seen as providing the intelligence for the rational control of the environment. This technocentric view, with its reliance on the ideal of rationality, managerial efficiency, optimism and faith in the ability of man to understand and control physical, biological and social processes for the benefit of present and future generations, has led to degradation of the environment and lessening of its carrying capacity. According to Canton, "carrying capacity means, for a given environment, the amount of use that can be exceeded only by impairing that environment's future suitability for that

use."[1] The modification of the carrying capacity of the environment either through excessive exploitation or degradation invariably results in irreversible changes, often destabilising the natural environment.

Environmental issues, therefore, constitute one of the most important social forces of our times. Though the first seminal works on environmental degradation appeared more than forty years ago, sociologists are yet to make a meaningful contribution regarding the effects of environmental degradation on human communities and individuals. In spite of recognising the role of environment in the structuring of human societies (Ernest W.Burgess and R.E.Park; and the Chicago School in 1920s) social analysts have yet to redirect their research into understanding the role of environment in the structuring of ideologies, beliefs and symbols in a community's social life. There are numerous studies on land tenure and agrarian structures as impediments to productivity and causes of inequality. But in most literature, environment is only dealt with as a passive background to human interaction. According to Black (1991) there hardly exists any serious work on what has now become one of the most serious problems confronting the Third World countries

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1. Cited in R.J.Johnston, *Environmental Problems: Nature, Economy and State*, London, Belhaven Press, 1989, p.7.

namely, displacement of large populations. The pollution of air, water and soil and the concomitant pressures compels people to migrate as life sustaining systems become seriously compromised or irrevocably lost. Environmental refugees are, therefore, such communities and individuals who are displaced owing to environmental degradation.

Two broad categories of displaced people can be identified:

(a) those permanently displaced because of man-made changes in the physical environment of a locality or region;

(b) those temporarily or permanently displaced from the original habitat to a new one within the national boundaries or abroad in search of better quality of life because the resource-base of the original habitat has deteriorated to such a degree that they are no longer able to meet their basic needs.

The two categories of displacement is a consequence of State-led developmental policies. Development, in effect has come to mean displacement of people, powerless to challenge and effect changes in the policies of the state. Entire areas of natural environment and people whose life-world and livelihood are centered around it have been deemed 'dispensable' to the needs of development and national security. This rationalisation is a consequence

of the appropriation of natural resources by the state in favour of capital. Capitalism creates a restless drive to expand, to develop the forces of production and generally to rearrange the social structures of accumulation. Owing to this, it is forever altering the basis of space economy. Meaning of space therefore becomes the crux of the conflict between state and people.

REVIEW OF LITERATURE

Though there is voluminous literature on various aspects of environmental issues, there is hardly any systematic research regarding industrial pollution and generation of displaced people and their relationship with places. Most works deal with environmental degradation and their effect on local populace in terms of losses which are unsustainable and therefore, the need for conservation is stressed., The only areas where displacement have been discussed is with regard to dam building and deforestation. Fernades, W., Menon, G., and Viegas, P.[2] (1988) concentrating on the consequences of deforestation on the tribals give a short account of the costs of destruction of tribal culture at the point of resettlement. So far this is the best account available dealing with the sociological

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2. Fernandes, W., Menon G., Viegas P., *Forests, Environment and Tribal Economy: Deforestation, Impoverishment and Marginalisation in Orissa.* New Delhi, Indian Social Institute, 1988.

aspect of displacement in India. The authors have also documented in forms of case studies the displacement that have occurred due to the establishment of a steel plant, minor irrigation projects and dams. It should also be stated here that most studies have concentrated on forced displacement, that is agencies of the state using force to evict the local populace from the place where the State had decided to locate its developmental projects. Regarding displacement taking place due to destruction of life sustaining systems, Blaikie and Brookfield[3] (1987) have done pioneering work. The central point is that degradation of land, in terms of soil erosion, increase in salinity, pollution, acidity, deforestation and flooding, cause displacement. They have not studied the effects of displacement on the populace. But they make it clear that these processes which take place over time are due to wrong practices foisted on the population by forces outside the local society.

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3. Blaikie, P and Brookfield, H. *Land Degradation and Society*. London: Methuen, 1987.

Goldsmith and Hildyard[4] (1984, 1986) and Adams[5] (1990) have highlighted the socio-ecological effects of dam building and mechanised irrigation works. Shiva[6] (1988) in her outstanding work 'Staying Alive' has shown that landscape is a living, functional and dynamic force and is invested with meanings by the people who reside in it. She also points out the organic relationship that people have with the environment and shows how a mechanical meaning is being supplanted by commercial forces promoted by transnational and national agencies. According to Shiva, this change in the meaning structure is being brought about by linking and integrating local markets with global economies which bring about change in resource usage and therefore, a fragmentation of the formerly integrated nature.

CONCEPTUAL FRAMEWORK

The study of environmental refugees is one with the study of social and economic history in place and of place. Place and placement are two concepts inherent in the

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4. Goldsmith, E. and Hildyard, *The Social and Environmental Effects of Large Dams (vol 1 and 2)*, Wadebridge, Cornwall: Wadebridge Ecological Centre, 1984.

5. Adams, W.M., *Green Development: Environment and Sustainability in the Third World*, London : Routledge, 1990.

6. Shiva, Vandana *Staying Alive: Women, Ecology, and Survival in India*, New Delhi: Kali for Women, 1988.

concept *DIS-PLACE-MENT*. The idea *Restructure* also flows from the concept of placement. The structuring of place is inseparable from the process of social structuring. Place should not be viewed merely in its limited physical sense but should be seen as profound centres of meaning and symbols of experience which they represent. A sense of community is grounded in place. Experientially, people are bounded to a locality and over time become integral parts of it, were shared meanings are attached by groups and individuals evoking a sense of belonging and endangering a sense of group identity.

John Agnew in his analysis of the concept 'Place'[7] comes to the conclusion that there are three aspects to a place: locale, location and sense of place. *Locale* refers to the structured 'micro sociological' content of place, the settings for everyday, routine social interaction provided in a place. *Location* refers to the representation in local social interaction of ideas and practices derived from the relationship between places. In other words, location represents the "macro-order" in a place (uneven economic development, the uneven effects of government policy, segregation of social groups, etc.). Sense of place refers to the objective orientation that can be

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7. John Agnew, *Place and Politics: The Geographical Mediation of State and Society*, Boston: Allen & Unwin, 1987, p.5.

engendered by living in a place. This is the geosociological definition of self or identity produced by a place.

A central dynamic in life is the innate human tendency to strive towards security and status, and to protect those gains that have already been achieved. This fundamental human tendency towards self-preservation is also projected on to those institutions and places with which humans identify. The cumulative effect of these extensions of human identity on to institutional structures is that people strive for the perpetuation of the institutions grounded in place as much as for their own self-survival.

Place is also a crucible within which experiences are contested. As the history of each region, locality and place intersects with larger scale processes, spatial restructuring occurs. The physical reconstruction of the village requires that the fabric of daily life be torn apart and the strands of production, consumption and socialisation activity be woven afresh. Concomitant to this transformation and newly constituted practice is a sense of uprootedness, loss of identity, changes in social relations of production, traditional landholding patterns, division of labour, use of resources, technology, landscape and meanings attributed to environment. These are synonymous with the new and altered power relations and modified forms

of individual and collective consciousness.

Many cultures share a profound belief that water is the basic sustenance for humankind. Over centuries water particularly river, lake and tank water have been viewed as common property resources. The most fearsome image of pollution, the deliberate poisoning of the wells, has always haunted the people. Since agriculture is the mainstay of rural population, farming practices have evolved strategies to maximise utilisation of water, soil and other resources taking care not to excessively use them, so as to disrupt the hydrological cycle. In North Arcot District, the storing of water in tanks and anicuts was the very basis of existence of agriculture. But conversion of the leather industry from cottage level to factorial system has not only led to increased demand on water sources but also has made demands on energy, credits and other facilities. The excessive withdrawal of water and other environmental sources in terms of forest products, by the leather industry had led to conflicts for resources, which increased with the pollution of water systems by the effluents discharged.

The study of any place has to be a study of the people and their organising principles of environment and their productive activity. The rural economy evolved in a context where the rights to the natural wealth of the area, though

to a large extent were controlled by dominant castes, were collectively consumed. As long as an opposing or competitive economy never flowered, the rural economy flourished. Introduction of the industrial mode of production has not only put the environment at risk but also the livelihood and by extension the culture and society in place. The indigenous resource management systems get discarded as the conflict over resources between the industry and agro-economy increases. This results in excessive withdrawals and the hardest hit are the poor and landless, who depend on the common property resources to sustain them during lean periods and drought. Women are the hardest hit, as they depend on common property resources (CPR) for fuel and food. So it is important to focus on differential access to CPR. This would also show the importance of CPR to the rural economy and poor, particularly in the context of increasing pollution and depletion of resources.

Increasing influx of 'outsiders' contributes to conflicts over physical space and introduction of new practices. These immigrants lack the ability to see land with the eye of former inhabitants - from the standpoint of their needs and capacities. Not understanding the local folk conception of space and place, the industry as well as its members, contribute to the destruction of value systems, and bring changes in the local division of labour,

structure of landholdings, use of resources and landscape itself. Thus the displacement is not only physical but also social. By extending to the realm of meanings and values, these changes succeed in destroying the self and leaves in its wake a sense of uprootedness and loss of identity. These are synonymous with the newly altered power relations and modified forms of individual and collective consciousness.

OBJECTIVES OF THE STUDY

The first objective is to comprehend the way in which local communities define space and environment. This necessitates an understanding of the manner in which local communities have historically converted the space in which they exist to a place in which they live as every place is a repository of meanings, symbols and forms (both natural and built). This also involves a study of whole landscape categories rather than simple taxonomies.

The second objective is to seek the definition of common property resource. In some societies, CPR is legally defined and in some, through the customary rights and practices one comes too understand the definition of CPR. With the growth of industrial mode of production the definition of CPR would differ substantially. Further, the access to CPR by various sections of society depends on the

definition.

The third objective is to focus on the withdrawal of water by the industry for its production purposes and to what extent it is polluting hydrological systems. This would show us the actual extent of destruction of the environment of the place.

METHODOLOGY

To comprehend the way in which local communities define space, it is essential to first find out how nature was symbolised in Tamil culture. Tamil cultural practices and literature are rich sources, therefore, a study of both would help in developing the idea of symbolisation of space-environment.

The second task is to delve into history and discover the origin of places in North Arcot and the changing concept of place. According to historical sources, the name Arcot is derived from the Tamil word 'Aarru Kadu' meaning six forests. This clearly points to the fact the Arcot possess a rich ecological, social, cultural as also political and economic history. The ethnographic texts and Gazetteers of the Madras Presidency and particularly that of North Arcot District would enable the researcher to get the relevant data. Combining the first and second we can arrive at a more comprehensive definition of space by the

local communities.

To gain an insight into the processes involved in restructuring of the space and thus the place, tracing the impetus provided by global process, can be done by the study of the documents of the Stockholm Conference in 1972 which led to the closure of leather industries in Europe. The role of Indian State in promotion of leather industries can be discerned through a study of its import-export policies. Central Leather Research Institute's activities, reports as to the credit facilities and subsidies offered, and other reports related to leather industries. This method would bring into focus the processes involved in enmeshing the local economy into global economy.

The early humans were dominated by Nature, forced to lead a nomadic life they had no concept of place or rootedness. In time the early man built a cognitive system about Nature and through this knowledge was able to change his lifestyle from being a hunter to a food gatherer. Food gathering heralded a leap in the history of the early humans as they were forced to innovate and bring about technological changes which permitted them to temporarily lead a sedentary life. This leap become a resolution when they became food producers. Production of food necessitated permanency of settlements and building of distinct cultures. The first chapter highlights the

processes man went through to build his early settlements, his manner of adaptation to the environment so as to form places from space.

In the second chapter, the concept of place in the early Tamil society is explored. Place had significant meanings to different tribal groups as the predominant ecological element structuring their life-world. This chapter attempts to bring out the cultural experiences of the early Tamils and their representation of Nature.

The third chapter concentrates on the territorial orientation, symbolic orientation of dominant and subordinate groups in medieval Tamil society. The entry of caste ideology reorients the organisation of space and place. Caste model is 'projected' on to space and local environment. Thus the order of commanding of natural sources at macro and micro level is analysed. Moreover, village formation is the actual process of conversion of space into place and the role of culture and caste in this process is highlighted. Finally this chapter attempts to reveal the development of the sense of place through structuring of feelings.

Chapter four deals with the colonial period. Capitalism in the guise of colonialism smashes the relative isolation of places and the 'closed' Tamil society. It attempts to integrate villages so as to form a macro

spatial order which is outwardly directed. This outward direction has serious consequences on the local natural sources and as the spatial distances shrink through introduction of roads and other forms of rapid communication, local places and environment are inexorably drawn into the vortex of capitalism which restructures places and environment.

Chapter five highlights the process of development and its effects on the environment, the region of North Arcot and the places within it are sucked into to serve the needs of the global affluent society. The Leather industry is the mediating agency between the local and global. The industry promoted by the State, places the natural resources of the district at the disposal of global society. This leads to degradation of the environment and the peoples' response to degradation is also highlighted.

CHAPTER ONE

SPACE TO PLACE: HUMAN BEINGS AND THEIR CULTURAL TRANSFORMATION OF NATURE

1.0 INTRODUCTION

Places are points in space where humans have settled down to conduct their every day life activities. Places and settlements did not always exist, through time the humans carved places out of Nature. Supply of food being insecure, the early human led a predatory life of hunting and consuming. This human was constantly on the move, migrating from one area to another, seeking and searching for prey. Having no built environment to protect themselves from other predators and the vagaries of Nature, the early humans lived in caves, rock shelters, holes in the ground, trees, etc. The knowledge of construction of shelters was unknown to them. Therefore, they were constantly at the mercy of Nature on which they depended upon for food, clothing and shelter.

Nature, to the early humans was an enigma. For them, Nature was a chaotic being, while caring and providing them with food and shelter, it at the same time, assailed them with various elements and threatened them constantly with hunger. So prior to building settlements, humans had to build a system of knowledge regarding nature. Gathering

knowledge about Nature is a process which is as yet on going, but certain knowledge of Nature was essential to secure themself in terms of fulfilling their primary needs. Over time, the human acquired sufficient knowledge in terms of agriculture to secure his daily needs of food. And agriculture or the art of growing plant was the strongest inducement for the early humans to give up his nomadic life and settle down to create places. This chapter, will trace the conditions in which the early humans lived. The dominant role Nature played in their life, until they gathered enough experience and knowledge to cultivate plants for food. For agriculture to flourish the Nature had to be modified and organised so that an environment suitable for agriculture can be established. The process of modification and organisation of the spatial nature through technology will be highlighted. Modification of nature entailed that species of plant life and animals were domesticated and environmentally adapted. Organisation of Nature for plant cultivation and animal life survival was essential as it played a crucial and supportive role to induce man to settle down and create places.

1.1 **The Relationship Between Human Beings and Nature**

1.1.1 **The Paleolithic Period**

The early human was deeply affected by Nature and for him, it was a dominant and an overwhelming force.

Pre-occupied as he was with his own survival, possessing only rudimentary skills, developing his hands as a specialised tool, he wandered from region to region in search of food. In his wanderings, he perceived Nature in its different forms and struggled to understand each of the forms Nature presented to him. Nature continually interacted with the early man, exhibiting her many moods : benign, furious, indifferent, hostile, warm, cold, etc. She also contrived to manifest herself in disparate forms that she remained a puzzle to early man. In his wanderings, this man started accumulating some knowledge of Nature when he discerned certain patterns, regularity of patterns in her appearance to him. Around this time, he learned to make use of the naturally occurring stones as weapons to be used in his occupation as a hunter for his food. In the process of learning, he started to create a body of symbols and concepts for his communication with his fellow humans. By attributing meanings to the natural objects encountered in his daily life, early man created a body of knowledge over time, which he passed on for generations through language practices and traditions. This continuous accumulation of knowledge led to the cognition that Nature is made essentially of four elements : water, air, fire, and earth; that these elements are present in various configurations and forms; and to these he ascribed meanings. When he encountered a large body of

flowing water, he called it a river; a small body of stagnant water - a pond; for a body of stagnant water covering a large expanse, he gave the name lake; a mass of land rising to a great height was known as mountain; a pile of earth was a mound; a soft gentle wind was breeze; while a furious and violent windstorm was called a hurricane. Assigning specific meanings to the elements of Nature and the landscape which he observed, man gathered profound knowledge about the natural processes taking place about him. Learning to identify the difference between various living organisms, especially the vegetation played a crucial role in accelerating his development, from being a hunter and food-gatherer to becoming a food producer. This discovery of Nature was essential for survival, and expansion of his range of activities.

The Upper Paleolithic Age ended along with the Ice Age in 9000 B.C. The Ice Age witnessed enormous areas of earth being covered with glaciers and very little of vegetative life on earth. The retreat of the glaciers due to warming of earth signalled the end of Ice Age and the flora and fauna diversified, evolved and spatially spread into areas formerly too inhospitable. During the Ice Age, the human population was totally dependent on animal life for food and protection from the cold. The discovery of fire also helped the early man to survive the intense cold.

In the Paleolithic period man's occupation was hunting and food gathering. Physically being a weak animal, he preferred to live in bands, cooperating with his fellow members in search for food, for protection and survival. These bands or communities could not settle in one place for a long period of time as they were compelled to follow the seasonal migration of the game and herds which continuously migrated in search of food and to warmer climes in winter. The fauna for hunt was varied and in abundance as it had millions of years to evolve before man appeared on the face of the earth. This pleistocene fauna developed around 70 million years ago and consisted of animals such as elephants, rhinocerous, giraffes, vultures, storks, antelopes, sabre-toothed cats, the American mastodon, the llama, the dire wolf, the short-faced bear and other large animals which had evolved to be highly adapted to land conditions. For the bands of Paleolithic men, the abundance in supply of fauna for food had caused a rapid expansion of numbers, giving rise to an increased dependence on the fauna as the single main source of food. This dependence ultimately proved to be disastrous for the Pleistocene fauna. The development of man as a hunter whose range of kill improved continuously by invention of spear, trap, bolas, bow and arrow, sling and a host of other devices ensured the destruction and dwindling of many

of the species of large animals, such as the mastodon, sabre-toothed cats; etc.

Around 100,000 years ago the Pleistocene fauna in Europe and most of Asia collapsed; in North America species of animals were driven to extinction about 8000 years ago; the West Indies and Central and South America witnessed the annihilation of many species a little later; much of the fauna of Australia were destroyed about 20,000 years ago; and in New Zealand many animal species survived until 950 AD.[1] The extinction and dwindling of many animal species threatened the life-style of the Paleolithic man as a hunter. The growing human population also put pressure on the survival of tribal society as food became scarce. Leading a nomadic life and the course of movement being dictated by the seasonal migrations of animals to warmer climes made the members of the society aware of plant life as a possible source of more permanent food supply. The herbivorous animals possibly gave the clue to the paleolithic man that certain plants and herbs could be edible. Gradually, gathering of roots, fruits, vegetables and other wildly growing edible matter became a primary activity for women and children in the tribal society, while the intense efforts of man - the hunter, only

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1. J.K. Brierley, *A Natural History of Man*, London: Heinemann, 1970, p.45.

contributed to supplement the nutritive needs. Vandana Shiva forcefully argues that,

> "the survival of mankind has been due much more to 'women-the-gatherer' than to 'man-the-hunter'. Lee and de Vore have shown empirically how even among existing hunters and gatherers, women provide upto 80 per cent of the daily food, whereas men contribute only a small portion by hunting. Elizabeth Fisher's studies indicate that gathering of vegetable food was more important for our early ancestors than hunting."[2]

1.1.2 **The Neolithic Period**

The ascendancy of food gathering over hunting laid the foundation for a more scientific inquiry about Nature. Concentrating on obtaining supplies from the vegetation prevailing in the universe around them, compelled the members of the paleolithic societies to understand Nature in terms of climatic changes, seasons, soil conditions, plant life, and other conditions necessary for plant survival and growth. Acquisition of such knowledge and experience was possible over time, as Nature, though dynamic, changes gradually and phlegmatically, but

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2. Vandana Shiva, *Staying Alive: Women, Ecology, and Survival in India*, New Delhi: Kali for Women, 1988, p.50.

generations passed before this knowledge was gained. This cognition of Nature was essential for the early societies to systematise their procurement of supplies by attempting to cultivate the crops needed for food. The first step in the direction of systematisation of cultivation involved domestication of wild plants for food, a process which was transacted over a long duration as the tribals had to develop his observation capacity to understand the process of germination to ripening of seeds before he could progress to the extent of sowing. The shift to procurement of food from plant life was a quantum leap and a revolutionary step which altered the human life in toto. Survival which was yet a chance, became greatly assured, moreover a sedentary life style was begun with the tribes settling down to evolve a sophisticated society. This revolutionary change of man from being a food gatherer to a food producer occurred in the Neolithic period and continued until the modern times.

The Neolithic period signified that agriculture had become the main occupation with hunting a secondary one. According to Bennet Bronson,

> "...the term agriculture is reserved for contexts of substantial dependence on plants grown by humans, while cultivation denotes only that a useful species has been deliberately caused to

reproduce by man. All agriculturalists are indeed cultivators, but a cultivator need not always be an agriculturist; he may be just a gatherer ... who occasionally puts a seed or cutting into the ground with the expectation of using the result. This distinction is unorthodox but useful."[3]

The practice of agriculture precluded the postulation that Nature can remain undisturbed, for ***agri-culture*** demanded modifications of Nature, so as to create an environment suitable for cultivation and also to establish "an artificial ecosystem to yield a staple food supply".[4]

Towards this goal of establishing an artificial ecosystem, selective exploitation, intervention and domestication of plant life were undertaken. To create an environment suitable for cultivation, the tribal sought to clear forests, meadows, steppes, and plains to bring the soil under cultivation.

1.2 NATURE VERSUS ENVIRONMENT

At this juncture it is important to clarify the idea of environment as against Nature. Environment is usually

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3. Bennet Bronson, 'The Earliest Farming : Demography as Cause and Consequence', in Charles A. Reed (ed.), *Origins of Agriculture*, The Hague: Mouton Publishers, 1977, p.26.

4. Ibid., p. 28.

considered to be the surroundings of any organism including its physical world. Gloria J. Studdard defines environment as,"the sum of all the external conditions and influences affecting the life, development and ultimately, the survival of an organism."[5] To secure the external conditions expedient to human life, man has been extremely pragmatic to engage his self in humanising Nature, a process which was prehensile to establishment of an artificial environment. Human environment is said to include "the country or region or town or house or room which he lives" - basically meaning the built environment and the spatial area, which humans inhabit. Organisms other than man need a natural environment for their survival. All organisms when attempting to create an environment suitable to ensure their survival use naturally occurring materials along with their own body secretions. For example, termites construct earthen moulds or anthills by collecting properties of sand, wood, and other vegetable matter and mixing them with mortar of fine clay and saliva,[6] while spiders fabricate their webs out of threads produced from their bodies. Only humans seek to create an

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5. Gloria J. Studdard, 'Common Environmental Terms - A Glossary' in Robert N. Saveland (ed.), *Handbook of Environmental Education*, London: John Wiley & Sons, 1976, p.16.

6. Raghu Vangeepuram, 'Termites as Geo-Chemical Prospectors', *The Hindu*, New Delhi, 3 August 1995.

environment entirely by artificial means - by use of materials and objects occurring outside themselves.

As the first step humans attempt to create an order in the naturally occurring landscape so as to make it suitable for their existence. The inherent notion is that Nature exists in chaos and the creation of an environment is ordering of Nature. *The process of ordering Nature is the process of production of a humanized landscape.* Therefore it can be stated that the process of creation of environment is the process of *extending power over space.* Until the paleolithic period, man had neither the time or the inclination to produce a humanized landscape although the need was ever present. But from the Neolithic period, production of a humanised landscape became a prime function, and the cognizance of the fact that he can cultivate his food made him humanize his landscape. Therefore, according to Heichalheim,

> "in the place of forest, desert, meadow and steppe, as Nature had created them, he (man) began to produce his own humanized landscape, according to the manner in which the agriculture...increased in strength and efficiency"[7]

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7. Fritz M. Heichelheim, *An Ancient Economy History* vol.I, Leiden: A.W. Sijthoffs Vitgeversmaats-chappij N.V., 1958, p.56.

The production of humanized landscape or environment has raised in scale according to the particular modes of production.

The success and progress of humanization of the landscape depended on the technology. The neolithic man was contingent upon and could not conceive beyond stone implements and in terms of power, he had to rely only on human sources which was limited and finite as domestication and use of animal power was yet to be developed. The efficiency with which a humanized landscape could be produced was substantially indigent given the inferior technology. Therefore, using fire the early man sought to modify Nature in a manner to use her for his purpose. Modification of Nature means in effect an attempt to harness the powers of Nature was embarked on by the Neolithic man. Though there was a strong inducement to modify Nature, for creating space and an environment for cultivation, it can be accepted a priori that this movement to harness Nature was not a predetermined design. Man at this phase was only conscious of the factor of survival and not of the factor of destruction. Furthermore, given the low level of technology and the use of fire - an element which he worshipped and over which he had no absolute control - it is perfectly clear that the notion of subjugating Nature was unlikely to be premeditated. Nevertheless, a new landscape artificially created by use

of fire and stone axe was emerging under the hand of man, where by stages the flora and fauna were also undergoing changes. These changes were visible only in those small portions of Earth were the tribal had learned to cultivate and practised shifting agriculture. This state of affairs continued until the tribal increased his knowledge of Nature in his continuous and conscious struggle to advance the chances of survival and could settle permanently in a place by innovating a different method of cultivation which was a definite advancement over the shifting cultivation. The scale of cultivation, on account of the above reasons, was essentially limited to small fields, or patches of land.

1.3 **SOURCE AND RESOURCE**

The progress of man from food gatherer to food producer became the revolutionary means by which and for which he reorganised his society, technology energy and Nature itself. Man consciously engineered changes in Nature not only to create an environment to increase his opportunities for survival but also to convert Nature into a 'original source', as against use of Nature as a 'resource' in the modern period.

Nature, discovered early man, was pristine. His wants being limited, he could obtain most materials from Nature and use them as they were. Man did not possess the

necessary technology nor the need to greatly modify the naturally occurring materials in such a manner as to change their character totally. The early man obtained fruit, vegetables, seeds and other edible materials from Nature and used them the same way. He did not genetically alter the seeds or fruits deliberately. What alteration took place happened naturally over long duration. Be it building of house, clearing of forests, and hunting, man used stones naturally occurring but shaped them to meet his needs. The production of a humanized landscape though changed the face of Nature did not entirely seem to be outside of Nature. All activities he understood had as its material basis Nature in a pristine state - that is untouched by human hands.

Nature, today is considered as a resource to be developed and exploited. The concept of 'resource' projects the notions of 'reservation' and 'scarcity'. Scarcity occurs because of over use and extreme exploitation; and whatever remains is reserved as a 'potential' resource for future exploitation in a measured manner. Land, water, plant life, minerals, oceans, with their living organisms etc., today have come to be considered as resources and have been reserved for future usage. National parks have been created out of forests, ostensibly to protect the animal and plant species and to prevent their loss forever to mankind. Today scientists

are mainly using these National parks as a genetic pool and are patenting the genes of all living matter and organisms - a move which would immensely benefit countries technologically advanced and are prime movers in the market place. Forests have been reserved to be cut down at a future date, as there prevails a great demand for wood and wood based products. When a naturally occurring material is considered a resource, three major issues occur. *Firstly*, the state as the Central authority, steps in to regulate the use and this move of regulation creates problems of access to the material in the society; *Secondly*, the regulation of use can be successful under certain conditions, but in conditions of market orientation or capitalistic mode of production, the market gains primacy over the people and therefore conflict arise over access to resource. *Thirdly*, capitalistic usage of a resource encourages maximisation of the available resources for purposes of profit. This naturally leads to commodification of the resource.

Conversion of Nature into resource essentially is demarcation and storage of Nature into territorial pockets as in reserved forests, national parks and dams. The natural life cycle of water is interrupted when converted into a resource. Dams impound river water for storage and use later. In the process of being converted into a resource, grievous damage is done to the quality of water

and by water or by lack of water to the delicate ecology in the upstream and downstream apart from creating numerous problems and dislocation to the local populace. Elements of Nature become resources over time only when:

(a) independent, localized micro-scale productive economies are merged to form a large scale economy where production is oriented for market. When economic activity is limited to a local area, people tend to view the natural elements as sources rather than resources and build specific local forms of knowledge with regard to the usage of the natural source. The society is also organised around the element dominantly present in Nature at that particular place and this aids sustainable usage. In a localized micro scale economy natural sources are used to meet only the needs of the local populace and so surplus generation is kept to a minimum and use value dominates. Moreover, control and usage of the local natural sources are continuously monitored by the local community as they have a stake in the preservance of the natural sources. Whereas, when producing for the market outside forces take control and direct the usage of the locally available natural source. Production is now oriented for the market and for consumption by a larger populace. Therefore exchange value comes to dominate over use value and

leads to a commodification of the source and thereby convert it into a resource.

(b) Over-usage of a source leads to acute scarcity necessitating 'reservation' and classification as a 'resource'.

(c) control of a local source transferred to a central authority (State).

1.4 SPREAD OF AGRICULTURE

The Neolithic period or the New Stone Age which began around 9000 B.C. and lasted upto 3000 B.C. saw remarkable progress in the life of man. The change in diet to consumption of vegetable matter with meat playing a supplementary role forced man to attempt cultivation of plants. In the continent of Asia, specifically in West Asia, man succeeded in domesticating plant life. The Tigris - Euphrates river basin, in West Asia is considered to be the evolutionary cradle of agriculture and evidence of wheat growing dating to 8000 B.C. have been food. Around 5000 B.C., it is believed that maize was cultivated in Central America, in the region extending from New Mexico to Guatemala and Ecuador. Rice was probably domesticated in the Ganges Delta and spread to South-East Asia. Millet is found to be the main crop of China until about 2000 B.C. from which period rice cultivation was taken up. With the domestication of plants for food, the population of the

Neolithic man rose as food supplies became not only secure but also expanded. Cultivation still at the stage of shifting agriculture and yet to evolve into a sophisticated level could only support certain number of population. The surplus population encouraged to migrate, travelled over large expanse of land carrying with them the seeds of various plants and awareness of the science of cultivation. The routes of migration must have been roughly along the pathways known to man as a seasonal migrant in his role of a hunter. Now secure in the knowledge that he possesses skills to sustain himself in winter by hunting and could cultivate the virgin land in favourable seasons, made the Neolithic man between 6200 B.C. to 4000 B.C. slowly spread westwards from Middle East taking with him,

> "the first crops, wheat and barley, into Central and Western Europe, upto the Danube and across the Rhine, along the Mediterranean coasts into France, and from there into the British Isles across the channel. Eastwards...(man) spread into Inner Asia, through India about 4000 B.C., reaching China and Indo China about 8000 B.C."[8]

Thus, the neolithic people were the earliest farming communities.

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8. J.K. Brierley, op.cit., pp.56-57.

It is significant that the beginning of cultivation of soil took place in the river basin of a relatively semi-arid zone of Asia. This gives credence to the idea that having hunted most animal life to extinction, the West Asian paleolithic man was pressured to find alternative sources of food. The global warming and retreat of the Ice Age stimulated the growth and spread of grasslands in South Western Asia. This climatic and vegetational change evoked a singularly characteristic response among the humans. Increasingly, bands of men commenced using grass seeds, for food, particularly those of barley and wheat, for food.

The birthplace of the Neolithic agricultural revolution was the hilly region embracing Israel, Jordan, Anatolia, Iraq, the Caspian Basin and the adjoining Iranian plateau, a region called the Fertile Crescent In the Fertile Crescent in West Asia, massive and dense strands of barley and almost pure strands of wild einkorn wheat provided large enough yields for a family to gather enough grains to provide staple food for a year.[9] Harvesting needed an all out effort as the seeds remained in the plant almost for a period of few days to two weeks. The invention of sickle blades in the pre-agricultural period was an important artifact which contributed to a more

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9. J.R.Harlan, 'A Wild Wheat Harvest in Turkey', *Archeology*, vol.20, 1967, pp.197-201.

efficient harvesting technique and collection of cereals. The sickle also played an important role in advancing the acceptance of seeds as a source of food. Though hunting and gathering remained as main occupations, a cultural adaptive plateau was achieved with the invention of sickle and other food grinding tools which were the essentials of a artifactual complex. Harvesting the grain was an activity which engaged the entire tribe and deeply influenced the tribal relations by cementing ties.

Harvested grains posed the problem of storage if they were to be used for consumption during extended periods. Preventing the grains from becoming a prey to rotting or sprouting in wet weather conditions became a priority. The compulsion for protecting grains impelled the invention of plaster-lined storage pits for stocking the harvested grain. The stored grain could not be left unprotected or unconsumed, thereby constraining the nomadic and by extension the hunting activity, thus directly inducing man to convert to a sedentary life - a move which had important consequences in the history of man. Pre-pottery miceolithic sites of Natufian culture of West Asia confirm these artifacts of sickle and storage pits.

The Natufian sites are also the location of the first pre-agricultural settlements in human history. The locus of habitation had shifted from the more cave-oriented

locations of the Upper Paleolithic period to the open areas. The Ain Mallaha in the Hular basin of Northern Israel is a typical and an important Natufian site.[10] The site is a testimony to the fact that the Neolithic man had become sedentary as it composed of large, round, semi-subterranean structures in which a population of about one hundred and fifty people may have resided. The Ain Mallaha people had obviously greatly progressed by combining the activities of hunting with gathering - which had attained a level of sophistication. Evidences point to the usage of acquatic resources, plant and a variety of animals for food. Storage was also the key to the success of agriculture as it made farming a more reliable and productive form of subsistence than hunting or gathering.[11] The storage of grains set man on the road of experimentation which eventually gained him the experience and knowledge of agriculture and cultivation. Fire and stone axes were dexterously handled to organise an environment suitable for cultivation. The plough yet to be invented, probably played a role in delimiting the area under cultivation which could, therefore, be only small patches. To break the soil, bands of people must have used

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10. Charles L.Redman, 'Man, Domestication and Culture in Southwestern Asia', in Charles Reed (ed.), *Origin of Agriculture*, The Hague: Mouton Publishers, 1977, p.534.

11. Ibid., p.537.

stone hoes and digging sticks at the end of which ring stones weighing half to one kilogram were fixed. This mode of cultivation demanded communal labour and so the neolithic man lived in bands.

1.5 **DOMESTICATION OF ANIMALS**

Concomitant with agriculture, animal husbandry formed the earliest and important economic basis of human civilization. The domesticated animals of today owe their origin to the wild species and through domestication man has been able to successfully exploit them for his economic Purposes. The first successful domestication of animals took place in the West Asian region of futile crescent and probably occurred during the hunting and gathering phase. Hunting was the most dependable means of providing meat for man. A symbiotic relationship existed between man and some smaller predatory animals which played on the remains of the flesh of the fallen animal left behind by man. The consequence of this relationship was that as a hunter of different species of animal, man gradually developed a strong link between a few species of animals and this relationship assured man a more regular and dependable food supply. But actual domestication of animals happened some generations after man became dependent on plants for this subsistence. Domestication was the final stage of the process of changing man-animal relationship. Bökönyi (1969)

defines domestication as that man-animal relationship in which animals were removed from their natural living area and breeding community and are controlled in their breeding habits for profit.[12] The process of domestication involved intentionally isolating a small population from the wild species for the purpose of employing them and breeding of these animals in sufficiently large number to ensure a regular supply. Domestication of animals permitted man to increase the efficiency of exploiting animals resources. Christopher Carr declares that this new development in man-animal relationship may have also been responsible for human inhabitations of marginal or inhospitable areas.[13] In the Fertile Crescent of West Asia large game animals were exploited just previous to the beginnings of agriculture and sedentism. Hunting and economic usage of all or many of the following : wild cattle, red deer, onagers (half-ass), pig, gazelle, goats and sheep by the people of subsequently domesticated and onagers were either semi-domesticated or tamed for use. The earliest known domestication of sheep was in Libya around 8000 B.P. (i.e.) barely

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12. Cited in Christopher Carr, 'Why Didn't the American Indians Domesticate Sheep', in Charles A.Reed (ed.), *Origins of Agriculture*, The Hague: Mouton Publishers, 1977, p.637.

13. Ibid., p.638.

post-pleistocene.[14]

1.7 ENVIRONMENTAL ADAPTATION

The increase in nutritious sources of food by combination of hunting, gathering, agriculture and domestication of animals resulted in an increase of population and man began to seek other modes of buffeting himself against the climate and other natural elements inimical to his development. According to Wagner, "Every society must somehow come to terms with its environment and every such society must deal with some inconsistency in its surroundings."[15] Adaptation to environment is stabilization of relationship between society and Nature. Potential instability develops when environmental changes occurs to which society is not accommodated and when the necessary response is delayed destruction of life may take place. To avoid such cataclysmic disaster and loss, man sought to secure himself from the various natural elements physically. Agriculture and animal husbandry proved to be the first materially significant and serious step to

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14. Wolf Herre and Manfred Rohrs, 'Zoological Considerations on the Origin of Farming and Domestications' in Charles A. Reed (ed.), *Origins of Agriculture*. The Hague: Mouton Publishers, 1977, p.256.

15. Philip L.Wagner, 'The Concept of Environmental Determinism in Cultural Evolution' in Charles A.Reed (ed.), *Origins of Agriculture*, The Hague: Mouton Publishers, 1977, p.58.

achieve certain security and humanisation of landscape. In Heire and Rohrs' view, "the development of farming was a kind of process of acquaintanceship with biological objects, a knowledge which had to be more comprehensive than that of hunters and food gatherers."[16] Animal husbandry, which led to a regular production of animals' products and productivities, required first of all manipulation of the natural environment. The mastery over the use of fire and the domestication of sheep for wool, gave man the means to endure cold, which in turn permitted man to conceive of migration to colder realms. But it was agriculture which impelled man to settle down and adapt himself to the locality by constructing an environment suitable for his survival. To succeed in cultivation the neolithic man first modified Nature and space, in an effort to humanise the landscape. The next step towards adaptation was creation of *places and settlements*, which symbolised man as a sedentary creature and a cultural being. Settlement and place formation differed in each region as the process of adaption was local and specific in accordance with the natural conditions.

1.7 **TECHNOLOGY AND PLACE FORMATION**

The polished stone axe or celt, with its edge carefully grounded, was an important tool which enabled the

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16. Wolf Herre and Manfred Lohes, op.cit., p.247.

Neolithic man to obtain a foothold in the forests. In the forest clearings, the ancient farmers set out to domesticate the wild wheat, wild barley, lentil, pea, flax, fig and almond. Very often fire was used for burning the forests and grains of cereals were dibbled with the aid of pointed sticks. Later on, stone-hoes with wooden-handles were invented. In the early development of agriculture, women played an important role in the domestication of plants and cultivation while bands of men went for hunting, the women with the children went for gathering food. In the process of food gathering they had the opportunity observe and understand the stages of growth of a plant which yielded food. The women collected the seeds from the widely growing wheat and barley and contributed enormously to the process of domestication of plants. It was only with the invention of plough and domestication of cattle for agricultural purposes that man came to play a large role in agriculture.

The Paleolithic Age people's dependence on stone for making of tools and weapons and the need to secure themselves from natural elements and large predators forced them to settle in caves and slopes of hills in rock shelters and hilly river valleys. The Neolithic man freed from the need to go searching for food started constructing settlements in open areas nearer to the grounds he cultivated. Man built walls made of sun-dried bricks to

create his dwelling places. Thus the Neolithic period which lasted from 7500 - 3000 B.C. saw man take a radical leap in terms of technology and in food production which gave him relatively greater *control* over Nature, making it possible for him to create an environment which considerably enhanced his chances of survival and multiplication. This control of Nature and environment implied that man for the first time had the necessary power to create an environment suitable for his survival.

The next period between 3000 B.C. - 1700 B.C. saw the emergence of the chalcolithic culture. In this phase, man advanced to using along with stone implements, copper and bronze, Chalkas (copper) Lithos - stone. The Chalcolithic phase saw man organising his natural resources not just around his settlements but also those far away.

In the next phase, the paleolithic man improved his technology by means of creating sharped edged stone weapons and other weapons such as spears, bows and arrows and ships which increased his capacity to hunt and kill his prey which he desperately needed to do to survive. Though this early man had less power to change Nature but over a thousand years in time, he succeeded in eliminating the large mammals by hunting them, using his primitive tools. Then he wrought a revolution which not just improved his changes of survival but also brought him to the threshold

of making him capable to not just change his surroundings to create an environment to ensure his food supply but also permitted him to organise it in a scale which led to a quantum leap in human population, consumption and organisation of society and resources in terms of territoriality.

The Chalcolithic period was the period of river valley civilizations. Cultivation of plants, through the slash and burn technique was not a viable to support the growing human population as the small clearing of land soon lost its fertility and a constant struggle had to be launched against Nature in the form of the expanding. The second and most important factor of Nature which made cultivation and yield of plants uncertain was the strong dependence on rains. In this period, it dawned to man that water was of considerable import for cultivation and his survival. This meant that the human society was yet at the mercy of Nature for food. So to increase his chances and to lessen the uncertainty, migrations to the river valley areas took place. Thus the foundation for the river valley civilizations were laid. In the river valley and deltas, the plot gave way to the field and the seasonal flooding of rivers enriched soils with alluvium and silt and increased production of food. Moreover, the closeness of fields near the river made it possible for irrigation to evolve.

The evolution and development of irrigation influenced and set in motion the expansion of settlements into cities. With the advancement of irrigation technology, the principle of territoriality came into being with the political organisation of people. Gordon Childe records the Chalcolithic culture as a "Second Revolution" which took place between 6000 B.C. and 3000 B.C. He affirms that this Second Revolution,

> "transformed tiny villages of self-sufficing farmers into populous cities, nourished by secondary industries and foreign trade and regularly organised as States... During this period, man has learnt to harness the force of oxen and winds, he invented the plough, the wheeled cart, the sailing boat, he discovered the chemical processes involved in smelting copper ores and physical properties of metals, and he began to work out an accurate Solar Calendar".[17]

The achievements of the Chalcolithic period was so momentous that Braidwood comments,

> "In 3000 or 4000 years, the life of man changed more radically than in all of the preceding

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17. Childe, V.G., *Man Makes Himself*, London, 1936, p.118.

250,000 years. Before the agricultural revolution most men must have spent their waking moments seeking their next meal, except when they could gorge following a great kill. As man learned to produce food, instead of gathering, hunting or collecting it, and to store it in the grain bin and on the hoof, he was compelled as well as enabled to settle in larger communities with human energy released for a whole spectrum of new activities, there came the development of specialised non-agricultural crafts. It is no accident that such innovations as the discovery of the basic mechanical principles, weaving, the plough, the wheel and metallurgy soon appeared".[18]

In the Bronze and Iron age more tribal societies took to agriculture as way of economic activity and organised their resources and settlements.

1.8 CONCLUSION

Nature, when humans initially confronted, overwhelmed them. Having no tools, or technology, man was totally

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18. Braidwood, R.J. 'The Agricultural Revolution', cited in M.S. Randhawa, *History and Agriculture in India Vol.1*, New Delhi: Indian Council of Agricultural Resource, 1980, p.114.

dependent on Nature for fulfilling his daily primary needs. Building up a system of knowledge on Nature, humans were able to systematize the use naturally occurring elements such as stones and wildly growing plant life to secure themself to an extent, as hunters and gatherers. It was gathering of food as a full time occupation which brought rapid and systemic changes in their life. The gathered food presented them with the problem of storage. Once they solved the storage problems, humans took a leap forward as they were able to start cultivation on a small scale, through the domestication of plant life. Cultivation demanded an "artificial eco-system" and thus led to technological innovation. This technology was used to create environments out of natural surroundings. Humans thus progressively humanised the landscape, by 'ordering' it in such a manner so as to enable him to produce his food and meet his other needs. This ordering of the environment is the process of extending power over space as spatial nature is changed and modified to suit the human purposes.

The created environment forced humans to give up their nomadic life and settle down at a point in space. These settlements which arose, though precariously placed in time, permitted the humans to gather more knowledge and secure themselves more firmly, by domesticating animals. Supplementing not only the nutritional intake, the domestication of animals served the purpose of giving man

alternate sources of energy to improve cultivation of plants. As man became increasingly settled to this way of life, settlements became more permanent in time and evolved into places. Thus, places are basically culturally evolved by transformation of nature and through modification of Nature for production of a humanised landscape. They became points of placement of people in spaces to ensure their survival.

Places in different cultures evolved differently. The symbol system regarding Nature varied in each place as Nature presented itself in a significantly different manner at every spatial location. Each tribal societies developed its own symbol and belief systems in the process of 'naming' natural forms and materially using them. In the next chapter, the evolution of places in ancient *Tamizlagam* will be discussed. In *Tamizlagam* places evolved in a discernibly dissimilar way, as particular natural element or form dominated each tribe's perception and influence the formation of place. Tribal life was constrained within the ecological extent of a location in space and the dominant natural element or form in that location shaped the thought, beliefs, productive activities and the way of living. This treatment of nature and society was called '*tinai*' in the Tamil Society and the *tinai* consisted of five types of regions called the *kurinji, mullai, marutham, neythal* and *paalai*. The role of *tinai* and its importance

in the understanding of nature and cosmology will be elaborated in the next chapter.

CHAPTER TWO

SPACE TO PLACE : THE TAMILS AND THE CULTURAL TRANSFORMATION OF NATURE

2.0 INTRODUCTION

Nature is essentially spatial as it extends over every point on this earth. That Nature is the material which human societies work upon to transform their lives was shown in the earlier chapter. Nature provides human societies with material goods and envelopes them in its embrace so completely that humans could not but use it as the main reference point to build their belief structures and economic life. In the process of transforming Nature, human societies themselves get transformed. A cultural system and tradition evolves in the process and societies are identified by their particular cultural system. At various points in space, Nature presents itself in different ways. Human societies confronting the dominant element of Nature evolve a culture system around that dominant element. In South India, five types of ecological regions are found where five specific cultures evolved, each possessing a different tribal society. Tracing the cultural beliefs of each tribal group in their specific cultural region which coincides with the ecological region, this chapter attempts to bring out the understanding of

Nature in the tribal societies of South India. The Tamil cosmology, the nature of each tribal society, their economic activities, religious beliefs, and representation of nature in their belief system will be elaborated. Through their elaboration the concept of place in ancient *Tamizlagam* will be expounded.

2.1"INDIA" IN NEOLITHIC AGE

The earliest evidence of human presence in India is found in Bori in Maharashtra and is dated around 1.4 million years ago. As in other parts of the world, the early man in India lived by hunting and gathering until commencement of the Neolithic Age in 4700 B.P. Many paleolithic sites have been discovered in many hilly slopes and river valleys. In Bhimbetka, forty-five kilometres, south of Bhopal caves and rock shelters along with stone age implements, used by the Paleolithic man have been discovered.

The Neolithic period saw the beginning of plant culture in India. It is generally understood that the appearance of agriculture in the Indian sub-continent is belated in comparison to other parts of Asia, for many plants cultivated in India had long been domesticated in West Asia and by this time were on their way towards diffusion from the centres of origin. Archeological evidence is yet wanting regarding implements used in

cultivation and methods of cultivation. But it is generally thought that India could have been the centre of domestication of rice. The Neolithic sites of Chirand, Singhbhum and Oriyup in Bihar and Baidipur in Orissa have yielded evidence of wild rice and rice. From Eastern India, it is believed that rice could have spread to Southeastern Asia.

2.2"SOUTH INDIA" IN ANCIENT TIMES:

"South India" is understood as the country South of Narmada and geologically was the oldest part in India extending from Raichur in the North to Rameshwaram in South; and contains the land between the coasts. For the purposes of this study the territory "South India" will be limited to the region where the Dravidian languages of Tamil, Telugu, Kannada and Malayalam are spoken.

As in other parts of the globe the Paleolithic man of South India lived by hunting and food gathering as evolved by the large number of paleolithic tools which have been found in and around Madras in the Chinglepet district, Rallakalava near Renigunta and Chittor District and from several sites in Kurnool District. By around 4000 B.C. the Stone Age Man had taken a step towards domestication of plants and animals. Evidences of different types of items particularly the sickle, found in the fossil sand dunes of Tirunelveli in far south show that the South Indian had

acquired some sort of economic self-sufficiency though still directly dependent on Nature for his survival.

The first conscious steps towards creation of settlements, preparing of land for sowing and watering land with some kind of irrigation were taken on the numerous granite hills of South India at a height of 300 to 600 feet, in the districts of Raichur, Bellary, North Arcot, Chitaldurg, Salem, Madras, Anantapur and parts of Cuddapah, some 5000 years ago. H.D. Sankalia describes the settlements he visited as,

> "They (settlements) look like castles from a distance, there are huge boulders perched on one another as if placed by man - some seemingly about to fall at any moment. But these have been there for the last 5000 years or more, and if one takes the trouble to climb these hills which are 300 to 600 feet high..., then one finds a beautifully enclosed area, yet fairly flat. They are the earliest settlements of man.
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> These people, besides making use of natural rock-shelters on these hills built "houses", indeed small huts, which were usually round, supported by round wooden posts (about 2 to 3 feet in diameter). These huts were covered with split bamboo screen, and occasionally the walls were

partly or wholly plastered with clay mixed with cow-dung. The roofs were presumably conical and invariably thatched. Some of the huts were 15 ft. (about 5 meters) in width. The floors were levelled by placing flat-topped stones and then bonded with clay and finally plastered with lime...At a rough estimate at least five to six people could live in these small round huts and we find that in a terrace at Sangankal or at Tekkalkota (near Bellary District), there would be at least ten to fifteen such round huts. From this we can say that a small community of eighty to hundred lived on each terrace and on a hill like Tekkalkota, where there are no less than twenty such terraces, could be accommodated a population of about 20 x 100 (2000) people at the minimum. There are numerous such hills spread from Mahabubnagar in Andhra to North Arcot District or Salem in Madras through Anantapur and parts of Cuddappah".[1]

The people of these settlements cultivated ragi (millet) and horsegram which flourished on the sandy,

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1. H.D. Sankalia, 'Beginning of Civilisation in South India' in R.E. Asher (ed.), *Proceedings of the Second International Conference Seminar of Tamil Studies*, vol.1 Madras: International Association of Tamil Research, 1971, pp.31-32.

lateritic soil and even hilly areas. To water these plants, they organised primitive rain water harvesting systems and collected rain water(to be used for irrigation) was led from one terrace to another. By the time of Neolithic period a well-organised way of life, living partly on agriculture and partly on stock-breeding and hunting was established in South India.[2] As in other parts of the world, eventually in South India too, the society started developing rapidly as other crafts and specialisation started taking root in the society during the Chalcolithic period. Huge megalithic tombs were constructed with great care, planning and organisation. The construction of these megaliths show the participation of the priest, architect, artisans and potters. "Surveys of Megalithic sites of Chalcolithic age which ended about 900 B.C., in Tamil Nadu, Andhra and Mysore point to an occurance of such magnitude which has played an immense role in the organisation and expansion of the later Tamil Society until the advent of the British. Chalcolithic period is characterised by river valley civilizations in every part of the world excepting in South India. Almost without exception every megalithic site of this period found is in the semi-arid zone of South India, particularly

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2. M.S. Randhawa, *History of Agriculture in India, vol.1*, New Delhi: Indian Council of Agricultural Research, 1980, p. 237.

in *barren rocky terrain*, and studding these megalithic habitations are artificially created ponds. Surveys of the sites in Chinglepet District in Tamil Nadu, show that "these artificial ponds were first made by the megalithic people and here for the first time we find irrigation conducted with the help of these ponds."[3] The concept of constructing artificial ponds was scientifically advanced and refined in course of time that in the entire semi-arid region of South India, various kings took to building of artificial tanks so large in magnitude and so advanced in technology for irrigation that it had become impossible for the colonial British Government or the Indian Government to do much to improve these tanks. This mode of irrigation played a major role in the expansion of Tamil culture, population and creation of new settlements or places. These artificial tanks called eris, remained the major focus of the village society for centuries and around them the village colony was organised and through them Nature also was continuously changed.

In spite of the fact that neolithic settlements were scattered all over India, existing evidence demonstrates that, materially, these cultures did not differ much until about 4000 years ago. The beginnings of the Chalcolithic

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3. H.D. Sankalia, op.cit., p.35.

cultures varied in many places and in South India,it started at a much later period. But a civilization as unique as the Sumerian, Egyptian or Indus, grew up in these semi-arid tracts watered mainly by seasonal rivers. This Dravidian civilization developed "according to its peculiar environment, namely castellated hills, looking down red, rocky plains, occasionally interspersed with stretches of rich fertile soil".[4] It was in this unfavourable environment that the Dravidian cultures especially that of the Tamil culture took root and the people of this region strove to modify space and Nature to create an environment suitable both for settlement and for survival, given the fact that the entire area fell in the rain shadow region, water and its sources became the ultimate in the society and water became the object of worship as in other civilizations and societies, but more so in the Dravidian Society.

2.3 **TAMIZLAGAM**

Prior to the establishment of large politics with distinct territorial extent, small chieftaincies merged. It was only by the Third Century B.C., three major kingdoms - the *Chera*, *Chola* and *Pandya* - came to be established in the southern most part of India in an area comprising

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4. Ibid., p.36

approximately the modern Tamil Nadu and Kerala; the southern part of Andhra and Karnataka and this area came to be clearly identified and referred to as *Tamizlagam* as the Tamil language came to be spoken by the people of this region. In *Tamizlagam* poets and scholars had a rare honour of being able to travel into and across various principalities right from the earliest times, that is even before the establishment of strong monasteries and kingdoms. The poems written by a "wide spectrum of poets of different occupations, social and economic standing"[5] and pointed to a bardic tradition. The bards enjoying the advantage of travel, not being subjected to territorial impediments were in a unique position to be observers of various social, economic and political happenings. The events of daily life, though written in a romantic fashion, nevertheless is considered to be an authentic record. This idea is conveyed quite precisely in the introduction of Kamil Zvelebil's monograph:

> "Again, literature is not created out of nothing, nor does the poet exist in vacuum. There is the society of which the poet is a member; there is a tradition from which he seeks guidance, both positive and negative; and there is his inner urge

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5. Kamil Zvelebil, *Literary Conventions in Akam Poetry*, Madras: Institute of Asian Studies, 1986, p.iii.

to express himself. Literature is a product of all these factors, though in varying degrees. The literary artist cannot divorce himself from the life of the people. He creates a work of art which, of necessity, is representative of the life of either his immediate fellow men or his cosmic brotherhood."[6]

The poets hailing from all such strata of society and of both genders, were sensitive to various sections of society, therefore, were able to describe the dravidian society with a deep understanding and their verses reveal an early Tamil society totally devoid of Vedic or Sanskritic influences[7] of caste and religion. The poems of these bards have come down to us in the form of Sangam classics. Under the aegis of the Pandya kings, three '*Sangams*' or meetings of scholars and poets of the entire Tamil country is said to have been held in Madurai. The fact that three *Sangams* have been held is evidence that the Tamil civilization had advanced rapidly and had attained a certain level of pre-eminence. The Sangam period

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6. Ibid., pp. v - vi.

7. K.K. Pillai, Landmarks in History of Tamil Nadu in R.E. Asher (ed.), *Proceedings of the Second International Conference Seminar of Tamil Studies, vol.I*, Madras: International Association of Tamil Research, 1971, pp.31-32

considered the classical age of the Tamils commenced prior to the Christian Era, spanned several centuries and was marked by a high level of linguistic sophistication and maturity that could compare with the most advanced linguistic cultures of the day. This classical period is marked by a corpus of literary works which were compiled by various scholars and poets. Unfortunately the works of the first and second *Sangams* have been lost but that of the third Sangam which shows certain distinct influence of Sanskrit, is nevertheless, a valuable work about the life of Tamils.

The bards of earlier period had left behind a vivid record of the social life of the people, their agricultural activities, economic activities, philosophy, religious practices, and a brief history of the Kings and Chieftains who ruled various principalities. Most important of all the poets have left for posterity a chromatic portrait of Tamil society's ecological understanding; the division of *Tamizlagam into five ecological regions* and the way the early Tamil society existed in congruence with Nature through the Sangam classics.

2.4 NATURE AND SOCIETY IN EARLY TAMIZLAGAM:

2.4.1 The Concept of *Tinai*: A Preliminary Note

Unlike the modern world which looks at environment as a resource or commodity, based on the use value, ancient

cultures looked at Nature not as an inanimate object but as a living entity which was deeply entwined with their emotional world.

The pre-Vedic Tamil civilization described its geographically natural world and the emotional attitude it inspired, by the unique concept *'tinai'*. According to *Tolkappiyam*, a Sangam period treatise on language, literature and life and *Ettutokai* or Eight Anthologies and *Pattupattu* or Ten Songs which together form a literary corpus, *'tinai'* as a concept was a poetic convention corresponding to the ecological division of land and dealing with the themes of love and war, particular to each ecological division. The main characteristics of *tinai* were: (a) terrain or the geophysical aspect of each region and time; (b) food, flora, fauna, the drum, religion, the economic activity, the musical note and the water source; and (c) the behaviour pattern that is characteristic to each region.[8] All these can be seen in the following description of *tinai*.

The geographical extent of ancient Tamil country is identified as roughly including the southern most part of Andhra Pradesh and Karnataka, the modern Kerala and Tamil

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8. K.Sivathamby, 'Early South Indian Society and Economy: The Tinai Concept', *Social Scientist*, December 1974, p.21.

Nadu. This area was divided into five ecological divisions, each having a distinct physical landscape and appropriate human experience. The Tamil country has within its embrace a variety of landscape. This diversity of landscape gave rise to the ecological divisions which became fundamental to Tamil poetry, society and activities. Basing on the differences in topography, climate, vegetation, soil, water sources, animal life and human activities the landscape was divided into five distinct types or *tinais*. A culture distinctly indigenous to each of these divisions emerged from the human activities.

The mountain and hilly regions were known as *'kurinji'* -- a flower (strobilanthus) which was native to these mountains. The *kurinji* included the Western Ghats, the Nilgiris, the Palani, the Annaimalai, the Yelagiri and the Javadi hills. The inhabitants of this region were called *'kuravar'* -- a tribal group still found in the hilly tracts of Tamil Nadu. The Ghats were abundant with the tropical forest called the *'sholas'* and wild animals such as elephants, tigers, bears, deer, wild boar and iguanas; birds such as peacocks and other species were found in plenty. The main water sources were streams, where fishes and crocodiles thrived. The *Kuravars* were mainly hunters and food-gatherers as the terrain was unsuitable for any sustained cultivation. The forests offered them flesh of animals, honey, wild fruits, nuts, roots and fishes for

food and Hill slopes if found suitable were used for cultivation of millet - the principal grain in the region. The kuravars lived in small nucleated settlements on the hill slopes and valleys. These settlements were very small and were called *'Citukuti'*. The religious beliefs essentially focused on animism and worship of Mayon or Murugan, who is even today a principal deity of the Tamil people. In worship, honey, flowers and millet were given as offerings and ritual dances were performed to the music of flute and drums during festive occasions. The poets of Sangam period associated *kurinji* as a place evoking tender emotions and as the ideal place for courtship and sexual union of lovers when singing in praise of love. *Kurinji* was the setting for declaration of War. Warriors adorning themselves with Vetei flower (*Iccora Coccina*) went out to capture cattle as a prelude to War.

2.4.3 **Mullai**

The *'Mullai'* was the pasture lands, named after the fragrant white jasmine flower (*Jasminium Trichotomum*). *This region included the undulating meadows and scrub forest lands in the modern Trichirapalli, Salem, Coimbatore and Madurai districts. The inhabitants of this region were called *'aayar'* or *'iTaiyar'*, terms which signified the occupational character of the people as herding. The *mullai* lands supported extensive herds of cattle buffaloes,

goats and sheep which were reared for their dairy produce. The dietary habits naturally centered around milk and ghee. Deer, rabbits and wild birds were hunted and their flesh eaten. The excess dairy products were bartered for rice and millets from the neighbouring regions. Though water sources were not perennial, some cultivation of coarse grains and ragi was undertaken near the river bank areas. The people were semi-nomadic and lived in compact groups in small and simple structures and their settlements were referred to as *'ceeri'*.

The ecology limiting the economic activity, the focus of social and religious life characteristically became the cattle, which were worshipped with many rituals and ceremonies the main deity was *Ceyon*.

2.4.4 **Marutham**

'Marutham' constituted the riverine plains and the delta region of the rivers Kaveri, Pennar, Tamparabaram, Palar and Vaigai. The *marutham* (*Terminalia Tomentosa*) is the flower of the myrtle tree usually found on the banks of rivers and tanks. The fairly perennial supply of water made it possible for agriculture to take root and more numerous and permanent settlements to rise. The people of *marutham* were called *'Ulzhavar'* or tillers of soil. Technology in terms of irrigation was highly developed, tanks were built for water harvesting and lift irrigation

using simple mechanical devices using bullocks called '*aampi*' was developed. Paddy and sugar cane were the chief crops and the technique for cultivation was elaborate and complex and continued with minor changes until recently. Rice was the staple food and was extensively cultivated and bartered for cattle, honey and goods of other regions.

The permanency of agriculture served as an impetus for conducting elaborate social and religious practices. Water festivals gained much religious significance and tanks, rivers and the seasonal rains were worshipped as it was realised that the agrarian economy could survive only if water was available. Other ceremonies linked to agriculture were also pe[illegible]d and they are in existence till today throughout Tamil nadu. Goats were sacrificed to *Vantan*, the rain God and offerings of flowers and toddy were made.It was in this region of *Marutham* that permanent settlements in the form of villages arose. The villages were called '*Ur*' - a term which is used even today. The division of labour was more pronounced in the *marutham* region, as agriculture and the more complex style of living demanded it. Trade with other regions was carried on. Rice, pottery, handicrafts and other implements were bartered for honey, nuts, wild herbs, deer flesh, salt, fish, butter, cows, bullocks etc. - the produce of other regions. The *marutham* was the richest of all the *tinais* as it was able to produce larger surplus in form of food

grains. Able to support a large population, the *Marutham* soon went beyond tribal organisation of society and the first political entities in form of kingdoms arose in this region. The Kaveri delta region gave birth to the Chola Kingdom with capital as Uraiyur ; the Vaigai belt commenced the Pandya Kingdom with Madurai as capital; the Kanchi on the banks of the Palai became the capital for the Pallavas and the Chera Kingdom arose on the banks of the Kaveri. The rise of strong and competing political authority in the *Marutham* region induced pioneering and vigorous colonisation of land for agriculture and to extend authority territorially.

2.4.5 **Neythal**

The littoral region on the Bay of Bengal in the east and the Arabian Sea and its backwaters in the west were called '*Neythal*' after a flower (*Nymphae lotus alpa*) of an aquatic plant that grew in the backwaters. The sandy tracts were water logged in the low lying areas and were covered with aquatic plants and mangrove swamps in the western side. The eastern littoral region was mostly bare and only shrubs and palms were found extensively in these lands. The continental shelf surrounding the coastal lands, a natural area of fish breeding helped to make fishing the main occupation. Based on the implements they used to catch fish, the Fisher folk were called

'nhulhaiyar' or people who caught fish using lines, *valainjar* or fishermen who used nets and thirdly *parathavar*. The fishing activity necessitated and influenced the construction of different types of boats some of which till date is used in Kerala for inland fishing and the *Kattumaran* (Catamaran) of Tamil Nadu is still famous. The Bay of Bengal being a very rough sea with heavy surf washing all the way to the shores did not permit easy launching of boats. The catamaran, which was three or four logs tied together was the only vessel which could navigate the surf. The coconut and *'panai'* or the palm tree played a major role in the lives of the people of *neythal*. The palm trees grew in abundance in the poor sandy soil of the eastern coast and every part of the palm was used in a variety of ways. The timber was used for rooting, while the logs were for the catamarans. The leaves provided cover for the hutments and the stem was torn into long threads and woven into ropes. The fruit was of great nutritive value and was used in many ways. The germinated roots of the fruit were dried and eaten during the lean periods when fishing was not possible. Toddy was tapped from the palm and the sap of the tree was used to prepare jaggery or country sugar. The palm, recognised for its resilience and usefulness became a symbol of kingship in ancient times. The flowers of the *'panai'* or palm tree were considered as the titulary flowers of the Chera

kings.[9] The tree was considered sacred and cutting it down even by an enemy was considered to be a matter of shame.

Salt production was the secondary activity in *Neythal*. The people who produced salt were called *'Uppilliar'* or salt makers. The low humidity, high temperature and the high salinity of the waters of Bay of Bengal combined to make this region especially productive in salt. "Vast areas of land touching the sea and the subsoil soaked in brine play a vital role in the high production of salt"[10] writes Prabha Naresh. The production of salt involved, as Vandana Shiva expounds, Nature as the female principle. "Nature, both animate and inanimate, is ...an expression of ...the female and creative principle of the cosmos; in conjunction with the masculine principle..., creates the world".[11] Salt making involves preparation of two fields of lands - one called the *'aan paathi'* or the male field and other the *'penn paathi* or the female field '. The Saline water from the sea is let into first the male field

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9. P.L.Samy, Plants Names in Tolkappiam, in R.E. Asher (ed.), *Proceedings of the Second International Conference Seminar of Tamil Studies, vol.I*, Madras: International Association of Tamil Research, 1971, p.52.

10. *The Hindustan Times*, New Delhi: 21 August 1994.

11. S. Vandana Shiva, *Staying Alive : Women, Ecology and Survival in India*, New Delhi: Kali For Women, 1988, p.38.

for a period of time, for evaporation. Then this water is transferred into the female field where it undergoes gestation before crystals of salt form.

Trading can be said to have originated in the region of *Neythal*. Food situation being precarious as the land was wholly unproductive and the reliance on fishing was not possible in monsoon periods, many of the *Parathavars* took to trading with salt and fish, being the commodities. Salt was rated highly in *Marutham* and was used as payment for labour as was rice and also as a primary commodity for barter. Moreover, plying boats, the *parathavars* became skilled navigators of the sea and soon came into contact with Arabs, Chinese, Romans and Greeks who came for trade. This contact accelerated the process of urbanisation along the sea coast and many cities grew up in the *Neythal* region.

The *parathavars* lived in settlements built close to the sea called *pakkams*. When the *pakkams* grew large on account of trade, they were called *pattinams*. Religion was based on worship of sea and *Varunan* was the main god to whom offerings of fish and salt were made.

2.4.6 **Paalai**

Paalai was the arid and semi-arid tracts of land. Though the other four terms denoted specific geographic

regions, the people of ancient Tamil country were aware that if the monsoon fails the *Kurinji* and *Mullai* region could become arid and desert like with dried vegetation and drought conditions would prevail. The poets transposed the theme of separation on *paalai*, as the terrain being scorching, parched and hostile, the husband was forced to separate from his wife in search of food and fortune. As the physical well being suffers the emotional state becomes hostile due to separation, and the traveler, trader and people of other regions were subjected to attacks, and cattle lifting and robbing of grains became the prime activity.

The southern tip of the peninsula consisting of the districts of Tirunelveli and Ramanathapuram was highly susceptible to drought and was referred to as *Paalai*. Known as *Maravars*, the people were hardy and were famous for their fighting skills. The bow and arrow was their main weapon and the houses were adorned with these weapons. Religious rites were performed with martial dances and '*Kottavai*' the God of victory, was worshipped. Flesh of animals which were hunted were offered to the God.

2.4.7 **Concluding Remarks**

This account shows that the people of ancient Tamil country were aware of the different ecological conditions of the landscape and evolved appropriate human responses to

the landscape. Some of the features described above have survived until now as religion and occupation. The people of *Marutham* and *Neythal* played an important role in colonisation and spread of Tamil culture in Tamil Nadu and South and South East Asia, when the political entities in terms of kingdoms emerged.

The above brief exposition of the concept '*tinai*' even in simple terms, would not fail to provoke one's mind to the importance of the concept. With regard to the evolution of Tamil civilization and their concept of Nature. The concept of '*tinai*' has proved to be of great significance historically as it has provided clues to the pre-history of South India. Sociologically, *tinai* points to development of the South Indian society prior to the Aryan influence. Many practices and traditions of today have their roots embedded in the practices which were in vogue during the period when South India was in tribal stage. Worship of *Murugan* and his recognition as God of beauty and Tamil; the notion of the importance of place, of local fixation of the divine; and the notion of puja, non-fire sacrifice to idols in temples may have originated during this period, as a Dravidian practice and have continued till date in the same form.[12] More importantly

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12. Zvelebil, op.cit., p.86.

the *tinai* concept brings to attention the existence of five tribes which could be distinguished according to the ecological classification of the Tamil landscape and these five tribes are supposed to have existed in five different stages of evolution. There are enough evidence to believe that these five stages of evolution existed simultaneously as lines 143-202 of the *Cirupanarrupatai* of the *Pattuppattu* or Ten Long Idylls describe the various places the bard had to pass through before arriving at the place of the patron. What makes *tinai* concept wholly valid is that even in the twentieth century many tribes are found living in a phase which modern society has long ago passed. The validity of *tinai* becomes all the more completely unquestionable as not only is Tamil Nadu ecologically and geographically diverse also socially one can identify the existence of fishing communities (*parathavars*), the *Kuravars*, and *Maravars* as caste groups in modern Tamil Nadu.

2.5 THE CONCEPT OF *TINAI* : AN ELABORATE VIEW

2.5.1 Representation of Nature in *Tinai*

Each *tinai* or landscape was considered by Tholkappiyar the author of *"Tholkappiyam"* as a natural "world" of its own. Each region differed from the other in flora, fauna, and other basic matters as food and economic pursuit in such vast degree that the inhabitants given the level of technology were only able to pursue a life-style which was

materially well contained within the natural boundaries. In *Kurinji*, *mullai* and *neythal* the level of development is comparatively lower than *marutham* - where domestication of plant for cultivation, adoption of plough and other mechanical devices are more in evidence and the dependence on Nature is in a lesser degree. Whereas, in *Kurinji*, the earliest stage of development of human society, that of the palaeolithic stage is manifestly evident

The concept of *'tinai'* was used by the early tamils not only to reveal their internal perception of the world around them in ecological terms but as explained earlier, it was also employed to reveal the behaviour patterns and the code of conduct in love and war, as appropriate to each landscape.[13] Each region was contingent to evoke certain singularly distinct emotions in the state of love and these emotional states or "interior landscapes" were in correspondence with the exterior landscape which was the geographical reality. The treatment of each emotion and situation of love and war was symbolised with Nature being the constant medium. The symbolization was essential as "Man lives in a world of two orders, partly in actual physical world and partly in the symbolic - cultural world

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13. S.K.Pillai, *The Ancient Tamils as Depicted in Tholhappiyam Poruladiharam, Part I*, Madras, 1934, p.46.

of his imagination and abstraction."[14] Moreover, according to Raymond Firth, "A Symbol is a 'device for enabling us to make abstractions', but with some end in view - a symbol has instrumental value. ...Our concept of what a symbol is depends on our view of the Nature of reality".[15] Symbols facilitate communication through minimum verbalization and maximum use of imaginary. Ideas are shared more easily and over time as symbols serve as stores of meaning and obviate to some extent the need for reformation of ideas. To the bardic poet, symbolization becomes instinctive, for journeying through various principalities, geographic areas and ecological entities, encountering numerous tribes and occupational groups, is compelled out of necessity to communicate in a facile and implied manner using symbols which facilitate understanding. Towards this goal, the bards employed Nature as it was the reality which was dominant in the life of the people and also the bard's mental concepts, images and fantasies fused with the facts of Nature making the concrete image and abstract idea, an indivisible entity which is flexible, convenient and easily understood.

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14. Radhakamal Mukerjee, 'Sociology in a New Frame of Reference : Man, Symbol and Society' in K.M. Kapadia (ed.), *Professor Ghure Felicitation Volume*, Bombay, Popular Book Depot, 1954, p.72.

15. Raymond Firth, *Symbols : Private and Public*, London : George Allen & Unwin Ltd, 1973, p.76 & p.90.

2.5.2 *Tinai* and Tamil Cosmology

The early Tamils understood that the universe had a spatial element which is inseparable from time and this time-space continuum is indispensable as they constitute the "basic, first entities in terms of which the phenomenal world may be described" and "everything must be perceived and conceived within the time-space coordinates"[16]. The time continuum was perpetual and changing in form of the major seasons of the year and the minor times of day and night.

There are six seasons or six major times of the year when an event in human life can take place. The six seasons are: rainy season in August-September; winter season in October-November; early dew season in December-January; late dew season in February-March; the season of "young warmth" in April-May and the Season of "ripe heat" in June-July. There are also six minor times of day and night consisting of our hours each: dawn, sunrise, midday, sunset, nightfall, and dead of night. The space continuum was the stage for humans to "fight and mate" and comprised of the five elements : the earth, water, fire, wind and sky, which were the essential elements of the ecological

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16. Kamil Zvelebil, *The Smile of Murugan : On Tamil Literature of South India*, Leiden : E.J. Brill, 1973, p. 148.

regions which corresponded to the physiographic divisions and the cultural landscape of Tamil people. The drama of life unfolded in the stage of these five ecological regions and the regions had their manifestations in a framework which is conceived as concrete representations of the "native" or "things born" termed in Tamil as *"Karu"*. The "native" elements were broadly divided into two namely the Gods and Nature - both of which were considered to be strongly local and indigenous to each region. Nature was further classified into Human and Non-Human Nature. Tribes, chieftains, occupations, arts, way of life, customs, musical instruments etc. were considered to be human and treated as such. Whereas non-human Nature was of two types : animate and inanimate. Birds and beasts were animate while flowers, trees, objects, forms of water (whether a mountain - rivulet, a broad river, the sea, ponds, waterfalls, etc) were described as inanimate Nature.

Nature, as can be deduced from the chart, had a prominent place in the bardic poets. The bards portrayed Nature as a metaphor, and symbolic of human realities. But, nowhere was Nature awarded a primary place nor were these representations of Nature exclusive; Nature was always integral but a subordinate component which was organically blended with those of human, living and its relatedness.The human life was adjusted to be endowed with a relationship which was undifferentiated from the

universe. Zvelebil writes,

> "such a conception of human reality in terms of Natural phenomena could verily be called '*hylozoistic*' in so far as the ancient Tamil poets apprehended the worlds of man and Nature by the same mode of cognition."[17]

Nature, furthermore, was depicted in a forceful and typically abbreviated style, as the goal of the poet was mainly to present the human life and its struggles. Therefore, Nature is never found to be described or praised for its own sake. Natural phenomena, behaviour of beasts and birds, and descriptions of natural scenery, the changing climate, the time in terms of day and night, the different water forms etc., were more expressively used in a 'symbolic indicative and inferential' style to convey the human feelings and actions. This style also demonstrates the constancy of Nature, the centrality and the harmonious role it played in the lives of the ancient Tamils. What is perceptibly apparent in these poems is, the primacy of Nature in the development and its dictation of the course of the life situations of the early Tamils.

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17. Kamil Zvelebil, n.24, p.xiii.

2.6 THE CONCEPT OF PLACE IN ANCIENT *TAMIZLAGAM*

This is perhaps the best juncture to inquire into the meaning of place in ancient *Tamizlagam*. Tuan states,

> "Place is not only a fact to be explained in the broader frame of space, but it is also a reality to be clarified and understood from the perspectives of the people who have given it meaning."[18]

Sack firmly believes that place incorporates four interconnected realms which help constitute each other. The realms are Nature, meaning, social relations which include economic activity and human agency.[19] For Giddens,

> "Place...always involves an appropriation and transformation of space and Nature that is inseparable from the reproduction and transformation of society in time and space."[20]

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18. Y.F. Tuan, 'Space and Place: Humanistic Perspective', *Progress in Geography*, Vol.6, 1974, p.213.

19. R.D.Sack, *Conceptions of Space in Social Thought: A Geographic Perspective*, Minneapolis: University of Minnesota Press, 1980.

20. A. Giddens, *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis*, London: Macmillan, 1979, pp. 206-207.

The above three definitions establish distinctly that 'place' is not just a physical setting involving territory or boundary, but includes principally, appropriation and transformation of Nature and space. This appropriation and transformation essentially becomes valid and real in the process of formation of place only when meanings are attributed by the human agency. Individuals, groups and communities lay claim to space by carrying out certain routine: every day functions. Performance of which necessitates frequent encounters with Nature. Such encounters subjectively and intrinsically increase the experiential essence of space and Nature and in course of time meanings are ascribed and get built into the milieux as the routine day to day functions become established practices. Through these practices a certain sense of permanence, continuation, attachment and identification is transformed on to the spatial milieux through the vehicle of culture and thus places are created. Michael A. Godkin acknowledges that,

> "places in a person's world are more than entities which provide the physical stage for life's drama. Some are profound centres of meanings and symbols of experience. As such, they lie at the core of human

experience."[21]

In *Tamizlagam*, Nature had played an important and a predominant role in the formation of places. Four regions possessing distinct features physiographically, ecologically and socially existed as separate entitles with diverse economic activities which lent itself for reproduction of cultures specific to the region. The tribal character and beliefs constructed on the basis of the dominant ecological element were also reinforced and reified the culture specific to each region. In the Kurinji or the mountain region we find cultivation of millet is combined with hunting and gathering as economic activity and the cultural sphere is specified and symbolised by the drum called *tontaka* and the mountain lute. In *mullai*, the forest and pasture region the spirit of the *itaiyar* and *aayar* are underlined by the *erru* (drum) and the forest lute along with bull fighting and *kuruvai* dance both of which personified the pastoral occupation and marginal cultivation. The landscape of *marutham* being fertile plains which lend itself for proper agricultural activities is also culturally the most sophisticated region with festivals where the *mana* and *kinai* - two types of drums are beaten particularly during the marriage and paddy

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21. Cited in David Harvey, *Explanation in Geography*, New Delhi : Arnold Publishers, 1989, p.194.

harvesting time. It is here that appropriation of space and Nature by the human agency is at the pinnacle compared to the other ecological regions and the increasing imprint of the human society on Nature is made visible through the mode of production which reveals a certain specialisation and existence of a division of labour which has modified the tribal existence and had ushered in a class society.

This social stratification of the *marutham* region based on class was duly reflected on the land holding pattern and the appellation used for the inhabitants : *Kataiyar* or men considered to be of lowest status, a qualification caused by the tendency to perform wage labour and *Ulavar* or ploughmen or agriculturist who possessed land. The littoral region people are deeply involved with the marine activities for their survival as the land is not suitable for productive activities. Essentially surviving on subsistence economy as fishing or salt making is not possible during monsoon season, the people here resort to trade in salt and dry fish. Their culture specific symbol is the '*pampai*', the drum of fish-caught and the boat drum; and the *vilari* or lute which sounds like the call of the sea-breeze. The cognomen of the coastal people as in every other region attested to the authenticity of and approbation to their technology. The technological differentiation conformed to the land-sea assemblage and

divergence, that is where the sea penetrated the land to form backwaters the fisherman used nets (*valai*) to catch fishes and so were called *'valainar'*; fishing in ponds, lakes, rivers and streams, were carried on with fishing-lines, therefore, these people who fished in land were called *'nulaiyar'*, those who went to sea to catch fishes were known as *parathavar*, while salt manufacturers were known as *'uppiliar'* . The *paalai* or desert region, people by the *'maravar'* committed robbery, raided the *marutham, Kurinji and mullai* for cattle and food, attacked the salt and fish traders of *neythal* became famous for their martial skills. The young men of *paalai* were called *'mili'* literally meaning 'the strong one', 'the valiant one' 'the fighter'; or *'ritalai'* meaning 'the young bull' or *'kalai'* literally 'the bull or steer'. The *utukkai* drum and the desert lute symbolised their existence as a martial tribe in the inhospitable region.

This account demonstrates the fact that in the *'tinai'* concept the "cognitive structuring of space and Nature is linked to the actual ecological characteristics".[22] *Tinai* also gives substance to Lovell's contention that "in primitive societies it often seems that spatial concepts are rooted in the language developed to describe 'concrete

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22. Anne Buttimer and David Seamon, *Human Experience of Space and Place*, London : Croom Helm, 1980.

and personal situations' "[23]. By attributing specific meanings to the each physiographic and ecological areas, a particular type of society with distinct social and economic activities which appropriated certain space and Nature existed. The mental construct of the ecological world organised with an exactitude of attitudes, believes, cultural artifacts and symbols present a 'place' which seem to be territorially large. The social relations created by the human agency in each specific place of *neythal*, *mullai*, *kurinji* and *paalai*, exhibit largely a tribal society and polity except in the *marutham* area.

Place, in ancient *Tamizlagam* it can be asserted, appears to be an outcome of meanings attributed to the dominant Natural element by the human agency whose activities - economic and cultural along with the behavioral patterns have meshed to mould the concept of place. Zvelebil is correct when he remarked that,

> "the '*tinai*' has been frequently described in a rather one-sided and incorrect manner as 'landscape', 'region', etc., as a geographic category ...where events take place. This, however, is only one face of the *'tinai'*, since *'tinai'* is a unity of behaviour-patterns and

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23. David Harvey, op.cit., p.194.

appropriate landscapes"[24].

The idea that *'tinai'* refers to 'place' is given substance by the term *'tinai nilaippeyar'* whose primary meaning is 'settlement' or 'clan'. It can be argued that 'settlement' would refer to the different types of settlements such as *'cirukuti'* in the *Kurinji*; *'pati'* in *mullai*; *'perur'* and *'mutur'* in *marutham*, *'pakkam'* and *'pattinam'* in *neythal* and *'kurumpu'* in *paalai*; which could be defined as the Nature, meaning, social relations and human agency operate continuously to form a 'place'. Here, the other meaning of *'tinai nilaippeyar'* which is 'clan' assumes importance as it denotes a spatial spread and given the fact that the different activities - economic and social - particular that of the hunter-gatherer, the semi-nomad and the raider automatically demand a spatial spread it is clear that only *'tinai'* can be accepted as 'place' and not those settlements, which unlike *tinai* do not explain the behavioural patterns, attitudes, beliefs, and activities of the human agency.

In the concept of *'tinai'*, Nature is seen as a predominant force which moulds and dictates the social, religious and economic life of the people of each region. But, *'tinai'* also contained within it at the embryonic

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24. Kamil Zvelebil, *Tamil Literature*, Wiesbaden : Otto Harassowitz, 1974, p.36.

stage the seeds of change. The 'place' in the concept '*tinai*' is a territorially large entity with blurred boundaries, political decentralization, casteless society, with minimal external influences and with different modes of production, which signified an uneven development and social values. Land on its own was not significant element in the concept of *tinai* but was gaining prominence in the *marutham* region (on account of its ability to produce surplus). The *Marutham*, both in social organisation and in economic activities was far advanced in comparison to the other regions and was evolving politically into kingdoms with definite territories, monarchies and corresponding values which not only permitted growth of feudalism but also colonisation. *Neythal* was another region which had the potential for change in terms of urbanisation. The fisher folk in course of time developed an interest towards maritime trade due to frequent contacts with the Greek, Roman, Chinese and Arab traders. These foreign trade contacts, the coming of the Brahmins and possibility to increase the production of surplus contributed immensely to radically transform the concept of place.

2.7 **CONCLUSION**

In the *'tinai'* concept, the discovery of Nature by the different tribes in *Tamizlagam* is disclosed. It is also conspicuously demonstrated that the early Tamils

shared a symbiotic relationship with Nature and neither did they separate Nature from rest of their universe nor was Nature considered as object outside, fixed and ready for exploration independent for its existence from them. The symbiotic identification with Nature was so intense and binding that the Tamils expressed themselves as part of Nature in their behavioural patterns. Though the process of humanising the landscape was continuous, the objectification of Nature did not occur, until outside forces and influences impinged to bring about a radical change.

The *tinai* concept conclusively demonstrated that the early societies in South India lived a spatially extensive and predominantly a semi-nomadic existence. In accordance to their existence, each society and tribe attempted to define the nature they encountered and attributed specific meanings to the nature in an attempt to convert it into an environment for habitation as 'meanings are not inherent in the nature of things'.[25] It is explicit that in each of the ecological region the environment, the environment created by human acts became symbolic as it was,

"conferring meaning to nature and the environment,

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25. Thomas Greider and Lorraine Garkowitch (1994) 'Landscapes: The Social Construction of Nature and the Environment ', *Rural Sociology*, 59(1):1.

of giving the environment definition and form from a particular angle of vision, and through a special filter of values and beliefs."[26]

On each of the ecological regions what is apparent is that there existed a primordial relation between each of the tribes and the space where they carried out their religious, social and economic activity and this primordial relationship brought into play identities specific to that ecological region. This relationship with nature also was reflected in the self-definitions and in the cultural context as exemplified by the type of drum and religious activity of the people of each of the *tinai* regions. Therefore, *tinai* exemplified the subjective symbols and meanings through which the *kuravars* of *kurinji* the *maravars* of *paalai*, the *itayars* and *aayers* of *mullai*, the *parathavars* of *neythal* and the *uzlavars* of *marutham*, attempted to construct a place. Places in ancient *Tamizlagam* thus were more of self definitions and cultural identities of each of the tribes than about the natural environment alone. Considering places as an extension of themselves each tribe exercised specific means of adaptation to each ecological region. The modes of adaptation of each tribe not only point out the symbols and meanings that comprised places but also reflected what

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26. Ibid

people of each *tinai* defined as to be proper and improper relations amongst themselves and between themselves and nature. Viewed this way, *tinai* becomes an exposition of not only Nature, space and place but also about place being social and not just physical. Thus the places of each *tinai* embody the ethos of the ancient Tamil tribal society.

In the next chapter, the change in the concept of place will be traced. Places become a projection of the social structure in the medieval Tamil Society. Placement of people in space corresponds to the organisation of society which is on the basis of caste. Moreover, the placement of people enhances the power and use of the natural sources of particular caste groups while other caste groups are permitted restrictive use of the sources. At the macro spatial level, a typology of places emerge which correspond closely the caste structure, while at the micro spatial level residential space and environmental space are ordered in a fashion which shows an adherence to the principle of purity or impurity. The next chapter also highlights how people transform their settlement space into place by using cultures.

CHAPTER THREE

SOCIAL ORGANISATION OF SPACE : CASTE, COGNITION AND PLACE FORMATION

3.0 INTRODUCTION

> "Each culture constructs its own world out of the infinite variety of nature...[Nature is socialised...reorganised...(and) made into a material manifestation of social structure."
>
> (Busch, 1989)[1]

In *Tamizlagam*, the advent of a more complex society coincided with the rise of the Chera, Chola, and Pandyan Kingdoms. These kingdoms rose in the *marutham* regions, the Cheras and Cholas established their supremacy on the areas adjunct to the banks of the river Periyar and the delta region of the river Kaveri respectively. The Pandyas ruled from Madurai, which was situated on the banks of river Vaigai. The growth of principalities ruled by *Kurunilamannars* or kings of small lands, to a strong monarchial power was possibly only in the *marutham*. In *marutham* the tribal social entity was not distinct or cohesive as in other regions of the *tinai*. *Marutham* was

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1. Thomas Greider and Lorraine Garkowitch (1994) 'Landscapes: The Social Construction of Nature and the Environment ', *Rural Sociology*, vol. 59, no.1 p.6.

the only region where spatially intensive activities developed early. Nature presented barriers for indefinite continuation of spatially extensive activities in the plains and delta region comprising the *marutham* region. When nature presents barriers to the far-ranging quests for food, man is forced to advance from the natural to artificial basis of subsistence. He leaves the chase for the sedentary life of agriculture and extensive activities are replaced by intensive ones, while wide dispersal of tribal energies are replaced by concentration. The fields for cultivation are fixed and enclosed in space as are their cultivators. The assured food supply had a direct impact on the rate of growth of the population. The increasing population quickly outgrew the space occupied and habitated, occasioning within, a struggle for space. A struggle for space is also a struggle for existence. So customs and practices suitable for a settled populace evolve to regulate interaction and the usage of space.

Marutham was the only region which possessed the natural material conditions for advancement and production of surplus. *Marutham* had fertile land and abundant water "which can be regarded as a natural instrument of production".[2] The production of surplus and population

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2. K. Marx and F. Engels, *The German Ideology*, Moscow: Progress Publishers, 1976, p.71.

growth proved to be the necessary impetus for technological advancement. The technological advancement was mainly in the sphere of increasing the hydrological sources. The progress in technology can be gauged from the change in the nomenclature of the dominant class of the population. This class which was known as *uzlavars* or cultivators now came to be known as *vellalars* - a term signifying simultaneously two facets of this group. *Vellanmai* in Tamil means 'agriculture', while *vellam* means 'floods'. So *vellalars* meant people who had mastered the art of agriculture and that of controlling of floods. By controlling the floods, the *vellalars* were able to bring more land under cultivation that is, using technology they increased their area of cultivation. The *vellalars* actually mastered the art of regulating of the flood waters which were sluggish at the beginning of monsoon and the post-monsoon river water by building *Korumbas* or temporary bunds, which diverted the swelling river waters or the low level waters in the river to the fields. The *Korumbas* or bunds were constructed on the river bed by using sand and branches of trees. Erection of the *Korumbas* placed demands on the community by way of labour. Organisation of labour and regulating the water use necessitated political organisation of society.

3.1 TERRITORIAL ORIENTATION

The increase in water supply effected an increase in the land under cultivation. Over time, the maximum possible area in *marutham* was brought under cultivation and further expansion required colonisation of the *mullai* region which had river and streams as it water source. Thus it was only through *marutham* "major economic development which could restructure the entire social pattern was possible."[3] The territorial expansion is basically physical dominance over space which could not be successfully challenged by the people of *mullai* on account of the superior political organisation of the *marutham* people. According to the '*tinai*' concept, the five regions had no boundaries and demarcation was vaguely conforming to the natural ecology of the area. Now continuous expansion and integration of the *marutham* and other regions brought into existence three major Tamil Kingdoms: The Chera, the Chola and the Pandya and each of these Kingdoms controlled a large territorial area.

The expansion and building of kingdoms was originally a movement towards placement of the people of *marutham* in other regions, rather than an exercise of displacement of

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3. K.Sivathamby, "Early South Indian Society and Economy : the Tinai Concept", in *Social Scientist*, vol.3, no.5, December 1974, p.29.

the local tribes. Initially, the conquest and domination of the *mullai*, *paalai* or *neythal* did not change the essential tribal character totally or the economic activity. On the other hand, it gave an impetus to the total social economy of the regions. In course of time the *uzlavars* became the ruling class, while the *maravars* were absorbed as soldiers, the *aayers* and *itaiyars* of the *mullai* continued as shepherds, the *parathavars* of *neythal* were impelled to chart the seas for trading. The integration of the *mullai* increased the number of settlements with the *perur* and *mutur* type of settlements coming into existence along the *patis* of *mullai*.

Actions such as establishment of kingdoms or annexation of territory require a new type of orientation towards space. Erik Cohen terms this orientation as 'territorial orientation' which is basically control of space achieved through,

> "physical dominance over territory, which facilitates the use of force for the defense of or domination over space..., and political organisation of the territory in which control - bounding and allocation of space, to alternative groups or uses -- is achieved through a decision-making process by individuals or

institutions enjoying legitimate authority."[4]

Every society seeks to create its own cognitive and conceptions regarding the nature of space or cosmos which it inhabits. Durkheim was one of the earliest prophets of the notion that "social organisation has been the model for the spatial organisation and a reproduction of it."[5] Sharing Durkheim's views, Levi-Strauss elaborates by stating that although,

> "there is an obvious relationship between social structure and spatial structure of settlements, villages or camps...(but) to prove that spatial configuration is the mirror image of social organisation ... would be extremely difficult...(though) the existence of a relation is evident, it is unclear unclear, and ... (sometimes the) *spatial configuration seems to be almost a projective representation of the social structure*" [6] (Italics mine).

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4. Eric Cohen, "A Multinational Approach to Social Ecology", *Current Anthropology*, vol.17, no.1, March 1976, p.53.

5. Emile Durkheim, *The Elementary Forms of the Religious Life*, London : George Allen & Unwin Ltd., 1976, p.12.

6. Claude Levi-Strauss, *Structural Anthropology*, Middlesex : Penguin Books, 1986, pp.290-291.

Louis Dumont is the main proponent of the idea that the structural organisation of the Indian society has been on the basis of caste. Among the fundamental principles on which the caste system is organised are division of labour, hierarchy, and the notion of purity and pollution. Dumont then reduces the three principles to a single true principle, namely the opposition of the pure and impure. According to Dumont,

> "This opposition underlines hierarchy, which is the superiority of the pure to the impure, underlines separation because the pure and the impure must be kept separate and underlines the division of labour because pure and impure occupations must likewise be kept separate. *The whole is founded on the necessary and hierarchical coexistence of the two opposites.*"[7]

The notion of impurity is based mainly on religious grounds and is also associated with hygiene, which is often invoked to justify ideas about impurity.[8] As a structural

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7. Louis Dumont, *Homo Hierarchicus : The Caste System and Its Implications*, Delhi : Oxford, University Press, 1985, p.43.

8. Ibid., p.47.

principle the notion of purity and impurity conceptually seeks to separate the Brahman and the untouchable. The opposition of purity and impurity also functions as the principle of hierarchy, by governing the separation and enforcing the opposition of superior and inferior. Thus the combination of the opposition of superior-inferior, and hierarchy and hygiene in the principle of pure and impure leads to various levels of separation, seclusion and isolation. Apart from the principle of purity and impurity the hierarchical ordering of society is also based on the colour or varna. Four categories are distinguished in the order of superiority: Brahmins or priests, Kshatriyas or Warriors, the Vaishyas or merchants and finally the Shudras - the servants or have-nots and the untouchables are left out of this classification.

In the South India, particularly in the Tamil country, Dumont finds that 'peculiarities' occur. The Tamil society is made of Brahmins, Shudras and Untouchables. There are no intermediary castes between the Brahmins and Shudras: the warrior castes and the merchant castes are part of the Shudras. The fact that there was no Kshatriya or Vaishya is not a 'peculiarity' as Dumont considers if one takes into account the historical development of South Indian society. Coinciding with the establishment of the Chera, Chola and Pandyan Kingdoms was the arrival of the Aryans elements from North to spread Jainism, Buddhism and Vedic

Hinduism. The Brahmins succeeded in imposing Vedic Hinduism after rooting out Buddhism and Jainism and attempted to impose the caste system on the Tamil society. The Tamil society was, as seen in the *tinai* concept, predominantly tribal but with faint traces of caste at the time of arrival of the Brahmins. The attempt to impose caste system according to the Varna system could not succeed totally for those who bore arms as warriors belonged to the marravar tribe; while the salt traders and the parathavars who engaged in maritime trade were from the fishing community and members of these tribes were dark in colour. Moreover these tribal groups consumed flesh of different animals. Naturally in the Brahminical order of things these groups could not fit into the notion of purity and impurity. Designated as the untouchables and outcastes were, "the inhabitants of the non-*Marutham* regions."[9] Sivathamby links the non-admission of the non-*Marutham* inhabitants in the caste system to the expansion of monorchial power coupled with 'the non-*Marutham* regions fading to the background', and the growth of Brahminical influence.

One of the groups deemed as untouchables were those which could have possibly challenged the Brahmins and

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9. K. Sivathamby, op.cit., p.34.

competed with them for influence. The Paraiyar, whose appellation is derived from the drum - *paRai* - were designated untouchables as "drum skins being of course impure, and the untouchables consequently having the monopoly of the village bands."[10] In the *Tinai* concept the drum had a large role as it symbolised the closeness of man and nature. Zvelebil points to the fact that in ancient times the members of the Paraiyar caste were bards and royal drummers;[11] 'war-bards' who "were especially close to the Chiefs and Princes" and used to "arouse the King in the morning."[12] These references show that the Paraiyars were not considered to be untouchables and as bards they probably wielded considerable influence in the society and with the royalty. X.S. Thani Nayagam is convinced that the degeneracy of the bards set in with the advent of a more complex society, where the poet outshone the bards as the representative of literary and intellectual life, and the functions of the bardic troupe were differentiated.[13] The destruction of the bardic tradition which was nurtured by a

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10. Louis Dumont, op.cit.,p.54.

11. Kamil Zvelebil, *The Smile of Murugan: On Tamil Literature of South India*, Leiden : E.J. Brill, 1973, p.156, see footnote 4.

12. Ibid., pp.13-14.

13. Cited in Kamil Zvelebil, *Tamil Literature*, Wiesbaden : Otto Harrassowitz, 1974, p.43.

secular society (as bards were from all walks of life) coincided with the ascendance of Vedic Hinduism, with the Brahmin becoming close to the monarch and the society losing its secular character by becoming ritualistic and casteist.

3.3 **CHANGING CONCEPT OF NATURE**

The marrying of territorial orientation with the ideology of caste had a strong impact on the outlook towards nature and a definite impact on the structuring of space and environment as a result of which a new patterning of and category of places emerged. Nature in the *tinai* was conceived as having a one-to-one correspondence with the human although being different. The human being was considered to be part of nature as was his occupation, art, way of life musical instruments, etc. Now the organisation of the society being based on the principle of purity and impurity, the outlook towards nature also underwent change. Formerly, the sensuous beauty of Nature, its moods, its emotions were compared to the human beauty, moods and emotions in the bardic poetry to bring out the closeness and oneness of human and natural world. Nature under the Vedic influence was viewed as a religious phenomenon and outside the human nature. Secondly, nature was perceived as a combination of male and female principles in the *tinai*, but now the nature was mainly regarded as male. The

following passage by Ramanuja, a Vaishnavite shows it clear that Nature is conceived mainly as male,

> "God pervades the earth and yet is other than the earth; the earth does not know Him; and yet the earth is His body. He controls the earth from within. Similarly, He pervades all inanimate matter -- water, fire, air and so on. The individual soul are also pervaded by Him...God is present everywhere. There is nothing wherein He does not exist."[14]

In contrast, the ancient "Tamil classical poetry is pre-eminently of this world; it makes no allusions to supernatural meddling in worldly affairs. When, quite marginally and exceptionally, it reflects some kind of religio, it is mostly the rites and ceremonies connected with the daily life of the people (such as marriage ceremonies), or in bardic war-poetry, reflections of tribal cults and their survivals..."[15] .

This points to fact that the tribal cults and practices were part of their identification with Nature.

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14. K.D. Bharadwaj, *The Philosophy of Ramanuja*, New Delhi, 1958, p.100.

15. Kamil Zvelebil, n. 13, pp.20-21.

The Vedic concept of Nature removed nature from the individual and the collective and placed it outside as a sacred and at once, a profane object. In its sacredness nature became symbolic and above the members of the society in its profanity, an instrumental rationality which was clearly evident in the territorial orientation -- in terms of physical dominance over space and allocation of space to groups or users - came to operate.

3.4 **CASTE IDEOLOGY AND ALLOCATION OF SPACE**

Allocation of space was dictated by the caste considerations. David Gilmore in his study regarding social organisation of space states that social groups "project" the social model into the dimension of space and thereby create imaginary boundaries that are as forbidding as any topographical ones.[16] He draws attention to the fact that a class structure is introjected in the public consciousness and then 'projected' upon the nucleated settlement space. This projection orders the physical dimension of town life, in the image of the class model and generates concrete definitions for cultural distinctions and cleavages. It also establishes inclusive parameters for individual behaviour that limit residential mobility

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16. David Gilmore, "The Social Organisation of Space: Class, Cognition, and Residence in a Spanish Town" *American Ethnologist* vol.4, no.3., pp.431-452.

and foster a defensive and parochial isolation of class communities. The result is reification of class consciousness, a restraint on social mobility and a deepening of cultural antagonisms that are caused partially by distance. Therefore, according to Gilmore social class principle is more than a structural device for categorizing human beings. It is also a mental map by which people organise their natural and fabricated universe a cognitive orientation as deep and basic as language, which works in all dimensions of social life. substituting the 'class' for 'caste' as a structural principle of division by which people are placed into categories, it is possible to demonstrate that the caste has an 'emic' category has played a major role in ordering of macro-space and micro-space in the process of formation of places.

3.4.1 **Ordering of Micro Space**

The ordering of the micro space on the basis of caste was at two levels:

(a) at the level of the settlement space, which is the village residential area;

(b) at the level of ordering of the environment surrounding the village.

The village landscape is generally dominated physically by four main features namely:

(a) the source of water supply which could be the river or channel from the river or a tank;

(b) the lands attached to the village including the irrigated and non-irrigated lands and the waste lands;

(c) the temple;

(d) the residential area.

As a spatially restrictive activity, agriculture became the nucleus around which the society and land were organised. The village is the micro-space which Stein describes as where,

> "relatively small, prosperous and highly cultured modes of settled, advanced agriculture were separated by extensive tracts of forests and hills and in which high caste cultivating and non-cultivating people managed agrarian and other relations through powerful, locality assemblies."[17]

The village is referred to by the term 'Ur'. The 'Ur' or the village is synonymous with 'place', for the village is the locale or the setting where social relations are constituted on informal and institutional basis. It is the

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17. Burton Stein, 'Historical Ecotypes in South India' in R.E. Asher (ed.) *Proceedings of the Second International Conference Seminar of Tamil Studies*, vol. II, Madras, International Association of Tamil Research, 1971, p. 285.

setting for everyday, routine social interaction. The Ur is the location or the geographical area encompassing the settings for social interaction as defined by social and economic processes operating at a wider scale. It is in the 'Ur' that the local social interaction of ideas and practices derived from 'the relationship between places'. is represented. The 'Ur' thus, represents the macro order as it is the location where segregation of social groups is acutely practised. It is the place where the effects of the feudal state's policy were felt in an uneven manner.The practice of the jajmani system leading to uneven economic development is found here. The Ur is where the local "structure of feeling" or the subjective orientation that can be engendered by living in a place is established. That is, it is where the definition of self or identity is structured.

3.4.1.1 **Technology and Spatial Environment**

Technology determined resource creation and management. Naddel states that man-environment interface can be better understood if attention is directed to technology with reference to resources as the substantive core in the study.[18]

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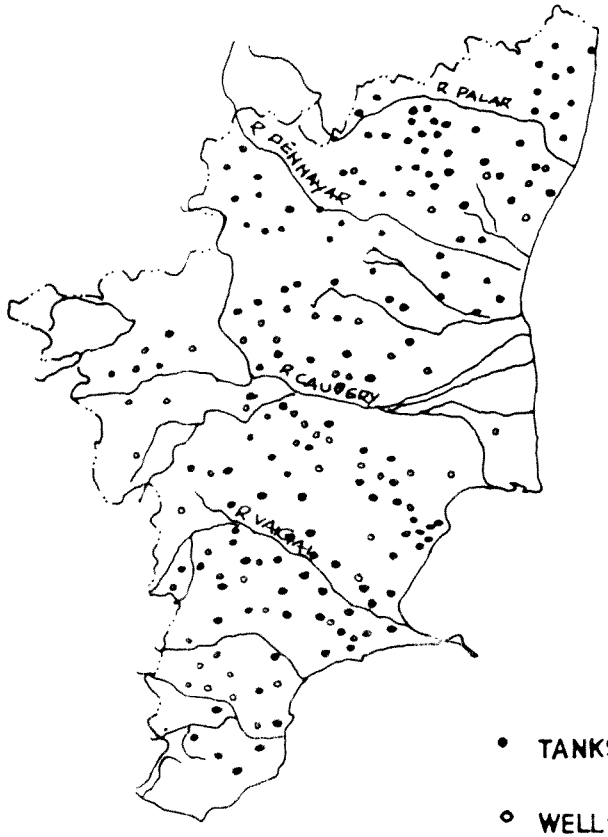
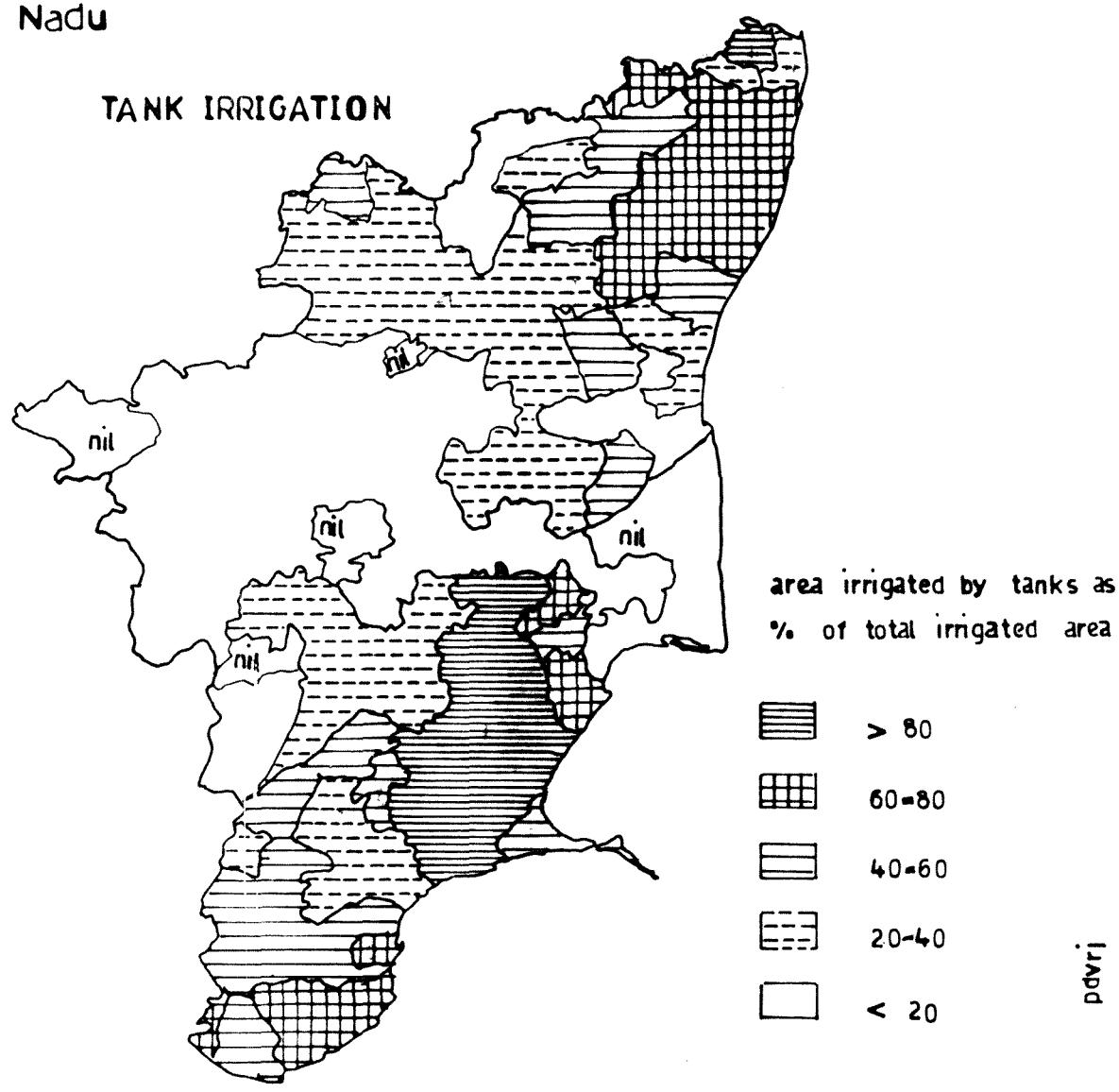
18. Cited in Brian J. Murton, 'Land and Class: Cultural, Social and Biophysical Integration in Interior Tamil Nadu in the Late Eighteenth Century' in Frykenberg,

Tamil Nadu

IRRIGATION



TANK IRRIGATION



In an agrarian system, the relations of people with land is most direct. But in the South Indian agriculture, the scarce element has been water as the Tamil areas are in the rain shadow region and lack river systems which are perennial. "Given a reliable and adequate supply of water, a diverse range of soils, appropriate drainage (or conditions in which drainage could be improved with reasonable effort), swamp cultivation of rice has been capable of supporting large populations". [19] Therefore the primary concern of every socially and politically dominant caste group and the state authorities was securing sufficient supplies of water. Formation of the Ur, under the circumstance depended on provision of adequate water primarily for irrigation and it was water bodies which became the sheet anchor for the survival of the Ur. The first step towards formation of an Ur was building of a tank which could store water.

> "A tank is not an evacuation as may be inferred from the term; it is a receptacle for water, formed by constructing an embankment or bund across a valley, and so damming up the drainage of the valley. The bund is of earth,

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...Continued...

R.E. (ed.), *Land Tenure and Peasant in South Asia,* New Delhi: Orient Longman, 1977, p. 82.

19. Burton Stein, op.cit., p. 286.

but is often protected in front with a facing or revetments of rough loose stone, as a defence against the action of the waves raised by the wind on the surface of the water; it is also pierced by sluices or tunnels of masonry, by which the water is drawn off as required by fields below, and which are furnished with simple contrivance for opening and closing."[20]

This is the definition of a tank which as recorded in a British document in the colonial period. The tank as a traditional form of irrigation, impressed the British by its ingenuity and success that the British undertook extensive surveys of the tanks in the Presidency and found that they could do little to improve upon the design or construction, but to undertake their maintenance.

The tank is known as *'eri'* in Tamil and the development of the technology of the *eri* enabled the Tamil culture and civilization to expand and extend itself to other areas by means of colonisation of land and root itself in these colonised areas. The concept of the tank came into existence in the early feudal period and remained not only a pillar of the feudal order but also that of the

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20. Preliminary Report on the Investigation of Protective Irrigation Works in Madras Presidency, 1902, Government of India.

early British colonial order.

One of the earliest mention of the *eri* is found in the 'Tholkapiyam', the earliest work extant in Tamil, belonging to the pre-Christian era and antedates the classical poetry or Cankam poetry.

The concept of tank irrigation was refined in the North Arcot District. The development of the *eri* in its present form can be attributed to Mahendravarman (I), a Pallava ruler in the 5th Century of the Kingdom of Kanchi which included the modern North Arcot district. The district was part of an area known as Tondaimandalam and was subjected to colonisation by the early Cholas. In Tondaimandalam, the Pallavas rose to power around the 300 A.D. and established a Kingdom which lasted until 750 A.D. The Pallavas and Tondaimandalam became the medium through which sanskritic influences entered the Tamil dravidian society. The world Pallava is the Sanskrit version of the Tamil word Tondai meaning 'creeper' and Tondaimandalam was known as the land of creepers - an allusion to its semi-arid condition. The Pallavas to secure the semi-arid area, built small and large reservoirs of which the Mahendravadi -- named after Mahendravarman I, Mamandur (in Chinglepet District now) and Kaveripakkam lakes are the largest and considered to be great achievements.

Tank building had its own scientific and engineering base as tank is not a basin like receptacle to collect rain water. Topographical conditions such as the slope of land, nature of soil and rainfall, are factors which determine the construction of tank. The slope of land permitted inflow of the surface run-off water of the catchment area, through the opening at the higher side, while at the other three sides elevated embankments were constructed to impound the water. The slope of land also induced gravity flow of water, thereby curtailing the need to use devices for lifting water for irrigation. Tanks do not generally exist in isolation, but are often part of a series. Starting from the catchment area in the hills, down to the plains, where the command area occur, tanks existed as an integral parts of a system, which is connected to a river.

A multitude of channels starting from the lower end of the tank, at the point of the sluice, connect the water through gravity flow to the command area of the tank. These channels also led to another tank at the lower end of the command area. Generally the upstream tanks are smaller in size as the slope of land and the rocky terrain do not permit occurance of large command areas and the force of the run-off water would create enormous pressure threatening the water soaked earthen embankment. As soon as the water reaches certain level the sluice is opened to drain the excess water which then runs through the channels

to the next tank downstream. "Hence, the structure of the tank or the tank bed which stores water cannot be seen in isolation from the chain of distributaries and field channels."[21] The construction of tanks in a series made the entire hills and plain areas including the command area, a huge catchment area during the monsoon.

The fact that the whole system was patently scientific that wastage of the run-off water was uncommon, made Nirmal Sengupta comment,

> "These irrigation works may appear crude, but a careful study would reveal that crude *eries* formed such inter-connected chains that every bit of run-off water flowing through vast landscapes were appropriated for irrigation, every bit of surplus water from one level reached another requiring water for irrigation."[22]

Tanks did not exist just in regions of scanty rainfall but also where the soil has the capacity to drain off

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21. A Srinivas, 'Tank Irrigation: A Viable Alternative', *Financial Express*, 5 April 1993.

22. Nimal Sengupta, 'Irrigation: Traditional vs Modern' *Economic and Political Weekly*, vol. 20, no. 45, 46 and 47, Special Number, November, 1985, p. 1923.

excess water."[23] North Arcot district predominantly posses red ferruginous loams and sands. Black soil is found chiefly in the neighbourhood of the rivers Palar, Poiney and the Cheyar and the big tanks. The red loamy fertile soil is found in the Vaniyambadi valley, Arni, the Western valleys of the Gudiyattama taluk and in the vicinity of the hills of Vellore. The bulk of the best land in the district is included in the loamy class of both black and red soil. The red loamy soil drains well so it becomes essential to have tanks in the area to impound the water, whereas the black soil does not drain well. Thus the soil composition determined the building of tanks. Tamil Nadu and North Arcot district receives rain from both the South west monsoon and the north-east monsoon. The South West monsoon as explained earlier gives well distributed but less rainfall. Whereas the north-east monsoon although of shorter duration, gives heavy rains which provokes surface run-offs in the catchment areas, command areas and the river surfaces. Under these conditions the tank becomes an ideal method to harvest the rain water.

Tanks are usually connected to the rivers and streams primarily to harvest the heavy precipitations during the monsoon season and to procure water during the dry season.

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23. Bharat Dogra, 'Traditional Irrigation in India', *Financial Express*, 16 June 1990.

The river or stream waters are diverted into channels connected to tanks by construction of *Korumbas* and anicuts. *Korumbas* are temporary bunds or spurs constructed on the bed of the river when the river or stream is low, particularly before the monsoon. "*Korumbas* are constructed not in small rivers, where a cheap permanent dam may be constructed, but only in bigger ones with shifting sand and changing water courses".[24] *Korumbas* are fabricated with sand, earth, branches, bamboos bushes and grass and are built at the head of the channels when the supply from the river falls low. Each time the freshs occur, the *Korumbas* are swept away and they have to be renewed. "Sometimes these *korumbas* were a mile long, requiring thousands of labourers to construct and divers to lay their deep foundations."[25] The anicuts were 'dams of rough stone or masonry' built for controlling the major rivers like Kaveri, Vaigai, Tamrabarani and Palar in Tamil Nadu. The Anicuts aided in maximisation of water for irrigation purposes without impeding the life systems or the natural flow of the river. Anicuts were similar in technique as the *Korumbas* but differed in the respect of being more

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24. G.M. Krishnamurthi Iyer, 'Irrigation in Trichinopoly', *Journal of the Madras Geographical Association*, vol. 18, no. 3, 1933, p. 153.

25. Ibid.

permanent weirs. The weirs were of certain height and did not obstruct the flow of water but made it rise up gradually to a level sufficient to divert the water automatically into channels connected to the tanks or to fields situated at a level higher than the bed of the river. Anicuts differed from the *Korumbas* also by the fact that *Korumbas* being temporary in construction did not possess any controlling work in the bed of the rivers.

The anicuts as scientific means of impounding rivers and streams for irrigation are a very ancient method in South India. The Grand Anicut on river Kaveri is said to have been constructed by the Chola King Karikala during the Sangam period. A river or stream following the slope of land flows from a higher level to a lower plain area, where it forms a natural drainage, thereby providing very few problems concerning irrigation. But in areas where the gradient of the land is steeper, the river cuts through and so the banks are at a higher level posing problems for irrigation. In order to irrigate a piece of land some miles down the slope, the channel has to take its source at the upstream of the river. It is to feed these channels that anicuts are built.

It is from the South Indian technology of construction of anicuts and *Korumbas* the British learnt to build major hydraulic works. The British finally using indigenous

technology to check the rising river bed of Kaveri after a struggle of a quarter century, were forced to concede that as Sir Arthur Cotton put it,

> "It was from them (the South Indians) we learnt how to secure a foundation in loose sand of unmeasured depth...The Madras river irrigations executed by our engineers have been from the first the greatest financial success of any engineering works in the world, solely because we learnt from them...With this lesson about foundations we built bridges, weirs, aqueducts and every kind of hydraulic work...We are thus deeply indebted to the native engineers."[26]

But Sir Arthur Cotton, the 'founder' of modern irrigation used this knowledge to build dams. Unlike the *Korumbas*, anicuts and tanks which allowed the use of river water to increase benefits to the society for centuries without violence to the river, dams reversed the nature's logic of water storage and distribution and induced disharmony and violence in nature's cycle. "The sophisticated engineering sense, built on an ecological sense, that provided the foundations for irrigation in

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26. Nirmal Sengupta, op.cit., p. 1924.

India"[27] was lost when the accent and reliance was placed more on the technology and finance than on harmony between man and nature -- as is evident by the Statement of Sir Arthur Cotton.

The dams constructed were imposing and awesome in comparison to the anicuts and tanks in terms of storage capacity, engineering, height and proved man's mastery over nature and water in particular. But on the contrary, "these engineering and technological feats are part of the Baconian vision of substituting sacred rivers with inert, passive water resources which can be managed and exploited by scientific man in the service of profit."[28] Viewed with this perspective the dams became symbols of violence against society in contrast with the anicuts and tanks. Creating an illusion of abundance, dams unleashed violence by:

(1) Submerging large areas of forested catchments, and uprooting population;

(2) Deforestation in the catchment reduces rainfall and hence reduces river discharges and turns perennial flows into seasonal flows.

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27. Vandana Shiva, *Staying Alive: Women, Ecology and Survival in India*, New Delhi: Kali for Women, 1988, pp. 186-187.

28. Ibid., p. 185.

(3) Diversion of water from its natural course and natural irrigation zones to engineered 'command' areas leads to problems of water-logging and salinity;

(4) Diversion of water from its natural course prevents the river from recharging ground water sources downstream;

(5) Reduced inflows of freshwater into the sea disturb the fresh water-sea water balance and lead to salinity ingress and sea erosion;

(6) Interferes with the life systems existing in the rivers and reduces them to the point of extinction;

(7) Creates inter-State water disputes.[29]

Anicuts and tanks were eco-friendly and supported bio-diversity without obstructing in the river or streams natural cycle and "in the indigenous systems, water storage and distribution were based on nature's logic"[30] of gravitational flow techniques and slope of land for construction of tanks. Praising these indigenous techniques and water management, Sir Arthur Cotton wrote in 1874,

"There are multitudes of old native works in various parts of India...These are noble works

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29. Ibid., pp. 185,186.

30. Ibid.

and show both boldness and engineering talent. They have stood for hundreds of years..."[31]

Tamil Nadu possesses nearly 27,000 tanks or *eris* and has a rice area of nearly one million hectares under tank irrigation.[32] M. Von Oppen and K.V.Subba Rao (1980) put forward that 3.6 million hectares in India are still irrigated by tanks.[33] The Command areas under the tanks are termed as 'ayacut'. Most tanks are generally small and can irrigate only 20 to 50 hectares each., Although classified as minor irrigation systems, tanks have brought under plough a vast amount of land. As Janakaranjan states, "The technology of water use for agriculture has developed over a several centuries, and its history has run parallel with the period of human settlements and village societies."[34]

3.4.1.2 **Land Ownership and Micro-Spatial Order**

The next major activity was cleaning of forests and scrub land to organise the cleared land into fields. Many

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31. Ibid., p. 187.

32. Nirmal Sengupta, op.cit., p. 1919.

33. Ibid., p. 1921.

34. S.Janakarajan, "In Search of Tanks: Some Hidden Facts", *Economic and Political Weekly*, 26 June 1993, p.A-53.

inscriptions dating to tenth century, found on the banks of river Kaveri in the heart of Chola country testify to the efforts undertaken to bring barren land into cultivation. In the early feudal period, it is clear that land clearing and village formation took place only near the river banks. "Part of the land surrounding the village was held in common, and the rest was subject...to periodic redistribution."[35] The construction of tank and the clearing of forest land was undertaken in virgin areas that is at sites which were dominated by nature. Virgin or near-virgin areas formed the source out of which a village was carved out.[36] Clearing of forests and construction of tanks are activities of ordering of the nature to create an environment suitable for placement of people in space, by creation of a settlement.

Once the *eri* (tank) was built the land comprising the command area was brought into cultivation. The command area is at a lower level so as to enable usage of the tank water for irrigational purposes. The extent and the water storage capacity of the *'eri'* decided the extent and the cropping practices of the command area. If the *eri* was

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35. Nilakanta Sastri, *The Colas*, Madras: University of Madras, 1984, p.567.

36. R. Tirumalai, *Studies in Ancient Townships of Pudukottai*, Madras: Tamil Nadu State Department of Archeology, 1981, p.207.

large and connected to a river directly the cropping pattern would consist of growing of paddy twice a year. If the *eri* was unconnected to any other source of water supply but was only dependent on its catchment area, then only, one crop of paddy may be grown. Sometimes more than two villages drew water for irrigation from the same *eri*.

The lands which formed the command area were termed *puravu* [37] and formed the entire most productive of the cultivated land of the village. Within the command area of the tank or river itself, lands were localised and grouped under each channel into a square or block and within these blocks, there existed lands which were both cultivated and were called *Kalani* and the uncultivated and unassessed for tax purposes, called the 'Taramili'. The Taramili were cultivable but unoccupied land. Nilakanta Sastri writes that land was classified into twelve or more grades on the basis of fertility. The nomenclature for the dry land was *'Nirile'*. Almost without exception most historians concentrate on the aspects of ownership of the irrigated lands and thus a record of the castes permitted to own land is available.

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37. R. Tirumalai, *Land Grants and Agrarian Reactions*, Madras: University of Madras, 1987, p. 104.

Along with communal membership, land ownership as a form of land holding existed in the Tamil speaking areas by the tenth century. Land holding in the non-brahmadeya villages were primarily communal landholding, during the first half of Chola rule. Land ownership developed as the Chola empire started expanding and land grants were made by theKing on account of obligations due to him and for the services rendered to him. For this purpose, lands in villages were measured, assessment of the same made and records were maintained

The village being a settlement of peasants, ownership of land had great significance. Land ownership not only was prestigious but also gave status to the caste group in the village. Moreover the village assembly which was highly representative at the period when communal holdings existed gradually became an association of landlords. N. Vanamamalai identifies four types of land-ownership, where land was,

> "in some form or other, either in perpetuity or for the life time of the individual(s), was vested in four classes of people:
> (1) Temples: Devadana form of ownership. The affairs of the temple were managed by Brahmins who constituted themselves into Mahasabhas. Most of these brahmins

possessed proprietary rights over Brahmadeya lands.

(2) Brahmadeyam: The proprietary rights were vested in individual brahmins.

(3) Vellanvagai - The proprietary rights vested in free land holders of non-Brahmin high castes.

(4) Jeevitham - Temple servants, dancing girls, musicians, religious instructors, barbers and washermen, had rights to the produce of land assigned to them for their lifetime."[38]

With the establishment of landlordism based on ownership, tenant cultivation also existed. Temple lands and 'Vellanvagai' or lands owned by big landlords were leased to tenants who were members of lower castes. These labouring castes numbering ninety-eight and belonging to the Idangai group or the Left-hand castes were engaged in agriculture, constituted the bulk of the tenant cultivators.[39]

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38. N. Vanamamalai, 'Consolidation on Feudalism and Antifeudal Struggles During Chola Imperialist Rule' in R. E. Asher (ed.), *Proceedings of the Second International Conference Seminar of Tamil Studies*, vol. 2, 1971, p.241.

39. Nilakanta Sastri, op.cit., p.552.

A close study of the records reveal that apart from the aristocracy, ownership of land was confined to the Brahmins, and certain non-Brahmin castes. It is difficult to exactly point out the non-brahmin castes which held land but a study of the service grants show the ownership structure to an extent. A reading of various studies by Norburu Karashima, Burton Stein, N.K. Sastri, R. Tirumalai show that a good portion of irrigated lands were held by the Brahmins. Apart from them the irrigated lands were held by Vellalas a non-Brahmin caste who had the power to "levy or pay any kind of dues" within certain villages.[40] Apart from these caste groups, officials of the village and King owned land.

Y. Subbarayalu has made a study of 260 land sale deeds records in published Chola inscriptions. The following table shows chronological distribution of sellers who are classified into seven categories.

Table to follow

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40. R. Tirumalai, n.36, p.142.

Period	Total	Br.As.	Br.Ind.	Non Br. As	Mr.As	Temple	Non/ Br Ind	Others
I 875-985	133	72	37	16	2	-	2	4
II 986-1070	48	28	5	14	4	4	2	1
III 1071-1178	52	25	6	9	4	2	4	2
IV 1197-1279	27	7	1	3	3	1	10	2

Br - Brahmin; Non-Br - Non-Brahmin; Mr - Mercantile
As - Asembly Ind - Individual.

(Source - Norburu Karashima (1984) South Indian History & Society : Studies from Inscriptions AD 850 - 1800. p.14.)

The table makes it clear that land was owned mainly by brahmins, mercantile castes, temples, non-brahmin individuals and village and township assemblies.

The brahmins emerged as the most powerful and largest landowners next to the royalty. The members of this caste owned lands which were usually tax free or had a comparatively small tax levied on the land. Moreover they had control over the temple lands and the temple was the largest landowner in many villages. The temples, according to Nilakanta Sastri, "in every village...(temples) absorbed and retained the surplus wealth of the community in normal times, and released it for use in seasons of financial

stringency..."[41] But this benevolent view of temples is not shared by Rajkumar who brings to attention the revolts which took place against the landlords and tax burden.[42] The cultivating peasants and the untouchables who formed the bulk of agricultural labourers were acutely antagonistic to the Brahmins and the temples due to the oppression they had to face and particularly opposed the conversion of lands into Brahmadeya or Devadanam. While revolting, temples and their walls were a particular target for they bore inscriptions recording decrees and decisions alienating the land the peasants cultivated. An entire village, a brahmadeya, was burnt down, sites of pilgrimage destroyed, outer and inner walls of the temple was razed to the ground.[43]

3.4.1.3 **Access to Common Lands**

(a) <u>The Irrigated Commons:</u>

The common lands played a major role at the micro-spatial level in integration of castes in the village. Those lands which were not belonging to any institution or individual and managed by the village

41. Nilakanta Sastri, op.cit., p.541.

42. M.D. Rajkumar, 'Struggles for Rights During Later Chola Period', *Social Scientist*, vol.2, no.6-7, 1974, pp.29-35.

43. Ibid., p.33.

assembly were considered to be common lands. The commons can be classified into two types : the arable and the pastural. The arable lands can further be catagorised into the ancient wastes or the virgin lands which could be brought under the plough; and the irrigated lands which were either unoccupied or unallocated or for default in payment of land dues.

The taramili or the cultivable unassessed lands near the irrigational channels were often granted to the temple by the king who had residuary claim on the village commons or were given to the servants of the temple by the village assembly as service-tenure. The relinquished lands and the lands reverted to the village were either auctional or sold or given on lease to the highest bidder. The purchasers were inevitably the local aristocrats, brahmins, temple or upper caste as these lands were coverted on account of being part of the irrigated lands. If unsold these lands were managed by the village assembly by periodically rotating the land among the cultivating castes of the village. In this manner the most productive of lands remained under the control of the upper castes of the village. This control disclosed the power of the upper castes over the village resources and simultaneously enhanced their prestige and status. The ancient arable wastes were also sold by the village assemble to raise funds for festivals and other public purposes. These lands

were in the fringe of the command area and over time "theses holdings were more and more receding to the extremities of township." [44] Grants and sale of common holdings depended on the availability of irrigation facilities. If purchasers were unavailable the unallocated, unoccupied, irrigated common lands were allowed to wastes rather than be allocated to other castes. In case of allocation to service castes, "The residential attribute conferred a preferential claim." [45] The residence of various castes in the village was related to the caste hierarchy and the principle of purity and pollution.

(b) Dry Lands:

Among the arable lands were the unirrigated lands. Only dry crops could be raised on these lands as they were situated far from the command area. Sometimes channels carrying water to another tank passed through these ancient wastes but the cultivators of the lands adjacent were not permitted to divert or draw the water using devices for "water rights were sold for a consideration either by itself or along with the fields to be irrigated."[46] Since cropped lands attracted taxes, the village assembly

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44. R. Tirumalai, n. 36, p.56.

45. R. Tirumalai, n.37, p.77.

46. R. Tirumalai, n. 36, p.161.

constantly attempted to bring the dry lands also under cultivation by granting them to the service castes. Therefore the dry lands were often allocated to the Vaidya, potter, carpenter, blacksmith, washerman, under the condition that they render service to the village. Such lands were called "estates upon condition."[47] These extensive dry lands were often granted by the king to temples, brahmins and chieftains on the condition that these lands be reclaimed by creation of irrigation facilities.

On the other hand, the untouchables were never allowed to either own land or cultivate the waste land, but were allowed to live of the 'unproductive' waste land or land considered uncultivable or infertile, called the 'Kalanilam'. This nomenclature reveals the operation of power in the access to and allocation of resources. The land which formed part of common holdings but unoccupied and could possibly be cultivated by virtue of its location being closer to the command area or within the command area was considered the preserve of the upper castes and if brought under cultivation was rotated among members of the upper castes. This land could be sold if the village assembly so desired, only to individuals belonging to similar caste group and to temples. Thus the control over

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47. Ibid., p.226.

this type of common land disclosed the power of the upper caste over the village resources and also enhanced their power. The second type of waste land was that which was cultivable if cleared and reclaimed. This land was either at the tail end of the command area therefore not always enjoying the facility of irrigation and also not so fertile. Mostly it was dependent on rainfall for moisture. Such lands were allocated to the non-brahmin service castes which were generally lower in the caste hierarchy. The third type of common land is the infertile barren or scrub land which was of not much use for the other castes and on which the untouchables were allowed more access as these lands were used for grazing of animals and were part of the catchment area. These wastes also played a major role in supporting the non-Brahmin lower castes and service castes. From the irrigated lands the brahmins and upper castes normally produced enough to directly meet their food requirements. So only for fuel and certain other minor needs they were dependent on the common waste land. Fuel needs were met to an extent from the husk of the paddy, cow during and other plant wastes. So for the cultivating castes to meet their household needs and for survival the waste land played a very small role. In regard to agricultural activities no evidence of direct dependence in the waste land is discernible by this section of the population. In contrast the waste land played a more

supportive role for the lower service castes. Almost all raw materials had to be obtained from these waste lands particularly in terms of wood. The Vaidya had to search for his herbs and leaves in the waste land. Grazing land was part of the waste land. A portion of their daily needs were also met by foraging the wasteland. For the untouchable the wasteland formed the very basis of existence. Having no grains on a regular basis to meet his nutritional needs he had to depend on the wastelands for tubers, roots, fruits, etc., for his nutritional needs. This land which was considered to be marginal in the spatial ordering of the village environment symbolised the marginal existence of the untouchable.

3.4.2.1 **Organisation of Settlement Space**

Various studies relating to village as a basic economic and social unit in the feudal period have been undertaken in terms of land tenurial system, land grants, village assemblies and government in villages, by the various authors including Noburu Karashima, Burton Stein, Nilakanta Sastri, R. Tirumalai, K.G. Krishnan etc. No attention had been paid to village formation or the environmental change in relation specifically to the caste system.; Most studies tended to concentrate on the formation of two types of villages namely the Brahmadeya villages and the non-brahmadeya villages and the political

processes and relations within and between villages. But Noburu Karashima's (1984) study of the villages is an exception and 'illuminating as it deals with not only the allocation of residential space for these caste groups within the villages, but also the facilities enjoyed by various caste groups which symbolically project caste as an *emic* category.

The formation of new village or settlement requires alteration of space to form residential locations. In the feudal period villages were formed on account of grants by the royalty.

The King could grant lands and promote village formation for "the residual claim of the State as represented by the King to all unassigned land"[48] was tacitly assumed. This claim extended to all lands except those already granted or owned by the assembly of village or brahmadeya or individuals. The land given as grant was marked off in a traditional manner by a public ceremony which officials and people of the surrounding twenty-seven villages attended. Documents relating to the grant of land also specified the obligation of the inhabitants of the new village to the sovereign. The boundary of the new village is marked by erecting mounds of earth and by planting

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48. Nilakanta Sastri, op.cit., p.570.

cactus or prickly pear. The physical aspects and the vegetation of the area is described in the following manner:

> "The several objects included in this land -- such as fruit-yielding trees, water, lands, gardens, all up growing tress and down going wells, open spaces, wastes in which calves graze, the village-site, ant-hills, platforms (built round trees), canals, hollows; rivers and their alluvial deposits, tanks, granaries, fish ponds, clefts with beehives, deep ponds included; and everything else on which the iguana runs and the tortoise crawls; ..."[49]

Water being a premium element, the rights and usage of water were particularly specified. Freedom to dig wells was allowed and to dig channels" in accordance to watering requirements" was permited but wastage of water was severely condoned, Damming of water for irrigation and use of devices for lifting of water from the channels or rivers was not permitted and if violated, the land was taken away from the cultivator. Limits were also placed on the right to raise the bund of the village tank to its maximum height and conversely on the storage capacity of the tank. This

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49. Ibid., p.578.

caution on use of water naturally restricted indiscriminate colonisation of land. The flow of water in the channel and land by gravitation placed further limits on the conversion of land as wet lands and promoted allocation of land as catchment area.

The populace of the twenty-six villages were given the option to settle in the new villages is apparent by the fact that the assemblies of these village, had to give their consent for the formation of a new village as lands attached to them were taken for the new village. "The consent of the Sabha (assembly) was essential to any alteration in the classification of the lands in the village, the King simultaneously addressed the local adhikari (official of the government) and the Sabha concerned".[50]

From the inscription for Mannarkoil in Tirunelveli district it is clear that apart from the assembly and officials of the government, the blacksmith, the carpenter, the goldsmith, and the paraiya were also specially included in the process of demarcation of the boundaries of the new village. This action evidently points to the democratic element of the polity but it is also an indirect affirmation to the fact that the state did not want to

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50. Ibid., p.513.

dispossess or redirect the natural resources of the service castes and the other villagers thereby depriving them of the means to subsistence. The involvement of the various castes in the proceedings of village formation gave them the option to resettle. This involvement also prevented the King from acting unilaterally and affecting the rights of various surrounding villages. Attestation of grant by the village assemblies and the usage of service castes to demarcate a village boundaries prevented the occasion for disputes to arise regarding boundary, water sharing, extent of common lands, resettlement of population etc.

In village formation, the grant by the King or the royalty is registered by various officials and as a final step an official sends a royal letter to the assembly of the nadu requesting them to make a charity deed after marking off in a solemn manner "the boundaries of the village granted by getting an elephant to beat the bounds, then by the man who rode the elephant on the occasion, then by the accountants of twenty-seven villages and lastly by the Bhattas (brahmins) who guided the whole transaction."[51] Thus occasionally a village was brought into existence by the royalty. Karashima (1984) analysing various inscriptional records points out that entire villages were often granted to an individual or a group of individuals.

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51. Ibid., p.504.

The extent of these villages were measured in 'velis' and most villages were less, than 60 velis and a few exceeded 100 velis in extent.[52]

3.4.2.2 **Residential Spatial Order:**

(a) The Sacred Space

The temple, as already mentioned played a major role in the village life. The temple symbolised the sacred space and a central point within the village. It was "the most sacred in space, endowed with the highest meaning. The sacredness of space around that central point gradually decreases in proportion to distance".[53] Terming it symbolic orientations of space, Erik Cohen holds the view that: "The moral-religious sub orientation achieves the most comprehensive organisation of space in the traditional cultures where religions "held that human order was brought into being at the creation of the world" and which, consequently demonstrated" a pervasive tendency to dramatize the cosmogony by constructing on earth a reduced vision of the cosmos".This tendency may lead to a comprehensive symbolic spatial organisation of the whole

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52. Noburu Karashima, *South Indian History and Society: Studies from Inscriptions A.D. 850-1800*, New Delhi, OUP, 1984, p.46.

53. Erik Cohen, op.cit., p. 57.

territory."[54]

Caste is also based on religious principles. The notion of purity - impurity have played a major role in ordering of residential space in correspondence to the caste hierarchy which demanded maintenance of physical distance between members of different castes. The temple being sacred was the central point in the village activities but it was not necessarily placed physically at the centre of the village. Cohen observes, it is the sacredness of space around this central point which gradually decreases in proportion to distance that matters to the study. The temple of the village deity was situated in the 'agraharam', the residential area of the brahmins, if the village had any brahmin population. The agraharam was situated usually in a slightly higher ground so as to allow the used impure water to flow out of the agraharam. The Brahmins by virtue of being ranked highest in the caste hierarchy and following the profession of priesthood considered themselves close to the divine and so occupied and shared the immediate space surrounding the sacred space. Next to the brahmin were the Vellalas, who were placed in residence accordingly. The other non-brahmin castes followed according to the hierarchy. Included in these were the mercantile caste or the chettis.

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54. Ibid.

(b) Residential Profane Space

Apart from the agraharam the residential areas of other castes, which were non-Brahmin, were referred to as 'urnattam' or 'Kudiyirukkai' or the area of the cultivator. The non-Brahmin service castes and untouchables resided in areas called '*cheris*'. The *Cheris* formed the basis of representation on the executive committees of the village assembly. The professional groups belonging to five of the service castes were called 'Kammalars' and they lived in the *Kammanachheri*. The *cheris* had in residence, the goldsmith, the blacksmith, carpenters, metal workers and stone workers. The washermen lived in the *Vannaracheri*. The men who controlled the sluice of the tank lived in *talaivaychcheri*. The toddy tapper lived in the *ilachcheri*. Land was assigned to barbers, astrologers and to physicians but in which part of the village it is not known. This shows that astrologers and physicians resided in villages but in no separate residential area. The untouchables lived in areas called *tindachcheri* or *paraichcheri*. These *tindachcheri* were usually outside the main village and the *paraiyars* were not permitted to enter into the main village as their very proximity is said to be polluting for the Brahmins. "The existence of a number of different residential areas implies the actual existence of many different social groups. Judging from the names of these

groups, they seem to have engaged in different occupations such as agriculture, manufacture of tools, washing, toddy drawing, and similar work. It is suggested, therefore, that there was a division of labour based on caste difference in those villages where some of these castes resided together. In this sense, the data reinforce the view that Indian villages were little republics where social production was maintained by combination of agriculture and manufacture."[55]

Karashima's view supporters the fact that the caste model was 'projected' on to the space and imaginary boundaries existed which were as forbidding as any topographical ones. The same event projection of the ideology of caste in terms of purity-pollution is also evident by the existence of separate cremation grounds for the Vellalars and Paraiyars. Water also played a major role in both ordering of the microspace and in shaping the cognitive orientation of the different caste groups. The role of tank (*eri*) in the village formation has been already discussed. According to Dumont, the Brahmin accepts water only from certain castes and does not accept it from other castes. He prefers to accept water from another Brahmin even if he is inferior. Then he accepts water from certain relatively pure serving castes. The

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55. Noburu Karshima, op.cit., p. 54.

Brahmin does not accept water from those who eat beef, meat, fowl, work on leather and are considered unclean.

Because of this concept of purity the Brahmin would only accept land which is close to the tank or within the command area. He could not accept dry land and when he accepts dry lands he attempts to convert it into an irrigated land. In this way the Brahmins and temples played a leading part in colonisation of land which encouraged Kings to favour them with grants and on preferential basis. Tirumalai ennumerates about a number of grants given to Brahmins and temples and their role in conversion of dry lands into wet lands and also instances where the Brahmins exchanged the infertile lands which were at the tail end of command area, for good lands in the village. Because of this factor of purity, the Brahmadeya villages are found to be only in areas where there are abundant river water supply or exclusive tank water supply for their fields. Thus caste ideology spurred the economic ethic of the Brahmins and obtained them more grants of land at favourable rates. In the residential location of the village tanks were built for taking purifactory baths and separate wells were dug for the use of Brahmins, non-Brahmins and untouchables.

The caste structure based on the principle of purity-pollution thus structured the micro-space and as an

'emic' category succeeded in playing a major role through the consciousness of the various caste groups to exclude certain castes in having access to resource and to a better economic life but also placed the brahmin in a pre-eminent position to take advantage of the natural sources, by giving an impetus to the economic ethic exhibited by him. As an emic category caste also influenced spatial behaviour by limiting residential mobility and fostering a defensive and parochial behaviour particularly among the untouchable by isolating him physically from all other communities. This character of the macro-space continued to exist until the British intervened by introducing certain changes in spatial economy. This same process continued also at the level of macro-space.

3.4.3 **Macro-Spatial Ordering of Places:**

A glance at the map of Tamil Nadu would show a regularity in the names of places. Place names would have certain suffixes or prefixes. An analysis of these suffixes and prefixes reveal the existence of a popular nature to each of the places. They also point to the ordering of places at a macro-spatial level in terms of caste but also point to a latency of the *tinai* concept. In the macro-spatial level, the urban areas and the villages will be dealt with.

Looking at the map of Tamil Nadu, one would encounter names of places starting with Sri or Tiru or ending with *pettai, pattinam, palayam, kottai, chatram, palli, pakkam* and of course 'ur'. A study of these nomenclatures is important if one wants to understand not the organisation of space at macro-level but as W.H. Goodenough puts it, is also an attempt at "discovering how different people organize and use their culture".[56] Thus cultures are not taken as simply material phenomena, but as systems of knowledge and cognition. Carl O. Sauer, exhorts that a social scientist should develop "the ability to see the land with the eye of its former inhabitants, from the standpoint of their needs and capacities."[57] Therefore imposing alien categories to study the concept of place in a particular culture could not only prove unrewarding but also frustrating.

3.4.3.1 *Temple Towns*

Environment is symbolically oriented for an individual, society or a group. "Points in space or

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56. Cited in Brian J.Murton, 'Changing Land Categories in Interior Tamil Nadu, 1750-1850: Propositions and Implications for Agricultural System' in Robert C. Eidt, Kashi N. Singh, Rana P.B.Singh (ed.), *Man, Culture and Settlement: A Festschrift Presented to Professor R.L.Singh* New Delhi: Kalyani Publishers, pp.31-32.

57. Ibid., p.32.

environmental features are endowed with symbolic orientation if they 'mean" something to the individual (ie.) express or represent his values. Meaning is not an intrinsic quality of physical space or of any spatial feature. It is imposed upon the environment by culture. In Firey's words, "social value may endow space with qualities quite extraneous to it as a physical phenomenon".[58] As explained earlier sacred space is part of this symbolic orientation. In South India one frequently encounters sacred places or places of pilgrimage such as Tiruttani, Sriperumbudur, Tiruverkadu, Tiruvallur, Srivalliputhur, Sriharikota, Srirangam, etc. These are places which are endowed with sacredness. A closer look at these places show that these are places were significant numbers of brahmins reside. These places also possess temples which are imposing and larger than village temples in size and space they occupy. In most cases, these sacred places occur on the banks of river, on hill tops but are always surrounded by fertile lands. A preliminary study that most of these sacred places have been brahmadeya villages of the Chola period or headquarters of prominent chieftains.

The Brahmadeya villages were formed on the basis of grants of land given to the land-based literati. They were established by royal order and flourished under royal

58. Erik Cohen, op.cit., p. 56.

protection. These villages comprised predominantly Brahmins as population and by a royal order no person belonging to other castes were permitted to own land in the brahmadeyas.[59] The brahmadeya villages could be recognised from its appellation which tended to have 'caturvedimangalam' at the end. Ownership of land tended to be among individual brahmins but they did not directly engage in cultivation. They engaged the paraiyars to do the cultivation or leased the land to a tenant. Thus the brahmins and their brahmadeya though in minority dominated the other non-brahmin population. Supporting the establishment of brahmadeya villages was the technological factor. The introduction of new agricultural techniques such as the construction of dams (anicuts), the maintenance of water tanks, and channels etc., promoted productivity. "The brahmadeya villages established in large numbers in the lower Kaveri valley during the Chola period must have played an important role in spreading these techniques to the people of non-brahmadeya villages..." explains Karashima.[60] He concludes that the "brahmadeya villages must have been the local nuclei of Chola power structure, their function being to integrate and control the

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59. Nilakanta Sastri, op.cit., p. 579.

60. Noburu Karashima, op.cit., p.20.

surrounding non-brahmadeya villages".[61] In this way the brahmadeya village "played a crucial role in spreading brahminical ideas among the residents of non-brahmadeya villages and in maintaining social order in the locality."[62] "Maintaining social order" through brahminical ideology can be accepted as a reference to the imposition of caste on the Tamil society. The process of imposition of caste on the society in turn demanded structuring and ordering of the space -- the residential space at the level of micro-space and the place at the macro-spatial level.

3.4.3.2 *Pettai*

The *pettai* was a village dominated by the merchants landlords. In these villages trading was the main occupation. The *pettais* were centres of internal trade. With expansion of agriculture *pettais* acquired significance as trading centres. The merchant population played a major role in the Chola period in contributing gold and money for the construction of the famous temple in Tanjore. Trading classes like yarn merchants, weavers and smiths, potters, artisans were the main occupants of these types of villages. *Pettais* helped to promote money economy and were

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61. Noburu Karashima, 'The Power Structure of the Chola Rule' in R.E. Asher (ed.), *Proceedings of the Second International Conference Seminar of Tamil Studies*, Vol. II, 1971, p. 235.

62. Ibid.

responsible for indirectly and partially integrating the 'ur' into a larger economy as the surplus produce were sold to the merchants at *pettai* which existed among a group of villages.

3.4.3.3 *Pattinam and Pakkam*

Pattinam and *Pakkam* were situated in the coastal areas (*neythal* regions) as they are ports and harbours. Nagapattinam and Kaveripattinam or Puhar were very famous for their overseas trading activities. The Roman and Greek merchants were known to have settled in these port towns. Sastri writes that, "the city of Puhar had a large colony of foreign merchants from different parts of the world."[63] The articles of trade included horses, gems, pepper, gold, sandal, agil, pearls, coral and foodstuffs. The foreigners called 'yavanas' were taken into royal service as the praetorian guards by the Pandyan Kings of Madurai. Maritime trade was conducted with Chinese, Arabs, and Greeks and Romans. Lighthouses were built to guide the ships into the harbour. At Mahabalipuram near Madras there still exists a light house built by the Pallava Kings. The *pattinam* was considered to be a city as it was urbanised and had a populace which was diverse, reflecting the activities carried on. Fishing activity was not very

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63. Nilakanta Sastri, op.cit., p. 82.

predominant in pattinas. Fisher folk lived in hamlets called *pakkam*. *Pakkams* were also found in land as fishing was carried on in lakes, backwaters and provide Areas having a higher water table, or underground water systems were also referred to as *Pakkams*. In the modern city of Madras there exist a number of *Pakkams*.

3.4.3.4 *Palli*

Jain villages were called *Pallis*. *Pallis* existed before Vedic Hinduism took root in large numbers. Land grants were made to Buddhist and Jain monks by Kings and villages where such land grants were made were called *pallis*. With Hinduism becoming the State religion, the Jains lost their hold over the Tamil society and the number of *pallis* decreased. Many Jaina settlements existed in the present North Arcot District as the religion was patronized by the Pallavas.

3.4.3.5 *Chatram*

These are similar to the '*Serai*' of North India. Basically a resting place for the traveler and a place of hospitality for the pilgrim. *Chatrams* are found more near the sacred places. *Chatrams* had a temple with a tank and were surrounded by 'thottams' or groves of coconut and other fruit trees. The temple was well endowed by the Kings, nobles or merchant and possessed lands under a type

of grant known as devadanam. The *Chatrams* also organised shandies or weekly markets to earm income. The role of *Chatrams* in maintenance of caste relations is evident from the practices followed. The *chatrams* were served by castes from whom the Brahmins would accept water and food --which essentially means that they were areas of Brahmin dominance. The temple tank, Kulam; was used exclusively for drinking and ritual purposes. Bathing was permitted only in tanks or canals which were close to the *chatram*. Food served for the travelers and pilgrims were vegetarian and were cooked by a brahmin cook. Untouchables were not permitted to enter the *chatram* area. Thus by inference it is clear that the untouchable could not move out of a village and travel as he had no access to any support structure. Tirumalai is of the opinion that mobility was not a normal characteristic. But Nilakanta Sastri is more emphatic when he declares that the Palaiyas (untouchables) "were indeed in a condition of serfdom,...with no freedom of movement".[64]

3.4.3.6 *Palayam or Padaiparru*

Padaiparru or *Palayams* were cantonments or garrison villages. The *Padaiparru* was the locality where the army and its regiments had a corporate life of their own. The

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64. Ibid., p.574.

Chieftains and Senapatis endowed benefactions or built temples and the men led a ordinary life with their families. It proved to the recruiting ground for the army and periodic training and practice were continued only here.

Scions of the royalty or chieftains resided here. In feudal period, military service was the preserve of the Malavar, Kallar and Agamudaiyar castes. The Maravars were the tribes who were originally found in the '*paalai*' or desert region of *Tamizlagam* in the ancient times. In the Chola and Vijaynagar period lands were assigned in lieu of particular services rendered. These service tenures were the normal method of remunerating military service. Inscriptions recording service grants known as 'virabhoga' for the enjoyment of members of the warrior castes who were of 'sirudanam' rank and served in the place of Gangaikonda-Colapuram were found. Lands granted were free of taxation or attracted cow tax. In return the feudal chief had to maintain a stated number of soldiers ready for service when required by the King. Military in the Padaiparru was used to maintain order in the surrounding villages, to police, safeguard properties particularly standing crops from theft. Though each village also had its own 'Kavalkaran' or policeman to prevent theft. The Military frequently used to accompany the tax collector, for oppressive methods were sometimes adopted to collect

taxes and other dues. They were also employed to guard the highways and temples.

3.4.3.7 *Kottai*

The term '*Kottai*' essentially means fort. Though no forts of the Chola period have survived, many villages with the name *Kottai* are existing. These villages could have been garrison areas as the Padiparru. The Chola kings were of the habit of establishing strong military colonies along the important routes of communication in the occupied territory. These garrison outposts could have built forts for protection. In ancient Tamil literature mention is made of fortified towns which were guarded by the Marava castemen.

3.5 DOMINANCE OF CASTE

The above exposition on the organisation of macro space reveals that places were specifically created for specific castes or groups of castes pursuing broadly similar occupations. Each place was so created that it would continue to protect the insularity of caste by preventing mobility -- both social and physical. The placement of various castes in space and place by these means has led to domination of certain castes in certain spatial areas and territory. Srinivas defines dominant castes as:

"A caste may be said to be 'dominant' when it preponderates numerically over the other castes, and when it also wields preponderant economic and political power. A large and powerful caste group can more easily be dominant if its position in the local caste hierarchy is not too low".[65]

This definition emphasizes the apparent numerical aspect along with economic and political power. The aspect of ritual purity in terms of local caste hierarchy is also stressed.Unstated in this premise is the spatial content, for numbers and population exist in territory. Srinivas also indirectly acknowledges that the ritual purity put castes in a dominant position in terms of exercising of political and economic power. Dumont lists five characteristics to enlarge the concept of dominance:[66]

(1) relatively eminent right over land;

(2) as a result, power to grant land and to employ members of other castes either in agricultural capacities or as specialists, build up a large clientele, not to say an armed force.

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65. M.N. Srinivas, 'The Social System of A Mysore Village' in Mckin Marriott (ed.), *Village India: Studies in Little Community*, Chicago: University of Chicago Press, 1955, p. 18.

66. Louis Dumont, op.cit., pp. 162-163.

(3) Power of justice also: the notables of the dominant caste are often entrusted with the arbitration of differences in other castes or between different castes and they can exact penalties for unimportant offences;

(4) generally speaking, monopoly of authority: if the village headman chosen by the State is not one of the dominant notables he can only be their pawn, unless he has unrivaled personal qualities;

(5) the homology extends so far that the dominant caste is often a royal caste, a caste allied to royal castes, or a caste with similar characteristics.'

The characteristics listed by Dumont are acceptable only if the exclusivity of placement of caste in space is recognised. The analysis of different types of places debunks the notion that villages are places where all castes are placed side by side according to the hierarchical order. Karashima through his analysis of the village residential space considers it significant that all castes do not exist in every village. He finds that certain types of residential areas (*cheries*) did not always exist in many villages. This finding is supported by the above analysis regarding placement of castes in the different types of villages at macro spatial level.

The *pettai* was dominated by the merchant and service castes. But their dominance accrues not only from the numerical superiority but also from the exclusion of other superior castes from this type of village and the inclusion of the low untouchable castes - which automatically gives the artisan and merchant castes the right over the land, power to grant land, dispense justice, employ and monopolise authority. This means the exclusion of ritually superior castes puts the hierarchically lower caste and relatively polluting caste in control of the entire productive sources of the village. The hierarchically lower castes would not achieve dominance in the villages where ritually pure castes existed even if they were numerically dominant. The elimination of competition for the more productive sources in terms of fertile land and water supply for irrigation, gave impetus for the non-Brahmin but ritually purer castes to multiply and become numerically dominant. Thus in the 'ur' which formed the economically productive unit various non-Brahmin castes which were ritually pure were able to become dominant caste and maintain their dominance not so much through political power as much through their position in the caste hierarchy. But the merchant castes were in no way related to royal castes or allied to royal castes or exhibited similar characteristics. The dominance rather arose from the placement of particular castes in space which assisted

and permitted numerical expansion. The placement of particular castes at macro-spatial level allowed for the distribution and control of resources by those castes whose support was essential for the feudal polity and economy to function. This mode of placement of castes in space encouraged the concentration of power and authority of a single caste within a given micro spatial area, while necessitating alliances to be formed between castes at the macro spatial level.

The by product of the decentralisation at macro spatial level was that the village became independent of the centre and truly a republic where social reproduction and was maintained by the combination of agriculture and manufacture with minimum of interference from outside. This produced an insular outlook which was greatly enhanced by non-migration. Migration was informally prevented as a particular caste group knew it would not be to project its power in other parts of the territory and inverse migration would weaken a caste group in that particular village. Members of the ruling castes could migrate as they were territorial oriented, that is, the direction of their migration was towards areas possessing rich natural resources, in terms of water and land. This was the reason why groups of the cultivating castes and brahmins migrated to the riverine areas.

3.6 THE VILLAGE TOPOCOSM

"...unless one understands the primacy of the place, the nature of the sacred in most of Hinduism remains uncomprehensible..."[67]

In the earlier portion of the chapter the basis of spatial organisation at micro and macro-level has been shown as caste. In the process of organisation of space various points in space have been endowed with sacredness, at the micro-spatial level: the temple, its precincts, the immediate space surrounding the temple, and the *Agraharam* or the residential space of the brahmins shared the sacredness of the temple. At the macro-spatial level, the temple towns or places of pilgrimage exist. The temple towns are mostly the former brahmadeya villages (which were exclusive settlements of brahmins) and possess grand temples and thus became endowed with sacredness. This notion of sacredness is in keeping with the dominant religious and caste ideology, i.e., the Vedic Hindu praxis. That the Vedic Hindu perception of nature as a male was mentioned earlier.[68] Under the influence of the notion of

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67. Kees W. Bolle, "Speaking of A Place," in Joseph M. Kitagawa and Charles H. Long (ed.), *Myths and Symbols: Studies in Honor of Mircea Eliade*, Chicago: University of Chicago Press, 1969, p. 129.

68. See p.*99 above

purity-pollution, nature when converted into an environment suitable to support a populace, was subjected to classification in terms of purity and impurity based on the availability or non-availability of irrigational facilities. However, the notion of purity-impurity served as an ideological device not only to divide the members of the society into caste groups and but also to segregate them over space in residential areas, particular to each caste group. Until now the discussion on ordering of spatial environment both at macro and micro-level has centered around the dominant ideological position which reflected the Vedic Hindu notions and way of organising life activities. In the following section the Dravidian or the non-brahmin or the Tamil way of understanding of space and activity within space will be propounded.

The Dravidian or the Tamil way of life was explained in the second Chapter under the *tinai* concept. The *tinai* way of life was rooted on the ecological basis and was essentially tribal in nature. Under the influence of the territorial orientation of the dominant non-brahmin castes and the Brahminic influence, change in the Dravidian and Tamil outlook regarding space and society was inevitable. The change to an extent concurred with the purity - impurity principle of social and spatial organisation but to a great extent retained. The Dravidian view of Nature, was conceived as being feminine. This view of nature

coincided with the aspect of the service relationships operative within the society which was the foundation for the jajmani system. The jajmani system was an active, and a productive feature of the caste system and a participatory feature of the spatial segregation of the village society. The jajmani system should primarily be recognised as the cornerstone of the productive facet of the village society for without it to recognise the village as a location of economic activity was impossible. The jajmani system ensured the assertion of 'independence' and empowered the village as a whole to function as a 'republic' within the socio-political framework of the feudal society.

The castes involved in the jajmani relations were mainly the non-brahmin castes known as the *Idangai* or the Left Handed castes. These castes were, as pointed out earlier, dependent on the village commons for their livelihood and were confined within the village with very little physical mobility over space.[69] Many of these castes and the untouchables could not even participate in the corporate life of the village society on account of their pollutive or defiling status. They were not allowed even in the by-lanes or the car-streets where the temple car was to vend through during the village festivals and

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69. See pp.*~~28-29~~ 120, 126 and pp.*~~51-53~~ 144-145 above.

many streets of the village remained virtually unknown to the lower rung of the service castes for they could not go into all areas of the village. For these castes, mobility over space, i.e., travel of physical mobility, though not prohibited, was totally restricted. The jajmani system being based on a system of obligations tied the service castes, to either a particular family or a group of families involved in cultivation or to the temple and in lieu of the fulfillment of these obligations were granted a share of the produce or/and to some dues and were sometimes given land from the village commons. Serving these traditional, hereditary ties which were considered sacred and part of the 'ordered' world, and moving to another village to secure new patrons was virtually impossible. In these circumstances, the narrowness of their physical and social world and their restrictive life contributed to an outlook which was peculiar to these. The narrow proscribed social and areal world being limited to the village where their religious notions and custom had to be practised, the village, therefore, became the universe and cosmic world where the gods resided and functioned from.

Religion is recognised as the creative language of human spirit. Durkheim considers that "society is the soul of religion" and "the religious life be the eminent form and, as it were, the concentrated expression of the whole

collective life."[70] In the South Indian society, religion is an expression of the microcosmic and microspatial aspects of human life conditions. The people, particularly the service castes perception of the divine reflected their whole range of human experience. This perception of divine in the form of the village deity or goddess expresses symbolically the human experience of these castes as related to the village as a cosmic world.

"Place in the context of Tamil society is the village can be perceived from the fact that each village has its own deity, known as *'kiramadevadai'* or *'gramadevata'*, an expression which accords primacy to the village - *'grama'* (Sanskrit) or *'kirama'* (as pronounced in Tamil) means village and 'devadai' connotes female deity or goddess. The *kiramadevadai* "functions primarily within a distinct locality of relatively small size."[71]

The involvement of the female goddess with the village as the deity of the village was *fundamentally a local phenomenon*. Not only is the goddess,

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70. Emile Durkheim, The Elementary Forms of the Religious Life, translated by Joseph Ward Swain, London: George Allen and Unwin Ltd., 1976, p. 419.

71. Richard L. Brubaker, *The Ambivalent Mistress: A Study of South Indian Village Goddesses and their Religious Meaning*, (A dissertation submitted to University of Chicago), 1978, p. 26.

"belonging to a specific locality, its presence and power concentrated within local bounds - but the character of that presence and the uses of that power are shaped by the "existential" realities of the life of a local community. To survive, to manifest a viable economy and a functioning social order, to contend with the terrors of existence and stave off the forces of disintegration, to maximise satisfactions and foster common values and meanings, and thus to make human life livable and human -- such are the fundamental (and therefore sacred) functions of a village community,as of any primary human community, and such a community's deities are its deities by virtue of their participation in these sacred function. Thus it is "qualitatively" as well as "quantitatively" morally as well as geographically, that a village deity is a deity of the village".[72]

In the section on ordering of the environment surrounding the village it was shown that the water sources and land formed the basis of the village. In the peasant community, fertility of land was a matter of sacredness for it constituted the very basis of the village survival and

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72. Ibid., p. 43.

continuity and festivals for goddess of fertility were conducted.

The feminine symbolisation of divinity has much to do with the recognition of the female principle of Nature. That fertility was a conspicuous and manifest attribute of the goddess reveals that Nature was essentially female as it could give birth to life forms. It was also accepted that Nature like a mother could nurture, and be benevolent. On the other hand, Nature could also be ambivalent and untamed. Similarly, the *kiramadevadais* were independent and unmarried but were the mistresses of the villages of South India. It was on their benevolence that the village welfare and protection depended upon, but in their 'anger', they could be ambivalently involved in spreading diseases and epidemics.[73] Underlying this view of female divinity is the notion of chaos while the dominant view of female divinity proposes order, derive their power and primary identity from their spouses -- Siva or Vishnu and are clearly subordinate to them as a devoted wife.

Nature in terms of fertility of land and abundant rains had significant meaning for the service castes. These elements of nature connoted a renewal of the

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73. See Richard L. Brubaker for an excellent study on the Ambivalence of Village Goddesses.

environmental conditions for the village prosperity. The service castes were dependent on the periodic contributions, the share of the produce and the land granted to them in lieu of their obligations. If the village environmental conditions were not renewed they faced starvation. Thus the environmental conditions were the "foundation of the entire village topocosm - the foundation of its agricultural productivity,... but also of its sacred geographical identity of its total life and of its very existence."[74] Festivals were conducted to celebrate the process of renewal of the village and in these festivities,

> "...what is in turn eclipsed and revitalised is not merely the human of a given area or locality but the total corporate unit of all elements, animate and inanimate alike, which together constitute its distinctive character and "atmosphere". To this wider entity we may assign the name *topocosm*, (formed on the analogy of *microcosm* and *macrocosm*) from Greek *topos*, "place" and *cosmos*, "world order".[75]

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74. Ibid., p. 80.

75. Theodor H. Gaster, *Thespis: Ritual, Myth and Drama in the Ancient Near East*, rev. ed. New York: Doubleday and Col. Anchor Books, 1961, p. 24.

"It is this "world of the place" that is a village goddess's domain -- the village as a corporate entity comprising of the land and its geographical features and boundaries', the human inhabitants and their social organisation and interaction: the livestock, the crops, and the entire economic enterprise; the physical structure and other cultural artifacts; the history, legends, traditions of the place; the deities, demons, and spirits dwelling within it "impinging upon it; and the interdependence of all such factors in constituting its identity and determining its destiny."[76]

The reactivation of the village through the festivals for the goddess was,

"often linked with the founding of the village...of special importance for topocosmic identity is the fact that the village boundaries,...the village boundaries normally given little attention, are dramatically retraced with power substances and reactivated as a sacred threshold and battle line between the world within and the alien spaces beyond. *And finally,*

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76. Richard L. Brubaker, op.cit., p. 294.

the outcome of all this stimulation is the overcoming of morbidity anywhere within the village organism, and the restoration of vigour, order, and health -- to the human beings, livestock, and crops; to the economy, the polity, and the religio-social system of the village; to the total indivisible topocosm" [77] (Italics mine).

On this account, the festivals held in the honour of the *kiramadevadais* were an exception of the members of the service castes, "struggle to come to terms with the givers of geographical, political, economic and social reality..."writes Fred Clothey.[78]

In the discussion of settlement space, it was made clear that the temple was the sacred space and the immediate surrounding area where the agraharam was situated shared the sacredness on account of the proximity and due to the fact that Brahmins were the priests. Now in the worship of the *kiramadevadai* the village as a place of habitation is regarded as a sacred entity by the castes considered impure or polluting. The village is the cosmos

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77. Ibid., p. 295-296.

78. Fred W. Clothey (ed.) *Images of Man: Religion and Historical Process in South Asia*, Madras: New Era Publications, 1982, p. 2.

for the village deity and the deity by the virtue of taking sacred space and sets the village apart from the "other spaces that are not sacred and so are without structure or consistency, amorphous".[79] These unstructured, inconsistent, amorphous spaces considered profane are the other villages, the waste land surrounding the village, belonging to other villages and the wilderness were the demons and other spirits destructive spirits reside.

By residing in the village, the goddess proclaims the village as *her place*.

> "She is its fixed center. She is not so much identified with this place, this people, this topocosm, as they are identified with her. It is she who gives these their identity rather than vice versa. ...Once that is clear, however, we may say that the goddess is the personification of the village in that she is not only its fixed centre, and not only that plus its vital centre, but also its personal centre."[80]

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79. Quoted by Brubaker from Micea Eliade, *The Sacred and the Profine: The Nature of Religion*, translated by Willard R. Trask, New York: Harper & Bros, Harper Torchbooks, 1961, p. 29.

80. Richard L. Brubaker, op.cit., p. 300.

This understanding forces the individual to completely identify himself with the village, live within its boundaries for leaving the boundaries would mean being attacked by the destructive spirits and demons occupying the waste lands and other profane spaces. In this way the impure and polluting castes sought to make the village their 'place' and identified themselves with the village in its totality, unlike the dominant cultivating Non-Brahmin castes and the Brahmins, who tended to sanctify only those spaces as the temple; in terms of the village environment, spaces where water flowed, that is the irrigated lands -- which were useful to them.

3.7 **SENSE OF PLACE**

By the study of village as a micro space, it has been possible to prove that it is the 'locale' or setting where social relations are constituted on informal and institutional basis. The allocation of residential space determined the conduct of everyday social interaction and molded the behaviour of the residents. This routine social interaction determined the access to resources of the village. The village in feudal times was the 'location' or geographical area encompassing the settings for interaction as defined by social and economic process operating in a wider scale. The caste system which structured the base of local economic and social processes. The village through

its insulauty produced a subjective orientation towards the place. the grants of lands were linked to certain obligations. The obligations also helped to root a person or caste group in a village. The rooting of a caste group or individual in a particular spatial area provided the necessary impetus to structure a place. In the process of structuring of a place, the caste group attained a historical position and each member of the caste became a historical product of the place.

Thus the place was able to subjectively orient a person in a manner such that a primordial relationship came into existence between the place and the individual. This primordial attachment to a place found its most

> "fundamental concrete expression in the sense of belonging: points in the environment or spatial features gain intrinsic significance for an individual or group, independently of either their instrumental value or their intrinsic symbolic meaning. This settlement is expressed in an emotionally loaded notion that one possess roots, has a place in this world, or belongs to a community or a neighbourhood which is one's home..."[81]

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81. Erik Cohen, op.cit, p. 55.

This is borne out by Valentine Daniel in his study whose title proves Daniel's primordial roots. According to an Aru Nattu Vellala, (of the study) this primordial relationship is engendered,

> "by bathing at the village well, drinking its water, and eating the rice that grows in the fields of (the)...ur" for "...to know who I am, I had to get to know the soil of this ur which is, after all a part of me".[82]

Thus, villages were the places were local "structure of feeling" were engendered.

3.8 **CONCLUSION**

In the previous chapter, 'place' in ancient *Tamizlagam* was understood to be comprising of the ecological area occupied by each tribe. In this chapter, the concept of place, under the influence of different forces, underwent change. The territorial orientation -- an orientation towards annexation and domination of territory -- brought about by population pressure, superior political organisation and technological advancement, made it

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82. E. Valentine Daniel, *Fluid Signs: Being a Person the Tamil Way*, Berkeley: University of California Press, 1984, p. 62.

possible for the people of *marutham* region to conquer other regions and become a dominant group. With the arrival of the Brahmins and establishment of the Vedic Hinduism the South Indian Society itself underwent change, and was reordered and stratified on the basis of caste. The caste structure, organised on the principle of purity - impurity, served as the model and was 'projected' or to the space. Thus the macro and micro-space were 'ordered' similar to the caste system.

The territorial orientation in combination with the caste structure determined the allocation of physical space to each caste at micro and macro-spatial level. Certain castes, under the circumstances, came to be dominant in particular spatial locations and locations in space. Deriving social and political power through such placement in space over time, these castes became territorially, numerically and politically dominant as they came to command and control enormous resources both at microspatial and macro spatial level. In the ultimate analysis, the castes which were considered pure benefited greatly from this socio-spatial arrangement which greatly enhanced these social and political power.

The principle of purity-impurity also played a vital role in 'ordering' of the macro and micro-space and the environment. The village, which was the settlement space

at the micro-spatial level, was divided into residential space and activity space -- which contained all the lands and natural objects surrounding the village. This surrounding environment was ordered on the basis of availability of water sources and the reach of the flow of the water. On this account, the irrigated lands were considered pure; the unirrigated lands was impure and the village wastes were considered polluted. A similar corresponding relationship is observed with respect to ownership of land, which was the source of social status and power within and out of the village caste hierarchy played a major role in grant and possession of irrigated land and dry land. The access to the common lands was also similarly effected. The dominant castes collectively availed the irrigated commons; while the service castes were allowed access and granted lands form the unirrigated cultivable land of the commons and the untouchables were the group- which depended on the wastelands for their needs.

The layout of the residential space within the village mirrored the caste hierarchy prevailing within the village. The temple and its precincts were the sacred space, and the agraharam or the residential space of the brahmins shared its sacredness. The residential spaces of the non-brahmin castes were aligned according to the caste existing in the village and were considered to be profane and the

untouchable lived in the polluted space.

At the macro spatial level, the villages were classified according to activities peculiar to each type of village. Thus we find the *pettai* being dominated by the merchant and service castes; the *kottai* and *palayam* being in the hands of the warrior castes and performing the military function; the *brahmadeyas* or the temple towns being sacred places, and populated by the brahmins, the *pattinam* or the coastal harbour town from where overseas trading was carried on; the *pakkams* were exclusively for fisherfolks while the *chatram* was the resting place for the travelers and pilgrims. The *chatram* considered to be a partly sacred place, would admit and give shelter only to members of the pure castes. This is a clear indication that only dominant castes were permitted to migrate over space to other villages and towns.

In conjunction to the dominant caste ideology of ordering of macro and micro-space, the service caste, considered impure and the untouchables also had developed their own notion of place. Development of a sense of place is contingent to migration. The service castes and untouchables on account of being impure and polluting were not permitted to migrate. Moreover weighed down by the obligations which were sacred and binding on a hereditary basis, the labouring castes would not migrate. Therefore,

they developed their own sense of place which was expounded by their religious practices i.e., the worship of the *kiramadevadai*. For these castes the village became the settlement area, the universe and the cosmos -- a world view which reflected their low social status.

Thus in this chapter, it is clear that extension of physical dominance over space was corresponding to placement of people in space. The next chapter, deals with the integration of places and the process of integration. Villages as places undergo change when integrated and new economic process get entrenched. These economic process change the outlook towards Nature and environment and push for the emergence of new types of places

CHAPTER FOUR

MACRO-SPATIAL INTEGRATION OF PLACES AND SOCIAL AND ENVIRONMENTAL CHANGE

4.0 INTRODUCTION

In the earlier chapter, the placement of communities in space through transformation of nature to create places was dealt with. Place creation involved 'projection' of the model of the social structure on to space. The development of territorial orientation and symbolic orientation aided the process of colonisation of Nature, and convert it into an environment suitable for habitation and for conducting economic, religious and social activities. Technology was a major factor in assisting the conversion of Nature into environment. The technology of tank construction of tanks in the semi-arid regions improved the scope for placement of people in space by building new settlements. Places at the micro and macro spatial level remained a process of symbolic representation of the social structure.

Until the advent of modernity, the structure of places and the mode of structuring of places remained unchanged at micro and macro spatial levels. The local community producing mainly for its own consumption continued to exploit its natural sources in a limited way which allowed for regeneration of the source. Considering the productive

material nature as sacred, the service castes, particularly had a dialogic interaction with Nature. This is clearly evident by the concept of village deity or the *Kiramadevadai*. Nature, for these castes, was sacred and had to be worshipped,. But for the dominant and powerful castes consisting of Brahmins and other 'pure' castes, only points in Nature were sacred. They did not attempt to have a dialogic relationship with Nature. Though owning land and having access to natural sources available in the village, the dominant castes usually were dependent on tenant cultivators and service castes to produce and appropriated the surplus. Not having a direct relationship with Nature, the dominant castes viewed Nature as male - an embodiment of their power, unlike the service and other impure castes involved in cultivation who saw Nature as female.

The surplus appropriated by the dominant castes was used to make them more powerful by constructing temples - a symbol of sacredness and power, endowing *chatrams*, and by undertaking improvement of irrigational facilities. The surplus generated was thus used for the welfare of the village community. Surplus under feudalism was not generated for the market, so the natural sources were not over-exploited. Markets being a weekly or monthly feature did not promote over exploitation of the local sources. The system of bartering also made it impossible to produce

goods other than that which was deemed a necessity for the farmer and his household. Therefore places remained independent and loosely integrated in the feudal spatial structure.

4.1 COLONIALISM, SURPLUS EXTRACTION AND CHANGING SOCIO-SPATIAL ORDER

Until the advent of the British places in form of villages continued to remain as village republics and independent units where production was limited to internal consumption and the minimum surplus produced was taken away as taxes and rent. The South Indian village economy can be better understood as what Marx calls as "Asiatic Mode of Production". Citing Marx, N. Ram writes,

> "the fundamental characteristics of the Asiatic mode, Marx held, was "the self-sustaining unity of manufacture and agriculture" within the village community which thus contained "all the conditions for reproduction and surplus production within itself."[1]

N.Ram also remarks that, "the smaller communities existed as part of a larger society and a part of the surplus they produced went

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1. N. Ram, 'Impact of Early Colonisation on Economy of South India,' *Social Scientist*, vol.I, no.4, November, 1972, p.49.

towards "the cost of the (larger community), i.e., for war, religious worship, etc., "and for economically essential opportunities like irrigation and the maintenance of *minimum communication*" (Italics mine). He adds, "But the point was that "the despotic government (was) suspended above the small communities". Because of the 'closed' nature of the common units, the town did not occupy a central, or even an important, place in the economy. Whatever the variations, the essential function of the town in this system was *some* external trade and the facilitations of the exchange of revenue (surplus product) between the leader and the overlords."[2]

From the above exposition, it is clear that the integration of the village into larger social and political processes was minimum and four characteristics support this fact: (i) that only minimum communication was maintained (ii) the despotic government remained suspended above and did not penetrate into the village society; (iii) the town only played the role of facilitating exchange of revenue and promoting *some* external trade.(v) The jajamani system tied the service castes *to* and *within* the village thereby contributing to a 'closed' village system.

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2. Ibid.

The colonial economy subjected to serve the ever increasing demands of the British industry necessitated creation of increased surplus which could be exported to England. To efficiently siphon the surplus and to develop an increased amount of surplus the British had to embark on integrating the villages, change land use pattern, promote production of goods other than the traditional ones, that is in effect encourage growth of capitalistic production. To encourage development of capitalism from feudalism *firstly* "a rural social structure that allows the peasantry to be 'set free' at a certain point had to be changed.[3] *Secondly*, a central point which serves as both an assembly of the rural surplus. *Thirdly*, an urban unit where "specialised, independent, non-agricultural commodity production in form of the crafts" had to be established.[4] The *fourth* is "the accumulation of monetary wealth resulting from trade and usury. All these are pre-requisites are indispensable for the transition to capitalism."[5] The *four characteristics are important as they signal the penetration of the large scale economic process into and transformation of the village social and economic* structure. A crucial aspect of the transformation

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3. Ibid, p. 50
4. Ibid.
5. Ibid.

process was to "separate a mass of individuals from its previous affirmative relations to *the objective conditions of labour*, which negated these relations and thereby transformed these individuals into *free labourers*, is also the same process which has liberated these *objective conditions of labour* potentially from *their previous ties* to the *individuals which are now separated from them*".[6]

Separation of individuals from the previous ties and making them free labourers was essential so as to cause movement of labour, and capital over and between space a feature intrinsic to the development of capitalism. The objective conditions of labour comprise of land, raw materials, means of subsistence -- materials which form the environmental basis of the village. These materials now attain an exchange value. It was shown earlier that the village was the universe for the service castes both in the actual sense and in the religious sense. With integration of villages into the larger scale economy and with migration of labour and capital, the material environment and nature attain new meanings. Though the 'insider', i.e. the village inhabitant may consider the material environment as 'sacred' the 'outsider' that is, the merchant, the British and urban based craftsmen view them as a potential 'resource' which could be converted into a

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6. Ibid.

commodity. This change in meaning is because the outsider is more conscious of the exchange value of the material environment and no direct relationship with the elements of the village environment, unlike the insider who not just has direct relationship but also identifies his or her self with the environmental objects in terms of 'sacred'. But the seeds for change in meaning and acceptance of the 'sacred environment' as a 'resource' lies in the fact that villages other than theirs and waste lands surrounding the village and the wilderness were considered *profane* by the members of each village.[7]

4.2 PROCESS OF INTEGRATION OF PLACES

The need to integrate various separate units of production such as the *pettais* and the agrarian villages (ur) was deeply felt by the British. The colonial economy was an 'outward'-oriented' one, as its direction of activities was always outward and controlled from London.[8] The colonial system of exploitation demanded a drastically and continual increase in surplus production. Moreover, the surplus had to be converted into an exportable form. Two approaches were adopted which were far reaching and

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7. See p. 163 above.

8. Amiya Kumar Bagchi, 'Needed ✗: Political Economy of British South India', *Social Scientist*, vol.7, no. 1/2, August/September, 1978. p. 96.

changed not only the nature of the feudal structure, thus laying the foundation for capitalist relations to come into being, but also changed the nature of places at the micro and the macro-spatial level. The first approach was to change the ossified village relations by introducing the ryotwari system of settlement. The ryotwari system served as the means to "set free" the peasantry from the grip of the feudal social structure and brought in a change in outlook towards the natural material sources of the village. The second approach was to integrate various areas where exportable surplus and raw materials were available by means of building of communication networks...

4.2.1 **Micro-Spatial Environmental Change:**

A major change was wrought on the village environmental organisation with the introduction of the ryotwari system of settlement. The ryotwari system was introduced to bring more lands under cultivation, thereby to increase the revenue collection. The ryotwari system was the means by which the colonial government and system penetrated deep into the village, broke the relative isolation of the village while changing the traditional social and economic relations within the village.

The Manual of the Administration of Madras Presidency describes the ryotwari settlement as,

"A ryotwary settlement means the division of all arable land whether cultivated or waste into blocks or lots, the assessment of each block at a fixed rate for a term of years and the extraction of revenue from each occupant according to the area of land thus assessed which he occupied...The occupant holds under an annual lease from the Government, and enjoys all the advantages of absolute proprietorship, subject to payment of the revenue due on the lands he holds during the year. Under this system each occupant deals directly with the Government and is responsible for his own revenue assessment only." This ryotwari settlement as defined above makes it clear that all cultivable and uncultivable land belonged to the government."[9]

The cultivable land rights was confined to the ryot for a period of time by confirmation of rights of proprietorship. In the feudal period, the King had residuary rights over the uncultivable land and village wastes. Now the British took over all land which were not cultivated including the fallow land, pastureland, wasteland, and all other types of land, and allotted them to the ryots who agreed to pay the demanded taxes. Lands

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9. The Manual of the Administration of Madras Presidency, vol.I, p. 103-104.

formerly considered waste were now taken by outsiders or ryots belonging to other villages and castes which previously could possess no land as they were considered impure. Moreover, the government became the agency with whom the ryot directly dealt with, by-passing traditional power structure of the village. The ramifications of this was that an enormous bureaucracy was created to administer and collect the revenue; and the corporate identity of the village was eroded.[10]

In the feudal period irrigation played a major part in land granting of land by kings. In the ryotwari settlement an enormous amount of waste land was brought under cultivation by classifying it as dry land. The traditional system of communal labour or *'kudimaramat'* -- which was customarily done by the village members for the upkeep of the channels, dykes, tank-Bunds -- also became a casualty under the onslaught of the ryotwari system. The ryots, encouraged by the British, took to sinking wells to meet their requirements for water. The Indian Irrigation Commission 1901-1903, reported that after the ryotwari settlement, wells in the "ryotwari tracts alone amounted to about 470,000 and the area irrigated, to nearly 1-1/2

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10. R.E. Frykenberg (ed.), Land Tenure and Peasant in South Asia, New Delhi : Orient Longman, 1977, p.8.

million acres, ...in the Presidency."[11] According to the report there was about 57% increase in wells between 1891-1892 to 1900 - 1901. With the abandonment of tanks as a community source of irrigation and the sinking of wells as a private source of irrigation, there was further erosion of the village corporate life. Both land and water which were earlier viewed as sources of subsistence of the village community as a whole, slowly came to acquire values which were in consonance with private ownership. The communitarian ideals of the village received a greater blow when the land was made transferable, alienable and mortgagable to parties who were non-residents of the village. By permitting transference of land, *nature and environment were commodified* and soon a market for land developed.

The village social and physical environment underwent a drastic change as more and more land came into market. A new class of landlords who owned a great amount of land developed, particularly in the more fertile riverine tracts.[12] By taking over the village wastes, upon which

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11. Report of the Indian Irrigation Commission, 1901-1903, Part II, Provincial, Calcutta : Office of the Superintendent of Government Printing, India, 1903, p.120.

12. See Saraswati Menon, 'Responses to Class and Caste Oppression in Thanjavur District, 1940-1952" Part One, *Social Scientist*, vol.7, no.6, January, 1979, for discussion regarding effects of landlordism.

the service castes depended for survival and from which they received parcels of land to cultivate, the British, "destroyed the link between the artisan and the village community. (And)...set in motion processes which led to their joining the ranks of the landless or the poor peasant (often a tenant)..."[13] The ryotwari system also brought into the village the money lender as the land market developed. The members of the service castes who were granted land under the ryotwari settlement soon became indebted to the money lender as the taxes demanded were high. Land was used as security for obtaining money and soon the ryot was alienated from the land he cultivated. The moneylender evicted the ryot and took over the land in this manner a large number of small ryots were deprived of their livelihood and reduced to penury. The money lender came to symbolise the monetarization of the village economy. The most important change which ryotwari system wrought was with respect to the nature and environment at large. The land and water sources which formed the very basis of the village economy and society were totally undermined, particularly the water sources. The centralised bureaucratic structure which penetrated the village, first took control of the village land,

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13. Saraswati Menon, 'Responses to Class and Caste Oppression in Thanjavur District, 1940-1952", Part Two, *Social Scientist*, vol.7, no.7, February, 1979, p.61.

particularly the wastes and *redefined its use* by bringing it under the plough. The wastes formed the largest bulk of land in a village in most cases and by taking over the State became the biggest *owner* of the not just land but also all the living and non-living forms and objects *in it and on it*. By taking way the control of the wastes the British thus successfully *The natural sources by which the village subsisted into resources which it could command for future usage*. Thus with the conversion of sources into resources, every aspect of the nature came under the control of the State which could not just direct but also dictate the manner of usage of natural elements, such as land, water, minerals, trees, etc. One of the first natural source to be converted into a resource to be put for a directed use was water. The colonial government set about building dams to impound the river waters to increase the irrigation potential so that more land particularly the wastelands could be brought under the plough..Hailed as a scientific marvel, the dams dotted the landscape of India and are continuing to do so. They have been one of the technological inputs which have been used to increase revenue collection by bringing more waste land under cultivation and thus provided the rationale to bring loosely integrated and widely scattered places into the ambit of a relatively tightly integrated economy. In the following portion, it will be shown how places were

integrated and the effects of the integration on the nature of place.

4.3 MACRO SPATIAL INTEGRATION OF PLACES

> "Though the overall development potential of any economy or its region is largely determined by the natural endowments, the pace and intensity of development would, to a great extent, depend on ... development of overhead facilities and directly productive activities. Under the capitalist path of development...the Government is assigned the task of developing economic infrastructure as a necessary prerequisite for stimulating private entrepreneurial activities towards commercial and industrial growth."[14]

The colonial economy was an extractive economy. The British to maximise the surplus generation had to plan for the overall development of the economy. The first step they undertook was to bring the rural wastes under their control and make settlement with individual ryots for increased taxation. To increase the intensity and the pace of development, they began integration of micro spaces (villages) to compose large macro spaces, connected to a

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14.. J.K.Thavaraj, 'Regional Imbalances and Public Investment in India' (1860-=1947),' *Social Scientist*, vol.1, no.4, November, 1972, p.3.

'central place'. Integration of micro spaces was essential to primarily effect a *'network'*. Extraction of surplus, to improve access to villages, to impose direct control over sources available at micro-spatial level, to facilitate movement of "free" labour and capital, networking of places was a necessity. "Networking" involved connecting each village or micro-space by improved communication and faster means of transport to a central place which in turn was connected to a port or capital city.

Roads were the means to connect villages. After the 1850s, road building was undertaken in a vigorous manner by the newly formed Public Works Department. Roads were basically built as feeder and trunk roads. Road building was undertaken side by side with laying of railway lines. The Road Development (Mitchel and Kirkness) Committee of 1927 aimed at a programme of linking the whole country with a network of roads so that every region may be served with a road at least within fifty mile radius. With expansion of railway trunk lines a rapid extension of roads as feeders to the railways took place. Roads were classified into four broad categories: (1) National highways, (2) State (Provincial) highways, (3) major and minor district (4) village roads.

The village roads were built within the village. It was the major and minor district roads which connected

villages with other villages and with central places. Central places were connected to other central places. Central places were connected to other Central places by State highways in most cases, while national highways and state highways connected the hinterlands and central places with the capital city and ports. It was envisaged that no village in a well developed agricultural area should remain more than five miles from a main road and no village anywhere more than 20 miles from the road.[15]

Railways were another means of rapid communication. Railways have been one of the determining factors for growth of towns as central places. By 1924 the total route mileage of Indian railways stood at 38,039.[16] The first construction of grand trunk lines to transverse the length and breadth of the country was done to connect the interior with the various ports at the coast. "By 1875 most of the big centres were so connected...(by) routes from the ports...traversing the important agricultural tracts of the interior, so as to facilitate the export of agricultural produce"[17] Thus, railways and roadways were the means to

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15. M.J.K.Thavaraj, 'Framework of Economic Policies Under British Rule', *Social Scientist*, vol.7, No.5, December, 1978, p.22.

16. D.R.Gadgil, *The Industrial Evolution of India in Recent Times 1860-1939*, (fifth edition), Delhi: Oxford University Press, 1973, p.34.

17. Ibid, p.131.

integrate places, so that agricultural surplus could be siphoned off.

Irrigation also played an important role in facilitating integration of micro-spaces with central places. Opening up waste lands for cultivation necessitated the improvement and enlargement of village water sources. The *eri* or the village tank being of limited capacity, and its connectivity with the tank downstream, made it impossible to either enlarge or improve its capacity. The British embarked on building dams and canals to regulate water usage and to effect irrigation of the waste lands. By lining the landscape with a network of canals passing through all villages having wastes, and poor water supply, the British managed to connect isolated, partially connected wasteland at micro spatial areas and to form a whole new economic landscape. Gadgil notes that development of Periyar irrigation scheme made Madurai a large trading centre in oil seeds, cotton and grain.[18] In North Arcot, a relatively water scarce district, wastes were brought into the cultivation by the construction of the Palar Anicut and the Ponne Anicuts. Groundnut cultivation began on a "substantial scale and by 1928, 70% of the exports from Madras harbour was made up of this one

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18. Ibid, p.153.

commodity."[19] Thus irrigation promoted cultivation of the formerly uncultivated land considered wastes, and integrating them with central places and ports.

4.4 ESTABLISHMENT OF CENTRAL PLACES AND PROMOTION OF CAPITALISM

The colonial economy was outward-oriented and directed from London. The nature of the colonial economy was to export the appropriated surplus to England and to provide markets for British products. Under colonialism villages were forced to produce more surplus, by bringing the wastelands under cultivation. The surplus produced could not be exported to England in the same form. Therefore, central places were evolved to centralize the surplus from various villages and convert them to exportable form. Unlike the towns of the earlier period which were hardly different from villages,[20] the central places were points in space where, labour, capital and raw materials, were assembled to convert the appropriated surplus into a commodity for export. To achieve efficiency in surplus appropriation, channelize, raw materials, labour and rural capital, central places were connected to a group of villages by roadways; Railways connected these central

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19. John Harris, 'Why Poor People Stay Poor in Rural South India', *Social Scientist*, vol.8, no.1, August, 1979, p.23.

20. N. Ram, op.cit., p.49.

places to the other central places and to ports, through which commodities were exported.

The central places were responsible for penetration of capitalist values into the rural hinterland. Local trade carried mainly by barter system was replaced by commerciallization. Transactions increasingly were based on monetary exchange which in turn promoted exchange value for commodities rather than use value. Central places became locations of commercialized agriculture by effecting change in the cultivation of crops to cash crops. Increased trade in cash crops due to external demand made growing of cash crops a more viable proposition and cultivation of food crops received a set back which became a contributory factor for famines. Gadgil describes the penetration of capitalistic values through integration of villages with central places thus,

> "In a self-sufficient village economy where payment in kind is the rule and most of the services are paid for at harvest time, it is natural that cultivation should be entirely for the production of food supply for the cultivator's family. The spread of transportation facilities began to break down the compact character of the village, affected also its agricultural economy.

> The change was seen in a gradual extension of area of some industrial crops under cultivation, a specialization in crops grown in different districts. Export trade increased and internal trade also helped to a great extent. The growth in the area irrigated also helped this movement...Thus the ease of communications which made the exportation of agricultural produce out of the village possible, together with the introduction of money economy, brought about this movement towards commercialization of Indian agriculture... The commercialization of agriculture had progressed most in those tracts where crops were largely grown for export out of the country."[21]

Thus, Gadgil comments about the effects of integration of villages with central places which commanded the use of the village sources thereby converting them into resources for exploitation to fulfil needs of people who were in no way connected to these locations.

The opening of the village wastes, led to displacement of the village artisan and members of service castes, it was stated earlier. Commercialization of agriculture,

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21. D.R.Gadgil, op.cit., p.158-159.

monetization of village economy through cash assessments and payment of wages in cash and penetration of money lenders as traders also contributed to setting free the peasantry from traditional relations. These freed peasantry assembled in central places as labourers. Moneylenders and rich farmers invested capital in these towns and started industrial production of commodities for export and internal trade.

Central places were also administrative headquarters and centres of justices. Capitalism requires a large bureaucracy to function. In the colonial economy, collection of revenue, maintenance of irrigational facilities, construction and maintenance of communication facilities, directing trade and export, promotion of industries, etc., requires administration and therefore, bureaucracy is an indispensable part of capitalism. When British became the rulers of the Carnatic, their goal was to realise revenue from land. So Collectors were appointed to make settlements with ryots and collect the revenue. The towns where the collectors functioned from became the first central place. From here, the Collector dealt with problems arising from the ryotwari settlement, dispensed justice and maintained law and order. According to A.K.Bagchi, in every locality, "the British empire was very much present, not only as the arbiter of law and order, but also as the Collector of land revenue, on which the whole

imperial edifice of Fort St. George rested."[22] The establishment of central places as administrative headquarters and centres of justice had a detrimental to the traditional village systems of justice and administration. With the ryotwari settlement, the village panchayat was downgraded in importance. Establishment of the British legal system led to bypassing of the panchayat. Dealing directly with the ryot, the bureaucracy undermined the traditional village authority, and the role of the panchayat diminished in the village affairs.

Central places played an important role in the colonial economy to promote capitalist values. N. Ram notes that by "Making deep inroads into the rural economy and establishing the supremacy of commodity - money relations everywhere, the town (as central place) played a historical new role in the economy."[23] Directed "by the senior gods in Fort St. George...the little gods in the shape of Collectors of districts,"[24] vigorously strove to fulfill the *masnad* which lay in London, using central places as the base. Thus "the outward-oriented pattern of British exploitation,...drew the interior more firmly into its pyramidal structure, and the...nature of the new

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22. A.K.Bagchi, op.cit., p.97.

23. N. Ram, op.cit., p.62.

24. A.K.Bagchi, op.cit., p.101.

channels of communication.,"[25] cemented the village to the larger scale economy of exploitation.

4.5 CONCLUSION

In the feudal society, villages existed as micro-spatial nodal points which were loosely integrated in the macro spatial order. Asserting their independence through production for internal consumption and by the caste structural relations, villages remained as ossified units until the advent of colonialism. The British eager to increase the revenue collections, laid claim to the lands considered wastes as in every village. Inducing the village service castes and other impure castes to undertake cultivation of the wastes, the British introduced changes in the social organisation of the village and severing of the traditional ties became common. The ryotwari settlement brought massive changes to the village environmental sources. The material environment until now communely used and considered sacred by the impure castes, became a transferable commodity. With erosion of the communitarian values and promotion of private wells the water sources which were the main means of sustenance and survival became neglected. Commercialisation of agriculture to meet the demands of British industry and increasing monetarisation

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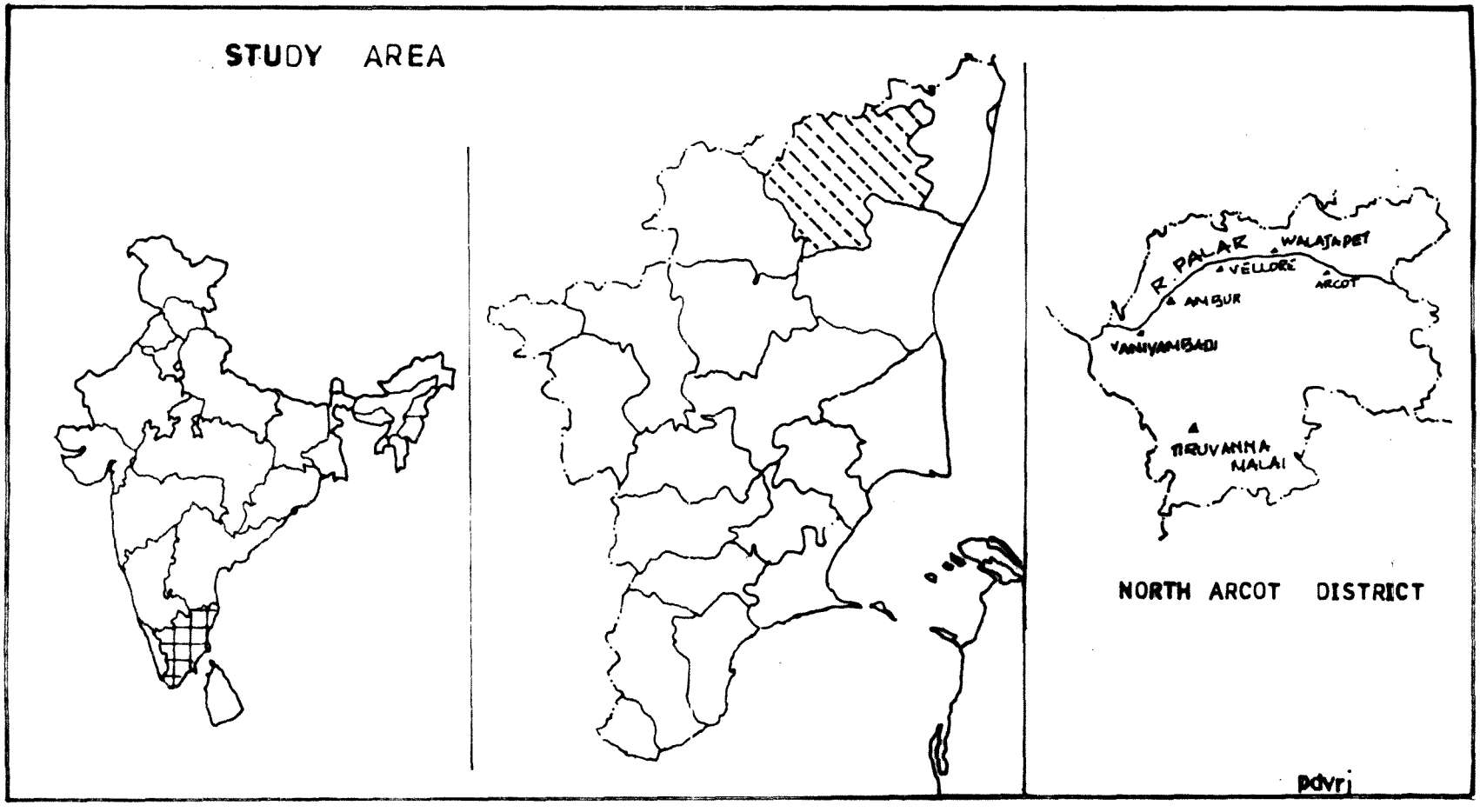
25. Ibid, p.99.

of village economy led to growing of cash crops and neglect of food crops, which ultimately caused famines as large tracts of land were absorbed for cash crop cultivation. Furthermore, commercialisation introduced new forms of poverty, indebtedness and deprivation of the ryot. Unable to escape the clutches of the moneylender, the ryot was finally dispossessed of his land and reduced to the status of a labourer. Thus peasantry was 'set free' from the traditional village ties to become a labourer. This is a historic necessity for the growth of capitalism.

The integration of micro spaces to form a large macro-space was another necessity of capitalism. The colonial economy being outward oriented attempted to connect micro spaces so as to form a scale economy which destroyed the independent small economy of the village. This large scale economy directed from London, constantly strove to generate surplus export and absorb the imports from England. Crucial linkage towards this direction was provided by the *central places which were command points in the spatial economy. If villages were nodal points of production of rural surplus, central places linked to nodal points were command points providing direction to the economy; locations of assembly of labour, capital and raw materials, for manufacture or trading areas in the spatial economy.* The central places played an important role in undermining the traditional village authority as they

served as headquarters for the centralised bureaucratic structure. The colonial state through its bureaucracy assumed control over the village natural sources directed their usage, commodified them and thus converted them into resources. Thus, colonialism changed the nature of micro spaces by integrating them and establishing a large scale economy which promoted capitalism.

In the next chapter the establishment of leather, its integration into the global economy, and the resultant changes to the environment in North Arcot District would be dealt with. The leather industry in North Arcot District was right from its inception linked to global markets. Changes in global perception towards environment made leather industry in North Arcot an important component of Indian export, and this will be discussed in the following chapter.


STUDY AREA
R. PALAR
WALAJAPET
VELLORE
ARCOT
ANBUR
VANIYAMBADI
TIRUVANNA MALAI
NORTH ARCOT DISTRICT
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CHAPTER FIVE

DEVELOPMENT AND ENVIRONMENTAL DEGRADATION IN NORTH ARCOT DISTRICT

5.0 INTRODUCTION

Environmental degradation is frequently regarded as a symptor *or* an end product of poverty, increasing population pressure on resources and increasing demands for food and basic energy for cooking and heating, resulting in degradation of soils, destruction of forests and depletion of water supplies. But Maurice Strong, Secretary-General of the United Nations Conference on Environment and Development, 1992, recognises that most of the developing countries have in many respects become victims rather than beneficiaries of the recent globalization of world economy. Interdependence has made their fragile ecologies highly vulnerable to changes in the world economic conditions, over which they have no control. According to Strong, developing countries, are compelled to "compete in an international market place in which the principle sources of added value and comparative advantage are technology, capital, management and marketing skills and scientific knowledge."[1] Given the fact that developing countries are

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1. Uner Kider, (ed.), *Ecological Change: Environment, Development and Poverty Linkages*, New York: United Nations, 1992, p.13.

seriously handicapped in all those areas, they often are forced to over exploit their resources in which their future development depends. Carl Therm, Director-General of Swedish International Development Agency (SIDA) is of the opinion that poverty is often the result of environmental degradation and poverty causes environmental degradation.[2]

In chapter three, it was shown that the Tamil Society had been able to survive for hundreds of years without seriously compromising their village environment. The integration of local environments to the outward directed economy was the cause of social disruption and resulted in conversion of local environments into a resource was highlighted in the fourth chapter. Now in this chapter, analysis will centre on the role of State in structuring the leather industry, the export led growth strategy and its detrimental effects on the local environment in the North Arcot District.

5.1 **DEVELOPMENT AND ENVIRONMENT**

In the last four decades, India has been making sustained efforts to achieve socio-economic development and transformation. In the 1950s and 1960s development was viewed as a process by which a *traditional* third world

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2. Ibid.,p.26.

society could transform into a *modern* westernized society. To achieve this transformation an urban-industrial approach to economic development was decided upon.[3] This notion of economic development was no other than the classical model left by the British. The institutional mechanism, concepts and categories about economic development and natural resource utilization had emerged in the specific context of capitalistic growth and industrialisation at the centres of colonial power and were raised to the level of universal assumptions and applicability.[4] This developmental model was both indifferent and inimical to the predominantly rural societies, and industrial development went hand-in-hand with destruction and underdevelopment of the rural society.

Development seen in the above manner had enormous implications on the places. Development requires spatial organisation of resources, labour and capital. It has to decide on industrial location, strengthening of inter-urban and ties to create markets, as part of the nation-building process. The need for strengthening inter-urban ties was already there for, urban centres -- the former central

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3. Malcolm S. Adiseshiah (ed), *Economics of Environment*, New Delhi: India International Centre and Lancer International, 1987, p.1.

4. Jayanto Bandyopadhyay and Vandana Shiva, 'Economic Development and Environmental Conflicts', *Mainstream*, vol.27, no.37 *& 38. 10 June 1989, p.13.

places - now functioning as growth centres were promoting territorial integration and spatial integration of the 'backward regions' with the national economy. Integration of backward regions was necessary to bring in more resources into the centrally planned economy. The advocation of growth has led to integration of the local spatial economy into the global economy and the interior and resource rich areas of the country have been forced to not only redirect their resources but participate in the destruction of these resources to run the resource intensive process of development. The case of leather industry exposes the destruction of resource base in North Arcot in course of development.

5.2 THE NORTH ARCOT DISTRICT:

Physical Characteristics:

The North Arcot District is the northern most district bordering Andhra Pradesh and is an inland region possessing a varied physio-cultural character. A good portion of the district is found to be dominated by mountains. The Eastern Ghats with their spurs extending over the north west region make considerable part of the district hilly and rocky. The *Javadis*, an offshoot of the Eastern ghats represent the important mountaian range attaining a general height of 2500 feet, with the peaks reaching a lofty height of 4200 feet. Running as a continuous range through the

south-eastern part of Tiruppattur taluk, eastern part of Guidyattam taluk and eastern and southern portions of Vellore taluk where their spurs contain valleys, the most important of which is the Agaram Valley and the Vaniyambadi valley, the eastern ghats end at the Wallajapet taluk as detached narrow hills of low height.

The Ghat section and many of the scattered hills are covered with forests of the deciduous type. The *Amburdurg - Ammur* forested hills covering the taluks of Guidyattam, Wallajapet, Vaniyambadi and Tiruppattur taluks forms the catchment area of Palar river and its tributaries.

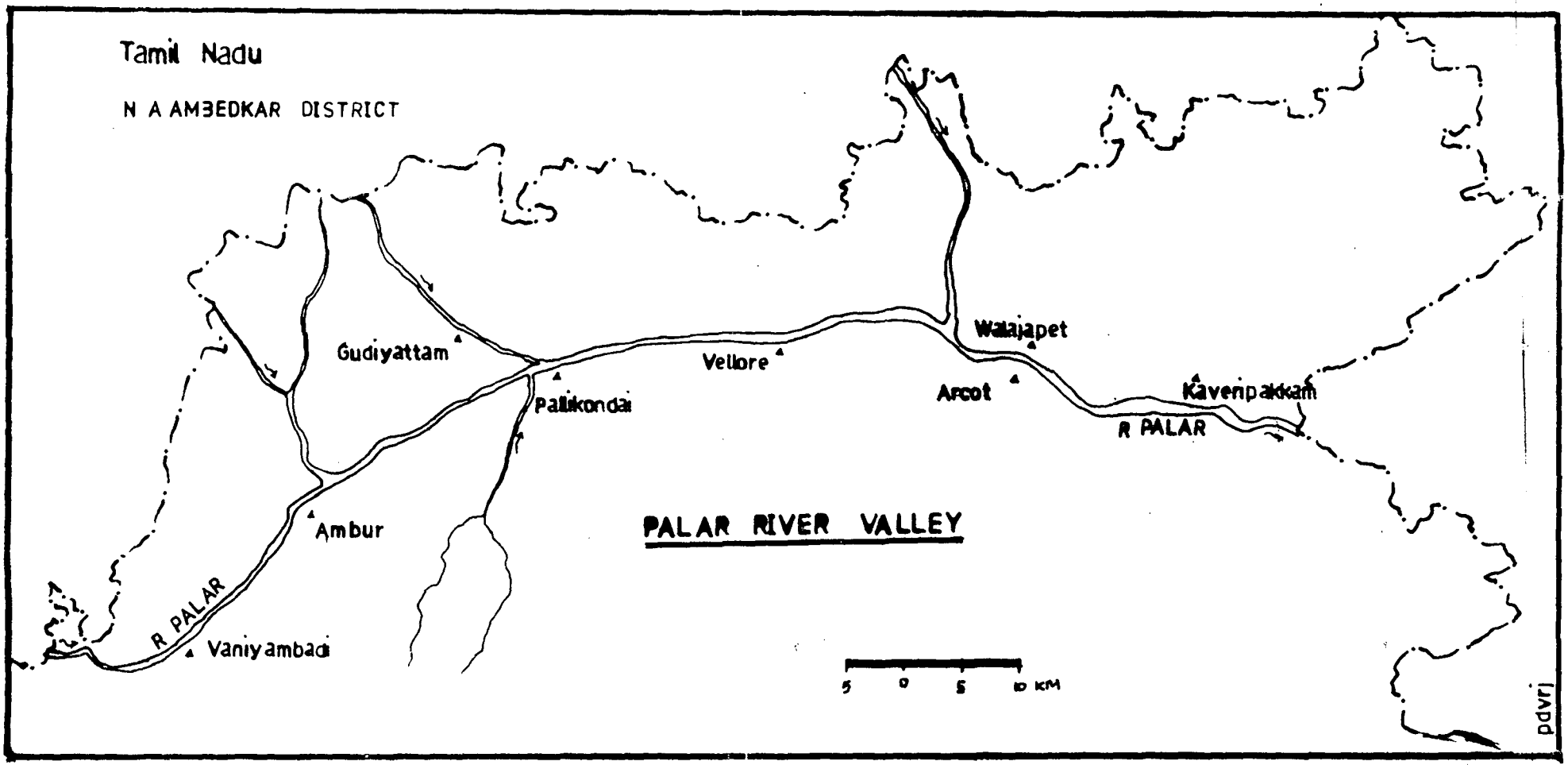
The Javadi forested hills include Javadi hills, Elagiri hills and the hills of the Chengam taluk. This region is the central part of the district and is bounded by the Palar valley region in the north, Cheyyar plain in the east, South Arcot district in the South and Dharmapuri district in the West. The Javadis form the catchment area for Ponnaiyar and Cheyyar rivers, and the Elagiri hills are the source of many streams.

An area covering 1343 square miles consisting of 318,887 hectares is covered by forests in North Arcot. In terms of land area about 26% of the district is under forest cover forming about 16% of the State's total forest cover. Only in Guddiyattam taluk, scrub type of forest occur whereas in other taluks deciduous type of trees

namely sandalwood, teak, bamboo, babool, wattle and myrobalams grow. The abundance of wattle and myrobalams (from which tannin, a chemical used in vegetable tanning process is extracted) was one of the main reason for the location of leather industry in North Arcot. The Census of 1961 states that only about 4% of the land is available for grazing and as permanent pastures.

Agriculture occupies predominant position in the usage of land. The Palar valley, (see map) the most important agricultural area is a narrow tract in the north and south western part of the district. It comprises of parts of Guiddiyattam, Wallajapet, Vellore, Vaniyambadi, Tiruppattur and Arcot taluks. It is bounded by Amburdurg - Ammur forested hill region in the north and west. The Javadi forested hills and Cheyyar plain region in the south. The eastern part of the valley opens out as an undulating plain. The Palar river collects water from the adjacent hills located on both sides in the western part of the region and flows towards the eastern direction according to the slope of the land.

About 35% of total area of the district comprising of 4.27 lakh hectares is under cultivation. The agriculture here is dependent on seasonal rains for success. Cultivators and labourers composed the bulk of the main workers by accounting for 68% of 17.1 lakh workers in the


Tamil Nadu
N A AMBEDKAR DISTRICT
Gudiyattam
Vellore
Walajapet
Arcot
Kaveripakkam
Palikonda
R PALAR
Ambur
PALAR RIVER VALLEY
R PALAR
Vaniyambadi
5 0 5 10 KM
pdvrj

district according to the 1981 Census. This is not surprising as the maximum land per cultivating household possesses is only about 3 acres to 3.9 acres in comparison to the State average of 4.6 acres.

The district receives comparatively low rainfall and so is semi-arid in nature. Though receiving rainfall from the South-West and north-east monsoons, the average rainfall is about 37 to 38 inches. The average rainfall in the South-west monsoon, in the months of June to September is about 17 inches and during the north-east monsoon in the months of October to December, rainfall is about 15 inches. The South West Monsoon rains are well distributed, though not heavy and are eagerly awaited as it premeditates the sowing of dry crops. The showers of the north east monsoon play a greater role despite being of short duration. The heavy showers induce surface run-offs and the general slope of the land being west to east, the rain water gets naturally diverted into a series of tanks.

North Arcot was ideal for construction of tanks. Arthur F. Cox, an Assistant Collector and Magistrate, commenting on the physical character of the terrain and suitability of the district for tank construction wrote that, "North Arcot is one of the great tank districts of the Presidency" on account of "a large portion of its surface is covered by bare rocky hills, this characteristic

affords opportunities for construction of numerous tanks or reservoirs of water by raising dams across the valleys."[5] These tanks were filed by the run-offs from "the rounded rock masses of hills throw off the rain fall without absorbing it, and frequently hill streams, others fed, flow into tanks and filling them one after another cover the plain country with numerous sheets of water.[6]

"Rainfall brought by South-West monsoon is lightest", therefore, "the rains of North-east monsoon are chiefly of importance in filling the numerous tanks which are scattered over the Presidency."[7] By the time, the British took control of South India and formed the Madras Presidency, tank building was refined to such an art that Major Sankey, one of the first British engineers in the Presidency observed that

> "to such an extent has the principle of storage been followed that it would require some ingenuity to discover a site within this great area (Mysore) suitable for a new tank. While restorations are

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5. Jayanto Bandyopadhyay and Vandana Shiva, 'Economic Development and Environmental Conflicts', *Mainstream*, vol.27, no.37 *& 38. 10 June 1989, p.13.

6. Ibid.,p.2.

7. Report of the Indian Irrigation Commission 1901-1903, Part II, Provincial, 1903, pp. 89-90, Calcutta: Office of the Superintendent of Government Printing India, pp.89-90.

of course feasibly, any absolutely new work of this description would, within this area, almost certainly be found to cut off the supply of another, lower down the same basin".[8]

The North Arcot district had a total of 2878 tanks and 625 petty tanks which were classified as 'other minor sources' by the British.[9] The district when formed by the British included a portion encompassing Telugu speaking population and after Independence and states reorganisation, the district is considerably smaller in extent but still contains 3189 tanks which are classified under 'minor irrigation' and in 1961, irrigated a net area of 259,399 acres.[10]

The district is drained by four rivers. The Palar, the Ponne, the Cheyyar and the Pannaiyar, none of which are perennial. The names of each of these rivers allude to their ecological origin. The word 'Palar' means 'river of milk'. The deep bed of this river is filled with white sand and when the river during the monsoon gushes by frothing, it looks as if a river of milk is flowing past.

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8. Vandana Shiva, *Staying Alive : Women Ecology and Survival in India*, New Delhi: Kali for Women, 1988, p.186.

9. Madras District Manuals : North Arcot, vol.II, Madras, 1894, p.200.

10. Census of India, 1961.

The Ponne river is named after the Tamil word 'Pon' meaning 'gold'. This river is also known as 'Nilla-nadi' or the 'blue river' in Gudiyattam taluk. Rising in the hills west of Chandragiri in Andhra Pradesh and swelled by numerous jungle streams, it flows through Guidyattam and Wallajah taluk and falls into the Palar, five miles to the north-west of Arcot. It brings much more water than the Palar during the South West monsoon and being frequently in floods at the time of the north-east monsoon, it is more useful for irrigation. Since it supports the paddy crop, which is the main crop of irrigated areas and is equivalent to gold, the river which makes it possible in this semi-arid region is called 'ponne' or 'golden' river.

The Pallar is the most important river in the district. Rising at Ambajidurga, about twenty miles to the east of Nandidurg in the Kolar district of the Mysore Plateau it enters the Tirupattur taluk of the North Arcot district (after flowing about 70 miles from its source in Kolar district). It courses past Vaniyambadi town, and forms the boundary between the Guidyattam and Vellore taluks. The Palar then cascades through a gorge between Eastern Ghats and Javadi Hills - which throw the river back slightly to the north and force it to assume an easterly course and running past Ambur in Vellore taluk, it receives the Goddar or the Ambur river, and a little further the

Moundinyanadi or the Guidyattam river and the river Agaram. At Virinchipuram, the Palar meets with a stream which divides the town into two parts. Proceeding into Vellore, the Palar links up with the Ponne. On entering the Wallajah taluk, the Palar flows past Visharam, and between the towns of Arcot and Ranipet. A few miles further near Wallajahpet, the Palar Anicut has been constructed across it. The river advances along the boundary between Arkonam and Kanchipuram taluks on the north and Cheyyar taluk in the South and enters Chinglepet District.

The importance of Palar lies in the fact, that inspite of not being a perennial river, it provides for irrigation by two main methods. The river is connected to 748 irrigational channels[11] which directly irrigate the fields and also carry the river water during the monsoon to the numerous tanks which serve as reservoirs. The other method for which the Palar is famous for is the spring channels. The river bed is composed of sand (unofficial sources put the depth of the river bed of sand as 70 feet deep) which is several feet deep, and supports a high water table. After the fresher have passed, long channels are dug in the sandy bed to tap the sub-terranean underflow of water which is constant. These spring channels are used to support the raising of wet crops, particularly in the

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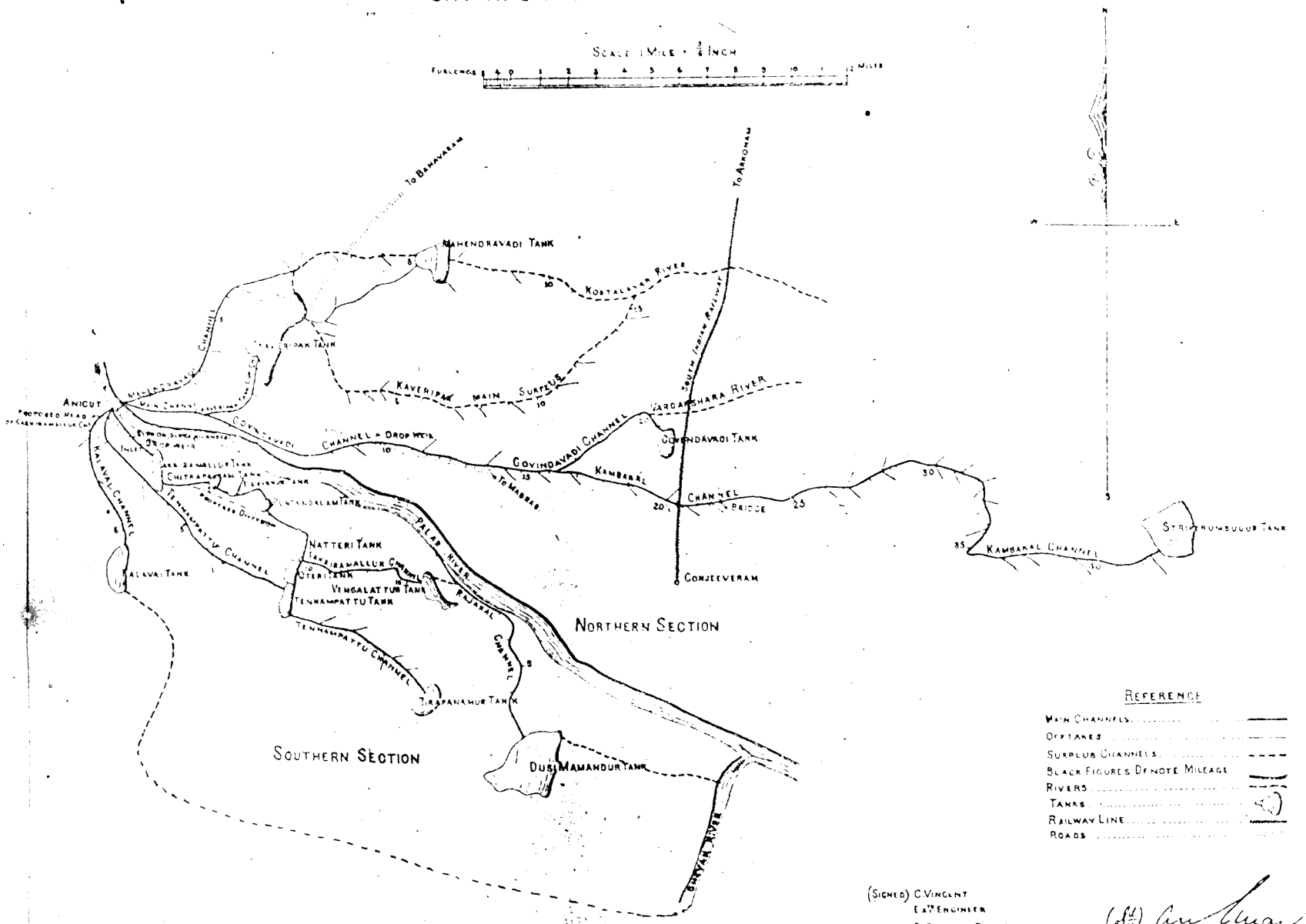
11. Ibid.

NORTHERN AND SOUTHERN SECTIONS
No. 1

INDEX MAP

SHOWING MAIN CHANNELS AND OFFTAKES.



REFERENCE

- Main Channels
- Offtakes
- Surplus Channels
- Black Figures Denote Mileage
- Rivers
- Tanks
- Railway Line
- Roads

(Signed) C. Vincent
Ex^tive Engineer
D. Project Division

(Sd/-) [illegible]
Asst. Chief Engr. for Inspection

PHOTOZINCOGRAPHED AT THE SURVEY OF INDIA OFFICES, CALCUTTA, DECEMBER 1896.

PALAR ANICUT SYSTEM.

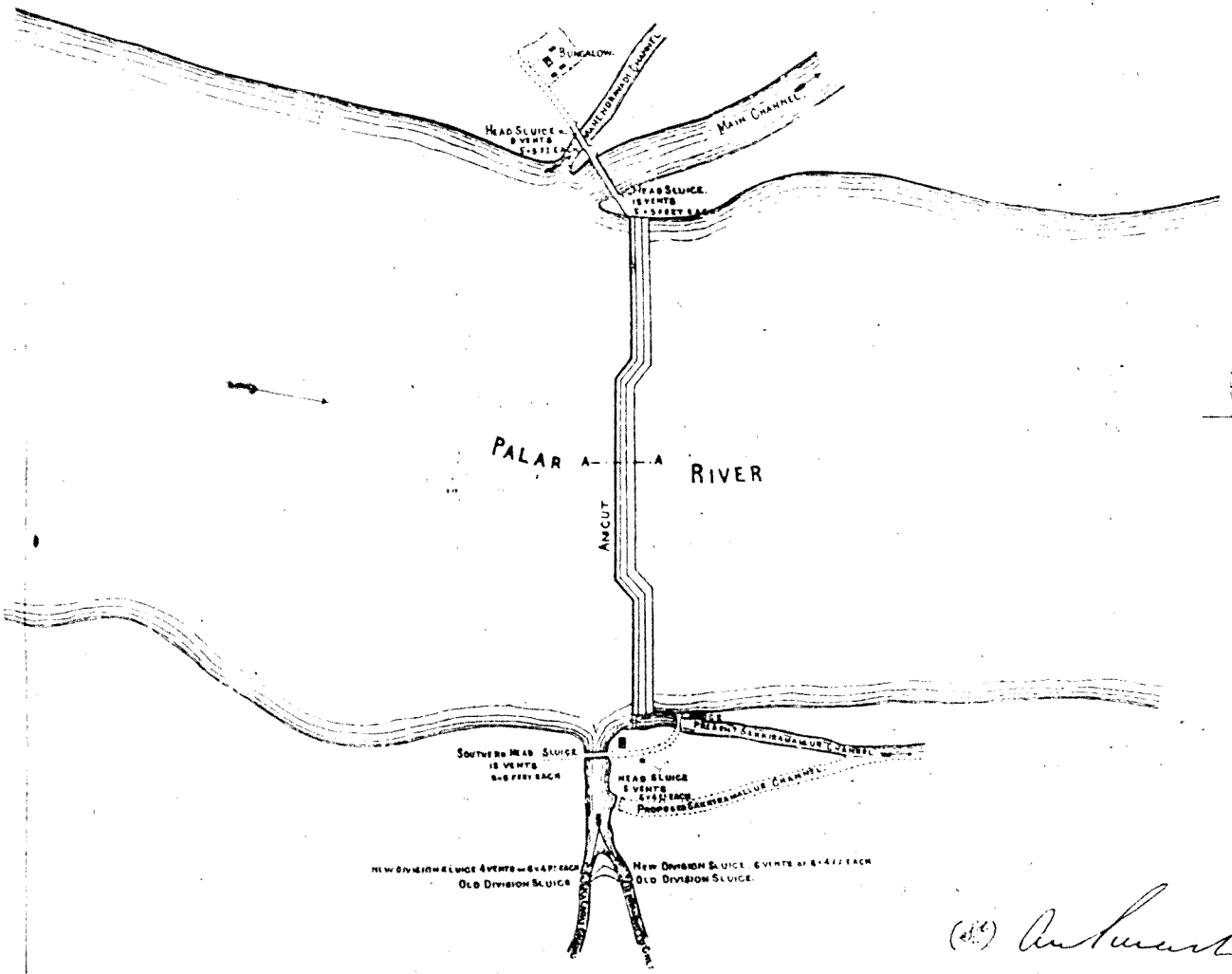
GENERAL PLAN

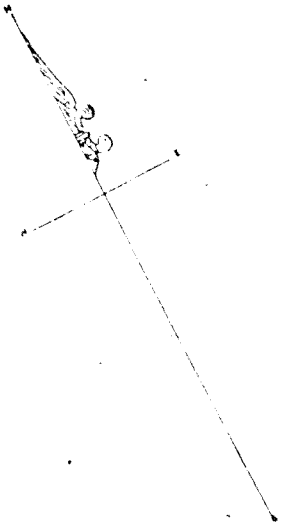
OF

HEAD WORKS.

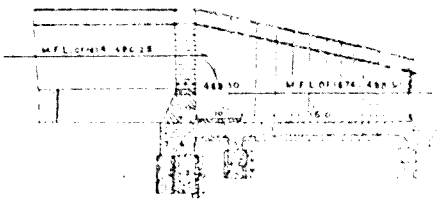
SCALE 1000 FT. TO AN INCH

SCALE FOR SECTION 40 FT. TO AN INCH





SECTION OF ANICUT THRO A.A.



REFERENCE TO ANICUT

- CONCRETE
- BRICK IN CHUNAM
- CUTSTONE
- ROUGH-STONE WORK
- RUBBLE MASONRY

NATURE OF SURFACE SOIL SANDY

— DR — SUB SOIL — DR —

DESIGNED BY L.F.T. SMITHER

BUILT BY — DO —

AMOUNT OF ESTIMATE Rs. 155,000

ACTUAL COST Rs. 135,350

(sd.) CAPTAIN R.E.

ASST: CHIEF ENGR: FOR IRRIGATION

GOVERNMENT

EXECUTIVE ENGINEER

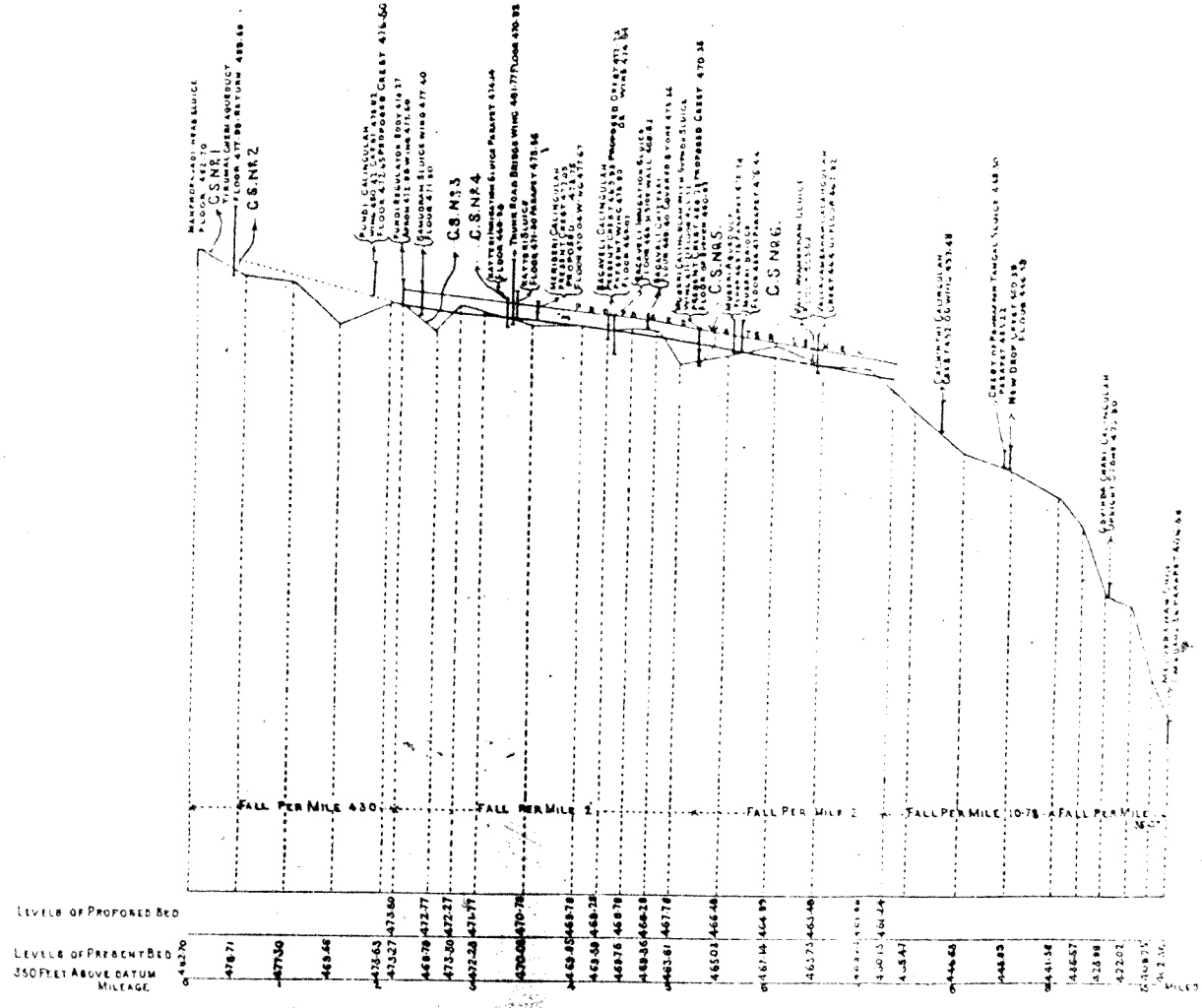
PROJECT DIVISION

PALAR ANICUT SYSTEM

LONGITUDINAL SECTION
OF
MAHENDRAVADI CHANNEL

HORIZONTAL SCALE 4 INCHES TO A MILE

VERTICAL SCALE 40



PHOTOLITHOGRAPHED AT THE SURVEY OF INDIA OFFICES, CALCUTTA, DECEMBER 1960.

well-watered valleys where the spring water is conjunctively used with either tank or well water. In Guidyattam taluk most crops are raised by the support of the spring channels. Some of the spring channels are perennial and permanent structures have been raised to direct the spring water to the fields. These perennial springs are known as *Kasams* locally. There are 211 spring channels irrigating an anicut of 11,400 acres. (V.N.Kundra, Notes on Irrigation, p.8). The number of spring channels appears to have reduced for the Madras District Manuals for North Arcot records the presence of 323 channels taking their origin in springs in 1894, of which 106 were found in the Guidyattam Taluk. This reduction could possibly be attributed to increased and intensive exploitation of water for industrial and agricultural purposes in the district and also due to interception of Palar waters by the Karnataka State.

5.3 **The Palar Anicut System**

The Palar Anicut (see diagrams) plays an important role in the Wallajah Taluk and therefore, is important to this study of social displacement due to environmental degradation. The anicut is situated at Guidmallur - a village near Wallajapet and about five miles from Arcot and four miles to the east of Ranipet - both of which are centres of leather industry in the district. The Palar

Anicut was constructed at the site of an old Korumbu or sand bund, at the head of the old Kaveripakkam supply channel, which used to be frequently washed away. According to Colonel J.O. Hasted of the Royal Engineers, "the Palar anicut was originally designed to give an improved supply to old channels which fed a series of old native tanks. The project which provided for construction of the anicut with under-sluices and head sluices and improvements of channels and tanks, was submitted to the Government of India in September 1 853 and received the sanction of the Court of Directors in November 1854."[12] The anicut was completed in 1857 and was an improvement on the traditional technology as it incorporated certain features which permitted it to function better. It was one of "the first application of modern engineering technology to irrigation...that was nothing more than the revival of an age-old irrigation system in South India".[13]

The anicut is 2634 feet in length and 8.20 feet in height with a vertical fall. It has two scouring sluices, one with ten vents on the north (left) side and another

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12. Selections from the Records of the Government of India in the Public Works Department, No.CCXIX, PWD Serial No.8, *'Paper Relating to the Palar Anicut System'*, 1886, p.1.

13. Nirmal Sengupta, 'Irrigation: Traditional Vs Modern', *Economic and Political Weekly*, vol.XX, Nos. 45,46, and 47. Special Number, November 1985, p.1919.

with twenty vents on the south (right) side. The southern section has benefitted immensely from the construction of the anicut. There are two head sluices in the southern section supplying water to three channels viz., the Sakkiramallur Channel, the Dusi channel also known as the Tennapattu channel and the Kalvai channel. The anicut has improved the supply to about ninety-three tanks and has provided protection through assured water supply to 28,568 acres of land in the southern side.

The northern section of Palar anicut is the section concerned with the study, therefore, requires elaboration. This side of the Anicut incorporates two head sluices each of which serve the Mahendrvadi channel and the Kaveripakkam Main channel. Through these channels the Anicut sustains about 190 tanks in the district and also irrigates more than 4000 acres in the neighbouring district of Chinglepet which is more than twenty miles away.

The Kaveripakkam Main channel takes off from a head sluice of eighteen vents. It is about three miles long and it bifurcates at a division dam of ten vents into the Kaveripakkam Supply Channel and the govindavadi channel. The Kaveripakkam Supply Channel is approximately ten and a half mile long from the Palar anicut. It supplies the Kaveripakkam Eri which is about 5000 years old and has a water spread of 6 square miles with a greatest width of two

miles. Its bund stretches over a four and half miles from Gaffer sluice on the south to Ponnappanthangal Escape on the north. The eri has a registered single crop wet anicut of about 3465 acres, double crop wet anicut of 3007 acres in thirteen villages. The tank surplus flow into a system of fifty-two tanks and the anicut fed by the surplus course is 10150 acres. The surplus waters finally reach the Govindawadi channel near Kesavaram anicut in Chinglepet District.

The Govindanadi channel is about twenty miles in length. It feeds 28 tanks in the North Arcot District and 9 tanks in the Chinglepet District,and irrigates 4439 acres in the North Arcot District.

The Mahendravadi channel is on the extreme left of the Palar Anicut and is connected by a head sluice of three vents to the anicut. It is almost sixteen miles long and ends at the Mahendravadi Eri which is said to be built by the Pallava King Mahendravarman. The Kaveripakkam eri and the Mahendravadi are of the largest eries in Tamil Nadu and the Mahendravadi is presumed to have been much larger than the Kaveripakkam eri originally as it used to have an enormously high bund and irrigated lands at a distance of seven or eight miles through a network of channels. The Mahendravadi eri feeds twenty-eight tanks and irrigates 2712 acres in Wallajah and 2365 acres in Arakonam Taluks.

The Palar Anicut is never submerged even during floods. The quantity of water reaching the anicut, after off-takes by the numerous channels on the way in the various taluks, is sufficient to fill the 334 tanks connected with it. According to the water register maintained since 1864 for a period of fifteen years, the average number of days no water passed down the river was 273.73 days. The Northern head sluice receives a fully supply only when there is more than 5-1/2 feet of water on the sill of the anicut under sluices and this depth of water occurs on the average of 22.67 days in a year.[14] If the Palar is in floods for about ten days in a year and adequate is provided for the average 22.67 days needed to fill up the tanks. Water supply is so precarious during the South West Monsoon that large reservoirs like those of Mahendravadi, Kaveripakmka, Mamandur and other play a large role in saving the crops.

5. 4 **THE PONNE ANICUT SYSTEM**

The Ponne Anicut[15] is built on the Ponna River which rises in Andhra Pradesh and joins the Palar River five miles north of Arcot. The Ponne river has a more assured

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14. *Notes on Irrigation*, V.N. Kudra, ICS, Commissioner of Commercial Taxes and First Member of Board of Revenue, pp. 9-12.

15. Selections, n.8, p.5.

supply of water, particularly during the South West monsoon and the Wallajah Taluk benefits greatly from its supOply for irrigation. The Ponne Anicut was constructed in 1853, a few miles below the point where it enters the Wallajah Taluk of North Arcot. The anicut serves 132 tanks whose registered anicut is 23,824 acres. The bulk of this anicut and tanks are in North Arcot district and mainly in the taluk of Wallajah. The Anicut has two head sluices each based at the western main channel and the eastern main channel. The Eastern Main Channel is the larger of the two and takes of from the eastern head sluice which has nine vents.

This channel is about seven miles long and close to the fifth mile it is called the Southern or Sarpathangal channel which divides at the seventh mile into the Sholingur and Kodakal channels. The Kodakal channel further splits into numerous small channels feeding a number of tanks and passes close to the industrial town of Ranipet.

This channel is extended by the kudimaramat Kaalvai or channel to the Sennasamudram village eri which is the last eri to be supplied by the Ponne anicut in the southern side. This channel is crucial to the study of the process of environmental degradation and the resulting social and political processes.

5.5 LEATHER INDUSTRY IN NORTH ARCOT DISTRICT

5.5.1 Tanning and the Village Artisan

Tanning and manufacture of leather articles were traditional services offered by the village artisan. Handling of dead animals and tanning of their skins were done by the untouchable castes for dead animals and their skins were considered polluting to the extreme, that even the impure castes refuse to touch them. According to the Manual of North Arcot District, the Chakkiliyars,

> "are the leather workers of the Tamil Districts ...The Chakkiliyars appear to be immigrants from the Telugu or Canarese districts for a large proportion of them speak Telugu or Canarese though living in the Tamil country. In social position, the Chakkiliyars occupy the lowest rank."[16] Until the integration of places, there was no demand for leather goods either for export or in urban areas. Therefore, the village leather worker himself tanned the leather that he wanted himself or got it tanned from the village tanner.

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16. *Notes on Irrigation*, op.cit., p.18.

Alfred Chatterton, the pioneer of chrome tanning process in India, in an interesting note traces the change occurring in the leather tanning sector. The Chakkiliyar

> "...possess the right of removing dead cattle from villages, and in return have to supply leather for agricultural purposes. The majority of Chakkiliyars are not tanners, but leather workers, and instead of getting the hides or skins direct from the Vettiyan, they prefer to purchase them ready tanned from traders, who bring them from large tanning centres.
>
> The largest consumption of leather in this Presidency is for water-bags or kavalais, which are used for raising water from wells, and for oil and ghee (clarified butter) pots, in which the liquids are transported from one place to another. Of irrigation wells there are in the Presidency more than 600,000 and though some of them are fitted with iron buckets, nearly all of them have leather bags with leather discharging trunks. The buckets hold from ten to fifty gallons of water, and are generally made from fairly well tanned cow hides, though for very large buckets buffalo hides are sometimes used. The number of oil and ghee

pots in use in the country is very large. The use of leather vessels for this purpose is on the decline, as it is found much cheaper and more convenient to store oil in the ubiquitous kerosene-oil tin, and it is not improbable that eventually the industry will die out, as it has done in other countries. The range of work of the country chuckler is not very extensive."[17]

In the above paragraph it is clear that the forces of change are blowing through to change the process of leather production. The village artisan has already been forced to give up a portion of his work, to large tanning centres which had emerged. Here, *cottage industrial type* of production was carried on, and the jajmani system slowly became redundant. The growth of large tanning centres took place as a corollary to the demand for tanned leather in the colonial economy. The tanning centres were situated more or less near the 'central places' and were assembly points of labour displaced from the traditional village system.

5.5.2 **North Arcot as Ideal Location for Tanning Industry**

Tanneries rose in North Arcot District on account of six factors: "Commercialisation of agriculture encouraged,

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17. Madras District Manuals: North Arcot, Madras, 1894.

in turn, the establishment of...tanneries".[18] Development of railways and other means of transport and communication in other regions also contributed for the rise of tanneries. Moreover, "The East India Company was actively engaged in organising and financing those industries in the products of which it had a special interest."[19] The presence of a large group of untouchables -- the Chakkiligans and the Aruthathiars -- and the Muslims as cheap labour was suitable for establishment of tanneries in North Arcot District. However, the main reason for the tanneries to come up in North Arcot and not in other parts of the Madras Presidency and other Presidencies is that the environmental conditions in North Arcot suited the tanning process. North Arcot is considered ideal and conducive for tanning operations because of the relatively dry climate throughout the year without much variations, the availability of chloride free water and the forests in the nearby ghats with abundant supply of trees useful in tanning process. The physical proximity to the port also made North Arcot an ideal place for locating tanning industry.

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18. Edgar Thurston and K. Rangachari, *Castes and Tribes of Southern India*, vol.II, New Delhi: Asian Educational Services, 1987 (Reprint), p.4-6.

19. M.J.K.Thavaraj, 'Regional Imbalances and Public Investment in India (1860-1947), *Social Scientist*, vol.1, No.4, November 1972, p.17.

Although the British were in disfavour of industrialization in India, they took particular interest in the growth of tanning industry in Madras as its commercial success was assured.

In Madras, the demand for leather by the Military changed the face of tanning -- from being village artisan based to a cottage industry. In 1845, Charles De Susa introduced certain improvements in the methods of tanning which made leather superior to those produced through traditional methods. The extension of railways increased supplies of skins and hides and export became a viable proposition. By 1880, the tanning industry in North Arcot was exporting a large number of tanned and half tanned hides and skins to foreign countries. At this point, according to Gadgil, the "Madras tanning industry showed an intermediate stage in the development of Indian industry, for it displays the effect of a slight adaptation of improved methods in industry, combined with cheap raw materials and cheap labour."[20] Established as a cottage industry, a small workshop with an average of about five to seven workers -- the industry slowly rose to prominence and prosperity through export.

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20. M.J.K.Thavaraj, 'Framework of Economic Policies Under British Rule', *Social Scientist*, vol.7, No.5, December 1978, p.28.

5.6 SPATIAL INTEGRATION OF TANNING INDUSTRY AND ITS EFFECTS

The integration of the tanning industry spatial at the macro level through railways pronounced the death knell for the untouchable village artisan. The untouchable who was at the periphery of the village social system, nevertheless, made important contribution to its economy by removing the dead animals and productively using their skins to make leather buckets which were essential for irrigational operations. The untouchable on account of his function in the jajmani system, had a total claim over the dead animals and their skins. The macro spatial integration and the 'outsider' demand and competition for leather products gave rise to *a cottage leather industry* which by performing a part of the village tanner's work made him dependent and partly redundant. With the integration of the local tanning industry with global markets through export, the village tanner was

> "the hardest hit of all the village artisans. His position began to deteriorate after the extraordinary rise in the world prices of raw hids and skins. The fact that in many parts, the hides of dead cattle were his perquisites did not help him much. Wherever he had to buy his raw materials in the village, his position was most unfortunate. For here the agent of the exporter

or of the city tanneries, ..., was easily able to outbid him. The case of the tanner showed most clearly that the *bonds of custom were not strong enough to withstand economic forces*. As long as the hides had not acquired a substantial value, people gave them away as perquisites.(Now)...they began violently to dispute the right of dead cattle."[21]

Alfred Chatterton commenting on the villlage tanner's position in Madras Presidency states that,

'Here the (tanners) are attached to one or two families of ryots and are entitled to the dead animals of the houses. (But) of late there is a tendency observable among the (tanners) to poach on each other's monopoly and among the ryots themselves to dispense with the services of the family (tanner) and to resort to the open market for their necessaries. In such cases, the ryots demand payment from the (tanner) for the skins of their dead animals."[22]

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21. D.R.Gadgil, *The Industrial Evolution of India in Recent Times 1860-1939*, Delhi: Oxford University Press, 1973, (fifth reprint), p.60.

22. Ibid.,p.175.

Thus, integration of the tanning industry into global markets brought a social change in the local society and economy in India. The capitalist as a tanner rose to prominence by being able to employ five to six workers. His export activities made him be in touch with the local bureaucracy, which was directly implementing the colonial policies at the micro-spatial level. The contact with the local bureaucracy made the capitalist *an elite* locally. Whereas, the village artisan unable to compete with the market forces was reduced to penuary and ultimately large numbers were driven to agricultural labour or forced to migrate to urban centres (which were the central places) for employment. Though displacement of the village artisan from the traditional caste position occurred, he continued to be emplaced in the village as agricultural labour or migrated to urban centres where his condition in most cases continued to remain pitiable.

5.7 **TECHNOLOGY AND TANNING INDUSTRY**

Chisholm's Handbook of Commercial Geography describes tanning as the principal process in converting hides into leather. It consists of saturating the hides, after preliminary cleaning and dressing, with a solution which alters the chemical character of the constitutents of the hides and renders it firm and durable. Traditionally this solution was derived from some vegetable substance, the

bark or some other portion of a tree or plant, which yielded tannin or tannic acid, a very powerful astringent.[23]

The vegetable tanned leather was very popular in the West u ntil the 1890s, Chrome tanning process was discovered in America. "This together with the application of machinery on a large scale in the boot and shoe industries, created an enormous demand *for raw hides and skins in the West.*"[24] The vegetable tanned hides normally had to be re-tanned before using. So the introduction of chrome tanning process created a demand for raw hides and skins and the vegetable tanned skins automatically lost their hold in the international market. The British Government in Madras in a bid to recapture the market, encouraged Alfred Chatterton to experiment with chrome tanning process. "In fact, the introduction of chrome tanning was so successful that it led to the establishment of a vigorous industry."[25] Chrome tanning process was accepted by only few units in the class of "semi-factory industry" for chrome tanning comparatively expensive.

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23. Ibid.,p.176.

24. *The Chisholm's Handbook of Commercial Geography*, London: Longman, Twentieth edition, 1980, p.300.

25. D.R.Gadgil, op.cit., p.119.

Throughout the Madras Presidency the vegetable tanning was the popular method.

> "The South Indian tanned leather have received the aprobation, if not admiration, of the tanners throughout the world. It is also interesting to note that with the same tanning materials the same kinds of leather could not be produced in other provinces of India."[26]

In 1945, tanneries were brought under the Factories Act, on account of a large number of labour disputes. By 1947, the North Arcot District had 192 tanneries engaging about twenty-thousand workmen.[27]

5.8 **STATE INTERVENTION**

Until 1947, the State support to the leather industry was minimal. After independence the State took an active role in promoting tanning industry on account of its export earnings. In 1948, the Central Leather Research Institute was established in Madras and the Indian Leather Research Association was formed. Till 1938, the removal of avaram leaves (a plant yielding tannin, (the chemical used in tanning), for manure from lands at the disposal of the

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26. M.J.K. Thavaraj, n.4., p.30.

27. Report of the Committee on Leather and Leather Goods (1947), p.11.

government, was freely permitted. After 1947, the removal of avaram leaves by farmers was banned and farmers were deprived of natural manure. In 1946, an Ad-Hoc Committee On Leather and Leather Goods was appointed. The official members conducted the Chief Colnservator of Forests, the Director of Industries and Commerce, the Livestock Development Officer, the Forest Utilization Officer and Principal, Institute of Leather Technology. The Committee recommended that waste lands bee used to cultivate avaram plants, whose exploitation be controlled by the Forest Department.[28] Thus wastes were once again diverted from the village needs.

The Central Leather Research Institute played an important role in promotion of factories in tanning Sector by evolving improved and cheaper tanning process and new uses for leather. Tanning, as industry though progressing, was mainly concentrated in the small scale sector inspite of Government efforts to establish many factories. The Annual Survey of Industries (1961) found that 70% of tanning and leather finishing industry being predominantly a household industry. About 15% found in the non-household category of industry were found to be too small to come under the Indian Factories Act, 1948. Only 15% were large or medium scale factories in 1961. But a steady growth of

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28. Ibid.,p.13.

demand for chrome tanned hides provided the necessary impetus for small scale industries also to slowly switch over to chrome tanning process. Therefore throughout the 1960s and early 1970s India's export consisted of semi-tanned, vegetable tanned leather and raw hides and skins. In the 1960s India emerged as the largest single supplier of raw hides and skins in the world and supplied 11.4% of the total world imports in 1965 and 10.4% of total world imports of raw hides and skins in 1966.[29]

5.8.1 **RECOMMENDATIONS OF GOKHLE INSTITUTE AND CLRI:**

In 1969, the Gokhale Institute of Politics and Economics and the Central Leather Research Institute undertook a Survey sponsored by USAID Export Promotion Division and Ministry of Foreign Trade on the Export Potential of the leather industry. The main recommendations were:[30]

(a) Ban exports of raw hides to enhance the value of exports;

(b) Tanning capacity should be allowed to be expanded by 1973-74.

(c) The existing policy of promotion of small scale and

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29. Ibid.,p.25.

30. CLRI and Gokhale Institute of Politics and Economics, *Survey of India's Export Potential for Leather and Leather Manufactures*, 1969, p.167.

village industries should be stopped, the progress of the industry, "*much superior technological level necessary*".

(d) It was obvious that the organised sector is capable of rapid expansion of capacity. In the coming five years, it was expected that there will be further increase of nearly 30% in the number of goat skins processes in the country and *most of the expansion is likely to occur in chrome-tanning*

(e) Link import of tanning and other raw materials to export of *tanned* hides and skins.

(f) High priority to be given to the allotment of capital goods, equipment, dyes, jigs and tools to exporting units and special allocation of foreign exchange is to be made for the purpose.

(g) Joint ventures should be encouraged.[31]

5.9 **The United Nations Conference on Human Environment**

In 1972, the United Nations held a Conference on Human Environment at Stockholm, to assess the problems of global environment and suggest corrective measures. The Conference aimed to "create a basis for comprehensive consideration within the United Nations of the problems of human environment" and to "focus the attention of

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31. Ibid., pp. 203-210 and p. 259.

Governments and public opinion in various countries in the importance of the problem".

The Conference was considered to be a "landmark event in the growth of international environmentalism" and was "the first occasion on which the political, social and economic problems of the global environment were discussed at an inter-governmental level with a view to actually take corrective action".[32] Present at the conference were representatives of 113 countries, 19 inter-government and 400 other inter-governmental and non-governmental organisations.

Marice Strong, the Secretary-General of the Stockholm Conference in his opening address said that the Conference signified the launching of "a new liberation movement to free humans from environmental perils of their own making."[33].

Mrs. Indira Gandhi, the Prime Minister of India in her address to the Plenary Session admitted that ,

> "Along with the rest of mankind, we in India...have been guilty of wanton disregard for the sources of our sustenance...our

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32. John McCormick, *The Global Environment Movement*, London; Belhaven Press, 1989, p.88.

33. Ibid., p.97.

> Industrialisation tended to follow the paths which the more advanced countries had traversed earlier. With the advance of the sixties and particularly during the last five years, we have encountered a bewildering collection of problems, some due to our shortcomings but many inherent in the process and in existing attitudes."[34]

Subsequent to the Conference, twenty-five countries including eleven third-World nations either planned or implemented a reorganisation of their environmental programmes and created new environment monitoring agency. In a few countries, green parties emerged while in most public pressure increased particularly in the area of pollution control. The Most Developed Countries adopted an agenda of "anticipate and prevent" and problems such as acid pollution, toxic chemicals, hazardous wastes, river basin management were addressed both nationally and internationally.

> "In most cases, the initiatives in environmental policy were national responses to national problems but the fact that many different countries almost simultaneously began addressing

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34. *India: The Speeches and Reminiscences of Indira Gandhi, Prime Minister of India*, Calcutta; Rupa and Co., 1975, pp. 191-199.

environmental problems suggests that *national initiatives were influenced too by more general advances in scientific knowledge*, by well publicized findings of global models, by events (such as environmental disasters) in other countries).[35]

5.10 STOCKHOLM CONFERENCE AND ITS IMPACT ON LEATHER INDUSTRY AT GLOBAL AND NATIONAL LEVEL:

This general outlook had a major impact on the leather industry in Europe. The chrome tanning process was considered environmentally disasterous, and ultimately in almost all European countries, leather tanning industry was banned. Immediately there occurred shifts in the global structure of leather industry and many enterprises went in for tie-ups with third world countries. The FAO commenting on the shift,

> "on account of stringent pollution legislation admits, "...the later (developed countries) are faced with...problems arising from...more stringent pollution legislation". Therefore "...shift in location of tanning and leather manufacturing industries from the highly developed countries of North America and North Western

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35. John Mc.Cormick, op.cit., pp. 126-127.

Europe to a number of developing countries, with traditional tanning industries, such as India, Pakistan or Nigeria, entered the world market for rough-vegetable and rough-chrome tanned hides and skins".[36]

Welcoming the shift the Indian Government initiated policies to encourage value-added exports of leather goods. Exports of raw hides and semi-finished leather was banned.[37] As the export of leather registered an substantial increase, the parameters of the trade policy changed, aiming to expand the production base, a liberalization of imports of chemicals used in chrome-tanning and import of leather machinery under Open General Licence was permitted.[38] By 1976-77 leather manufactures had emerged as Seventh largest principle commodity for export and tanning, dyeing and colouring chemicals had become one of the principal import items.[39] The increasing integration of the leather industry at Global level had important consequences at the local level.

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36. *FAO Commodity Review and Outlook (1975-76)*, Food and Agricultural Organisation of the UN, Rome, 1976.,p.167-168.

37. *Economic Survey 1992-1993*, GOI, Ministry of Finance, New Delhi, p.132.

38. *Economic Survey 1977-78*, GOI, Ministry of Finance, New Delhi, p.44.

39. Ibid.

Firstly, the State organised and established a list of backward districts/areas selected for central outright grant of subsidy. In Tamil Nadu, four taluks of North Arcot District were included in the scheme in 1974 namely Tirupathur, Vaniyambadi, Vellore and Walajabad.[40] According to this scheme, districts were selected for concessional finance from central and state governments for establishment of factories. *Secondly,* industrial estates were promoted for siting of factories by Small Industries Development Corporation (SIDCO) and State Industries Promotion Corporation of Tamil Nadu (SIPCOT).[41] The SIDCO established an industrial estate at Ranipet, North Arcot District with a view to provide integrated production and infrastructural facilities. SICOT set up in 1971, to promote major and medium industries in the private sector, extend financial assistance in various forms, also established an industrial estate at Ranipet.

The role of the Central and State Governments in promotion of leather industry was met with a rapid increase in the number of leather tanning units at factory level,

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40. *Guidelines for Industries: Handbook of Industrial Policy and Procedure and Annual Guidelines for Industries 1974-75,* Government of India, Ministry of Industries, Appendix XXI, p.119.

41. *Tamil Nadu: An Economic Appraisal 1975, Part I - Review,* Government of Tamil Nadu, Finance Department, Madras.

using chrome technology for tanning. In 1971, the number of working factories were 267 units; by 1972 it increased to 279 units and by 1983-84 the number of units were 384 in Tamil Nadu alone out of 639 factories in India dedicated to leather processing.[42]

5. 11 CASTE STRUCTURE OF LEATHER INDUSTRY

Earlier, it was mentioned that only untouchables worked with leather on account of its pollutive status. With leather exports picking up and the leather industry moving from the village to central places, the Muslims also entered the Industry. In time the industry labour force was constituted predominantly by untouchables -- the Chackiliyars, Arunthathiars and a group of Adi Dravidas -- and Muslims from poorer sections. "There was a division of work among the traditional workers and Muslims. While the former concentrated in the preliminary process, where strenuous labour and working in pits of lime was called for,t he latter (Muslims) engaged themselves in processes that did not involve wet work".[43]

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42. *Statistics of Factories 1971 & 1972 and Annual Survey of Industries (Factory Sector) 1983-84*, vol.VII.

43. P. Usha, Mechanisation and Labour Utilization: Leather Industry in Tamil Nadu, *Economic and Political Weekly*, vol.XX, No.4, January 26, 1985, p.167.

With mechanisation the industry became highly labour intensive. With government subsidy and infusion of capital, the tanneries have become mechanised at the tanning and pre-tanning stage. This has involved displacement of labour from the initial operations also.

SHARE OF TAMIL NADU IN INDIA'S LEATHER EXPORTS

S.No.	Year	All-India Total Exports of Leather and Leather Products	Tamil Nadu Exports	Tamil Nadu Share as a % of all India Exports
1.	1979-80	4253.83	3064.71	72.05%
2.	1984-85	5847.57	3447.25	58.95%
3.	1991-92	32147.14	14769.94	45,.90%

Source: The Economic Times, New Delhi, 20 August, 1992.

TAMIL NADU LEATHER INDUSTRY : SOME DETAILS

S.No.	Types of Units	No.	Employment	Location
1.	TANNERIES	577	33,381	Ranipet, Madras, Vaniyambadi, Erode Dindigul, Ambu Trichy, Pernambut
2.	SHOES AND SHOE UPPERS	133	28,000	Madras,Ranipet, Ambur, Vaniyambadi, Dindigul, Tindivanam
3.	LEATHER GARMENTS	250	8,000	Madras
4.	LEATHER GOODS	75	3,500	Madras

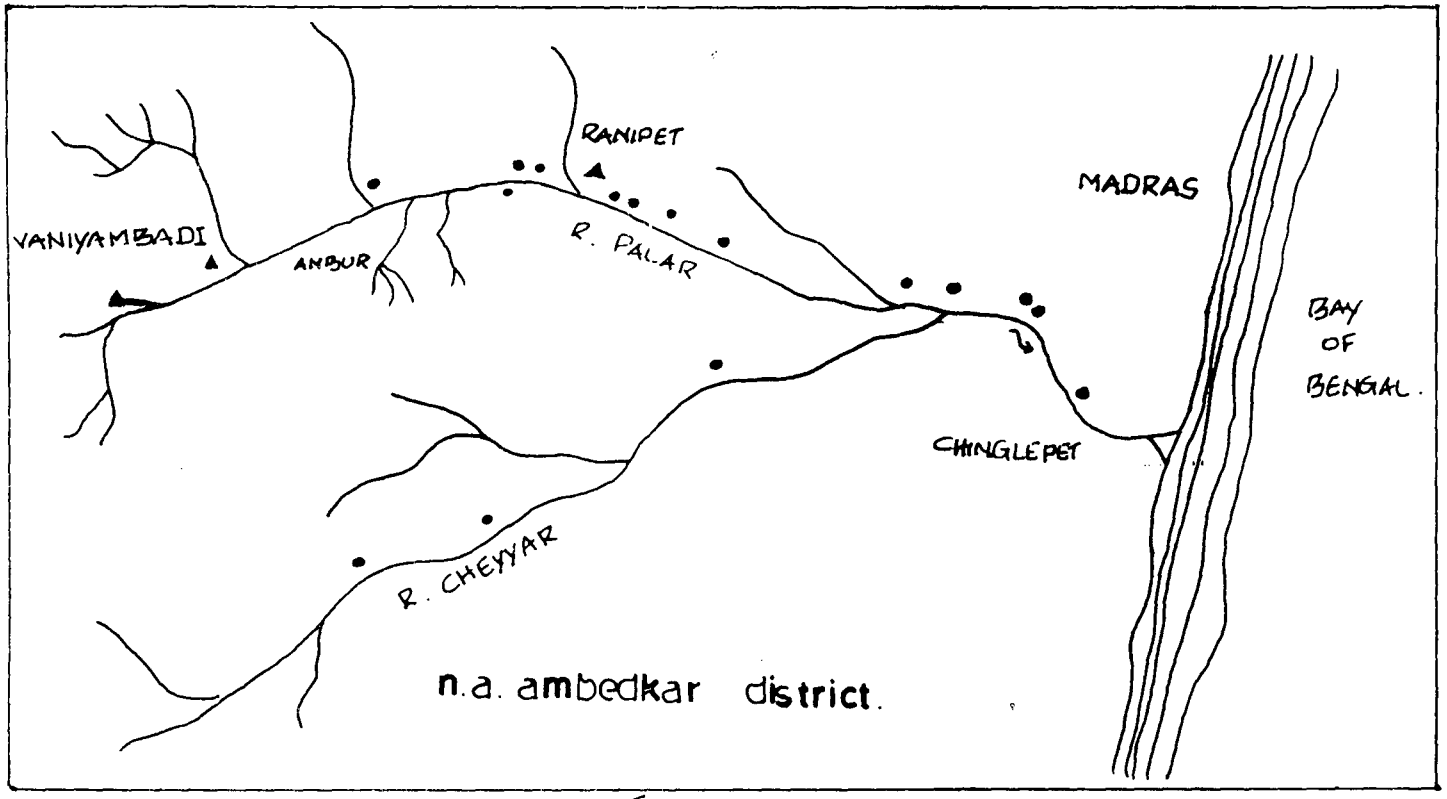
Source: The Economic Times, New Delhi, 20 August, 1992.

5.12 ENVIRONMENTAL DEGRADATION

The tanning industry in North Arcot has turned the once fertile lands into wastes. The river Palar or the river of milk is now called river 'Pazhar', the river of wastes. With the use of modern technology, the entire district in a short span of twenty-five years face desertification, water depletion, and disappearance of forest cover. The vegetable tanning process considered eco-friendly led to rapid depletion of the forest cover as the demand for leather increased globally. The Javadi Hills rich in trees containing tannin were exploited to their capacity that the government was forced to reorganise and redirect the use of wastes, which had a communal character for the village as catchment area and on which the untouchables depended upon for their survival, to grow the trees useful for tanning. Thus wastes were being directed for monocultural growth under the control of the forest department. But with the disappearance of the forest, the Central Leather Research Institute initiated experiments to improve Chrome tanning methods to make it more cheap and easily accessible for the tanners.

The chrome tanning process encouraged to be adopted by the tanners, has helped the industry to progress rapidly, at the same time has caused enormous problems of resource depletion and degradation. The effluents of the vegetable

relative locations of tanneries and water supply headworks along the r.palar (-till)



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tanning process was believed to be a good manure as it contained organic matter and the farmers eagerly transported to the fields. In accordance to this practice, the farmers allowed the tanners to flood their land with the chrome tanning effluents. Untreated effluents when let into cultivable land, some of them run off as surface flow or lost by direct surface evaporation, while the remainder infiltrates the soil. Penetrating the soil, the effluent water evaporates leaving concentrated salts in the soil, which prevent water uptake of plants, and porosity of soil thus rendering the land infertile. Crop failures and low yield became a common phenomenon in lands treated with chrome effluents, and in a short span of time the land surrounding the tanneries became uncultivable. Faced with protests, the tannery owners purchased these degraded lands from the farmers. This move suited them as they required lands for expansion and degraded lands unable to command good prices, came cheap. But the expansion of capacity increased the production of effluents. Disposal of effluents became a major problem as farmers unlike before, did not permit the use of their lands as disposal areas. At this juncture, the tanners decided to dump the untreated effluents into the canals and river Palar.

5.12.1 **Effects of Tannery Effluents in River Palar:**

In North Arcot District, a stretch of Palar basin over a length of 100 km from Vaniyambadi to Wallajapet is

polluted by the tanneries. In a report submitted to the World Bank by Tamil Nadu Government based on a study by Tamil Nadu Agricultural University,[44], it was stated that:

> "Different grades of tannery effluent pollution has affected the productivity of nearly;y 35,000 hectares of cultivable land in North Arcot Ambedkar District." The report identifies the source of pollution as "In all the four areas of Ambur, Vaniyambadi, Ranipet and Peenambut water pollution formed the major source of pollution through letting of effluents directly in field, river channel, tank and in mountain streams. Letting of effluents in mountain streams formed the major sources of pollution in Ambur and in Vaniyambadi and in Peernambut, direct letting of tannery effluents in fields were formed the major source of pollution. *Ranipet area recorded the highest soil pollution*". (italics mine).

In a petition to the District Committee for Legal Aid and Advice (see Appendix I) it was stated that in Ambur, Vaniyambadi, Balur and Pernambut there are an estimated 150

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44. Tamil Nadu Agricultural University, *National Agricultural Research Project Tamil Nadu - North Eastern Zone, Phase II Completion Report, 1-11-1988 to 31-10-1992,* Regional Research Station, Vriddhachalam, p.74 and p.04.

tanneries along the Palar river and about 200 villages around Ambur alone was affected. The petititioners had also documented the health problems faced by the women and children due to pollution of food, water and milk.

5.12.2 **Access to Resources**

The extensive pollution of land and water has caused immense problems to the local populace and animals. The tanners and all the sections of the society have been affected by limited availability of water. The indiscriminate discharge of untreated effluents in the water source have limited the availability of drinking water for the residential spaces i.e. the township. The seepage of the effluents into the sub-soil has affected the underground water systems also and the water has been declared unfit for consumption. In spite of water being available the townships of Vaniyambadi, Ambur, Ranipet, Wallajapet, and other towns are suffering from chronic water shortage and in summer water has to be rationed. In the township of Vaniyambadi in June 1994 water was supplied once in fifteen days. Rationing of water was resorted to and the availability of water per head was 3 to 4 litres only.[45] Women were forced to walk long distances to supplement their daily requirements. The scarcity of water

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45. 'Water Scarcity hits Vaniyambadi', *The Hindu*, Coimbatore , 26 July 1994.

has given rise to a thriving water trade. Enormous amount of limited monetary resources of individuals and private parties are being pooled and used to procure water from the tankers and other suppliers. Some of the local politicians have purchased lorries to supply water, at a cost to the affluent of the township, while drawing their supplies from the government supplies.

The State Public Works Department and the Southern Regional Office of the Central Ground Water Board in separate but identical reports on status of ground water have claimed that in North Arcot District, Ground water development has reached almost the maximum possible extent. Further, contamination due to tannery and municipal effluents is predominantly observed along the Palar river course, where *the entire alluvial zone upto the depth of 15 metres to 20 metres is polluted.*[46] Due to the pollution of water sources, the increasing demand for water for agricultural, domestic and industrial purposes has caused competing claims for water. The Palar Basin Rules, framed to regulate indiscriminate pumping of ground water, made it difficult for farmers to obtain supplies. The rules restricted the sinking of new wells and installation of electric pumpsets within a specified distance from river,

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46. 'Increasing Pollution of Ground water', *The Hindu*, Madras, 12 August 1994.

spring heads, and spring channels of the river. These rules were considered applicable only for agriculture and not for industry. The tanning industry thus benefitted installed powerful pumpsets while farmers were refused permission to install smaller and less powerful pumpsets.[47] The State Public Works Department has stressed the need for conjunctive use of surface and ground water in command areas of irrigation systems. The Central Ground Water Board has suggested more costly techniques in terms of sprinkler and drip irrigation systems and change in cropping pattern. In North Arcot the pollution precludes use of these measures. The Government in a bid to promote the industry which earns enormous foreign exchange, has permitted priority of supplies for the industry. At Arcot and Ranipet, on the either side of the Palar River bore wells have been sunk to tap water which is as yet unpolluted. The stretch of river Palar from Arcot to Ranipet is rocky so the underground water at this point is not polluted, unlike other parts of Palar which is sandy, and allows percolation of effluents. The government has auctioned the right to tap water to a private party and each day about 150 tankers throng the area to fill up. This water is exclusively supplied to the tanneries. At

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47. 'Palar basin rules: farmers Seek better deal', *The Hindu*, Coimbatore, 20 September 1988.

the minimum, each tannery consumes three tankers of water per day that is about 30,000 litres per day.

To Process one kilogram of leather, about 35 litres to 40 litres of chloride free water is essential according to CLRI. At Ranipet alone, there are about sixty units and each unit processes 15,640 skins and hides every day, which means their water requirements are to a tune of 6,25,600 litres per day minimum. *Altogether sixty tanneries discharge more than three million litres of polluted water per day.* In the chrome tanning process about 176 chemicals and acids are used, therefore, the effluent discharge per day exceeds 6 lakh litres, at Ranipet alone. With those effluents discharged from Arcot, the Palar river has attained a surface flow of effluent water all round the year. In the normal situation, the Palar river has a surface flow for only 10 days a year. But the river has a number of underground streams which recharge the wells and the tanks in North Arcot District. Therefore the conjunctive use of river, well and tank is not possible and this has led to severely affecting the agricultural operations of district.

Pollution has also caused problems of access to water for the tanners. The tanning process requires chlorine free water. The letting of effluents into nearby lands and water courses has polluted the internal supply. Forced to

to bring supplies from outside, the tanners have either invested in tankers or hire them to procure water. The shortage has placed a premium to be paid at the sources of supply. Many tanners have resorted to purchasing privately owned wells along with which, they have been forced to buy the land at exhorbitant prices. Indiscriminate pumping of water from Palar river for sale to tanneries has compounded the hardships of the residents in Variyambadi. The water table having gone down, the wells have been depleted. The small townships of Ranipet, Vaniyambadi and Arcot having narrow roads are blocked by the tankers delivering water. The movement of tankers has caused a number of accidents in these townships and thus have been a social hazard.[48]

5.12.3 **Effects of Polluted Water:**

The villagers and the poor in the district have been forced to use the untreated water from the farm wells for domestic purposes as the municipal supply has been insufficient. The Community Action for Development, a non-Governmental organisation has conducted surveys and small studies and found that headaches, dysmenoria, respiatory problems, frequent miscarriage, skin allergies, white discharge and breast milk contamination have been

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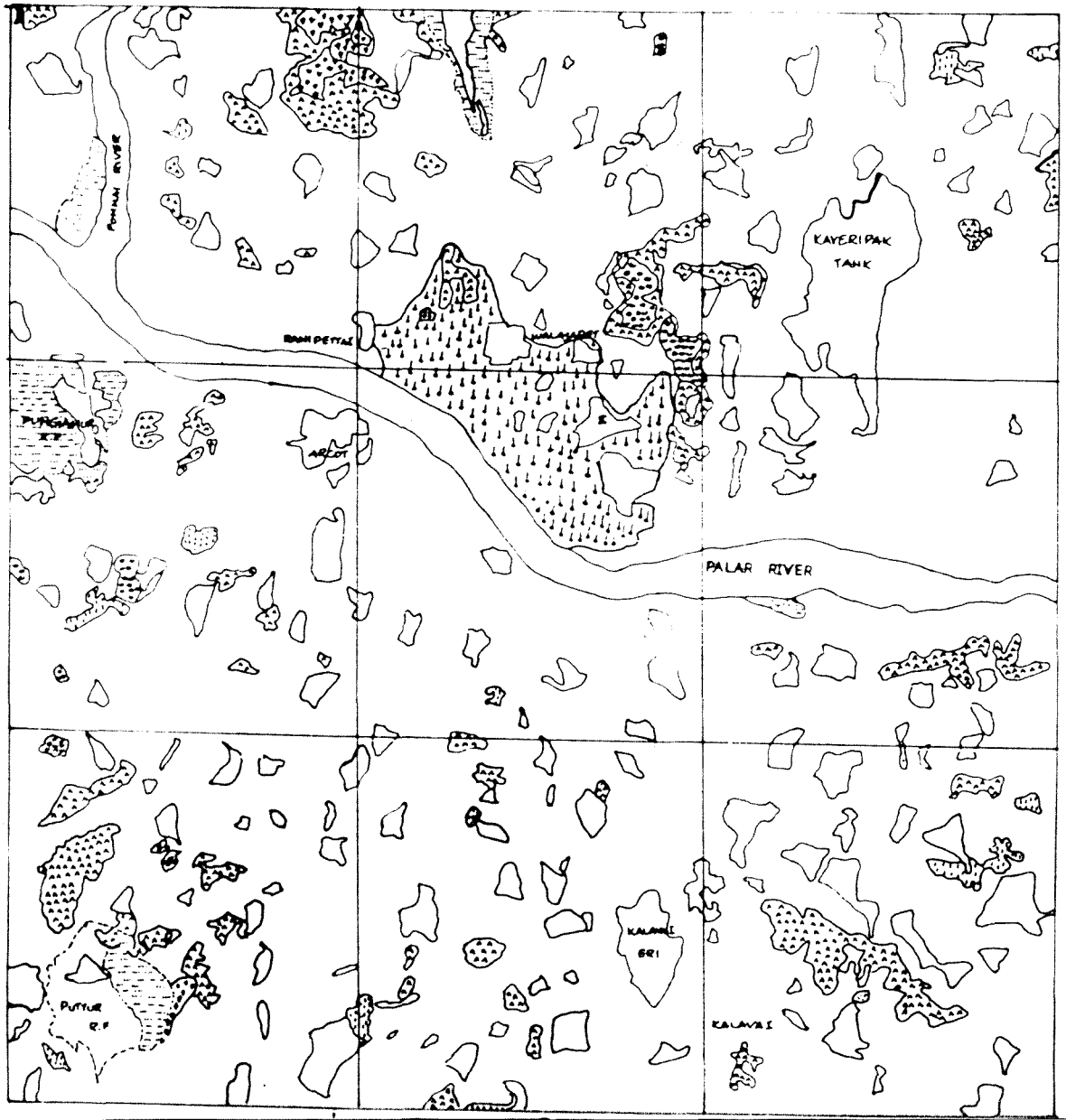
48. 'Water Supply woes compounded', *The Hindu*, Coimbatore, 24 September 1994.

NORTH ARCOT
AMBEDKAR DISTRICT

TAMIL NADU

WASTE LAND MAP



REFERENCES

- UPLAND WITH/WITHOUT SCRUB
- LAND AFFECTED BY SALINITY / ALKALINTY - INLAND
- UNDER UTILIZED / DEGRADED NOTIFIED FOREST LAND
- DEGRADED LAND UNDER PLANTATION CROPS
- SANDS - DESERTIC
- MINING / INDUSTRIAL WASTE - LAND AFFECTED BY TANNERY EFFLUENTS
- BARREN ROCKY / STONY WASTE / SHEET ROCK AREA

1 SEMMASAMUDRAM ERI

commonly reported. Rice cooked in the water has a discoloured look while the cooking utensils have a thick sediment of salt at the bottom. The cooked rice, if stored, became soggy overnight.

Agricultural activity has been badly affected. According to the Tamil Nadu agricultural University Report, crops just withered and died. Sugarcane a major crop in the district yielded less than 25 per cent of the normal yield. The Ambur Cooperative Sugar Mills was one of the first modern sugar mills to be set up in the district in 1960-61. By 1967-68, it had increased its cane crushing capacity and in 1976 two more sugar mills were set up as the cane production exceeded crushing capacity. In the eighties the Ambur Cooperative Sugar Mills started depending on other cooperative mills to meet its cane requirements, as the yield of the sugarcane in the area decreased. By 1991 the sugar mill was forced to reduce crushing capacity due to dearth of cane. Today the mill faces closure due to the dwindling supply of cane. "Although the per hectare production of cane in Tamil Nadu is 80 tonnes, which is more than the all-India figure of 65 tonnes per hectare, ... units located in Ambur *normally* experience higher rate of recovery due to prevalence of

ideal climatic conditions".[49] But due to pollution of land and water sources, reduction in supply or abandonment of cane growing in the divisions located in the vicinity of the mills had taken place. The Progressive Cane Growers Union and the Ambur Cooperative Sugar Mills have jointly appealed to the Chief Minister to allow procurement of cane outside a 30 km radius and prevent establishment of new private mills in the nearby Polur taluk.[50] Cultivation of certain traditional crops of short time span have been abandoned altogether and most lands have been converted to growing of plantation crops, which is basically extensive cultivation.

5.12.4 **Effluent Treatment Plants**

Controlling of pollution has become a priority in the past few years for various sections of society have continuously mounted pressure on the local and state authorities. Establishment of effluent treatment plants (ETPs) have been suggested as a solution by the Central Leather Research Institute. The State government, under pressure, agreed to establish Common Effluent Treatment Plants (CETP) at various areas having concentration of

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49. 'Record Crushing by Sugar mills in TN', *The Hindu*, Madras, 25 November 1994.

50. 'Ambur Cane-growers union's appeal to CM', *The Hindu*, Coimbatore , 12 August 1994.

leather tanning units. The Tamil Nadu Leather Development Corporation (TALCO) in collaboration with the Vaniyambadi Tanners Association agreed to set up a pilot CETP in Vaniyambadi at a cost of Rupees two crores in 1984. The deadline for commissioning the plant was to be 31 July 1985 according to the Tamil Nadu Pollution Control Board. Plagued with various problems such as lack of funds, and delay in purchase of site, had deferred the construction of the CETP. Problems of space near the clusters of tanneries and wide dispersal of tanners added to the delay in construction. The Plant was to have a capacity to treat about three million litres of effluents per day which is the output of sixty small tanneries. Finally the plant came into operation in 1992.

Three more CETPs were to be constructed in Ranipet, Ambur and Pernambut. The usual delays in combination with procedural delays and frequent changes in design contributed to escalation of the project cost. Finally the Ambur and Pernambut plants became operational but the Ranipet plant has not become operational even until end of 1994. The CETP were built for the use of small and medium tanneries. The big tanners of Ambur, Ranipet, Pernambut and Vaniyambadi have constructed their own effluent treatment plants.

Construction of ETPs has reduced the degree of pollution but have not totally eradicated it. According to the project engineer of the Vaniyambadi CETP, the plant has succeeding in reducing pollution to acceptable limits and has fulfilled the norms set buy the Tamil Nadu Pollution Control Board. But contradictory statements were issued by the Central Pollution Control Board.[51]The Central Board has found that the ETP did not fulfil the required norms. Another problem which has emerged is that of sludge disposal. The CETPs are generating enormous amounts of sludge after treating the effluent and a solution for proper disposal has not yet been arrived at. Dumping the sludge in open waste land has not been a solution. During rains the salts dissolve and run-off with the rain water into the tanks and rivers and with concentration of chemicals the problem is revived.

On 8n September 1995, the Supreme Court directed immediate closure of 163 tanneries in the North Arcot District. These tanneries situated in the major tanning centres of Vaniyambadi, Ambur, Pernambut, Arcot and Ranipet have neither yet been connected to CETPs nor have constructed their own plants, despite sufficient opportunities given to them by the Court. The orders were

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51. 'CET plant serving the purpose', *The Hindu*, Coimbatore, 6 December 1992.

passed on account of the Public Interest Litigation writ petition filed by the Vellore Citizens Welfare Forum, seeking closure of the tanneries. According to the Senior Counsel for the Tamil Nadu Pollution Control Board 299 tanneries are yet to complete construction of CETPs.[52]

5.13 SOCIAL DISPLACEMENT

North Arcot was known for its agricultural success, inspite of poor rainfall conditions and not possessing perennial rivers. Widespread rural electrification and ground water irrigation in form of wells, supplementing tank irrigation made North Arcot a place where agriculture flourished.

> "At the end of 1972, Tamil Nadu was estimated to have had 55 per cent of all the electric irrigation pumps in India, and since North Arcot was then estimated to have had 18 per cent of all the electric pumpsets of Tamil Nadu, it appears that the district probably had 10 per cent of all the electric pumps of India at that time. Largely as a result of the expansion of ground water irrigation, the district has become one of the four districts of the State which produces surplus

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52. 'SC Orders closure of 163 tanneries', *The Hindu*, New Delhi, 9 September 1995.

rice."[53]

In 1980, North Arcot was recognised as one of the top districts in the country, ranking seventh in groundnut production, eleventh in sugarcane cultivation and thirteenth in banana production.[54]

With widespread pollution of the water sources - both surface and underground sources - agriculture has suffered, and North Arcot has lost its pre-eminent position as one of the most productive districts in India. The export performance of leather industry in Tamil Nadu is impressive, earning more than Rs 1694.08 crores in 1992-93 in foreign exchange.[55] But as Mr.Khaleelur Rahman, Chairman of Tamil Nadu Leather Development Corporation says, the Central Government has forced the industry to go in for environmentally hazardous chrome tanning by its export policy under which it fixed high targets for export of finished leather and finished leather products.[56] In the process, the people of North Arcot and Tamil Nadu have

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53. John Harris, 'Why Poor People Stay Poor in Rural South India', *Social Scientist*, vol.8, no.1, August 1979, pp. 27-28.

54. Census of India, 1981.

55. 'Export Potential and Performance', *The Economic Times*, New Delhi, 28 October 1993.

56. 'CET Plant Serving the Purpose', *The Hindu*, Coimbatore, 14 September 1993.

been forced to subordinate their needs to feed a global market and their local spatial environmental resources have been converted into resources and absorbed by the affluent society of the developed nations. The absorption of a locality's spatial environment to service global needs has despoiled the environment and led to redefining the society at the local level. Sennasamudram, a village in Wallajah Taluk was studied to see the changes which have occurred in society due to environmental pollution.

5.14 **SENNASAMUDRAM**

Sennasamudram is a village situated in the Wallajah taluk, about five kilometres away from the town of Wallajah and Seven kilometres from Ranipet -- the industrial town of Wallajah taluk. The village has an area of 538.48 hectares out of which the irrigated wet land is about 182 hectares and the dry land about 140 hectares and waste land, of about 216.09 hectares within which exists the village canals and tank, occupying about 212 hectares. The village has a total population of 2435 who are distributed among 479 households. Three brahmin and two Muslim families exist about three hundred vannier households; twenty-one households of Vallakudi Vellar and twenty-two households of Yadevas and ten households each of Shanai (toddy tappers) and jogi (pig rearers) belonging to scheduled tribe); three households of Archaryas; four households each of (barber)

and Vannan (dhobi) and about one hundred households of Adi-dravidars who form the scheduled castes.

The land ownership structure should point to the dominant caste status. A total of 403 persons hold land on individual basis or jointly through 840 pattas or land ownership deeds. With total cultivable land being 322 hectares, fragmentation of land is clear. But the biggest land owners were the brahmins who owned 80 acres out of which 20 acres were irrigated land. The second largest owners were two vanniar families who owned between them about 25 acres of mainly dry land. One single Vanniar held 6 acres of irrigated land. A scheduled caste man, a sheep rearer recently purchased 4 acres of wet land from a brahmin.

The brahmins were dominant in the village on account of being ritually pure and the major landowners. Presently only one brahmin family is still living in the village, and the rest have migrated. The brahmin land owners have sold their lands, on account of low yields due to pollution, to Vanniers and an scheduled caste person before moving out. The single brahmin family owns a rice mill and still retains their dominant caste status. The Vanniers are the numerically dominant caste group. Through fragmented holdings, they have control over the maximum village natural sources. Among the two Muslim families, one family

member is a school teacher and is respected highly. Among the rest of the caste group, land holdings are negligible and the scheduled castes are mostly labourers. Among the landowners only 86 persons are solely dependent on agriculture and the rest are involved in other kinds of employment also.

The village tank situated on the wasteland was the main source of irrigation. Supplementing this source, of which 57 were situated in irrigated land and 68 on the unirrigated land, The tank was at the tail end of the Ponne Anicut System and was connected to the Ponne anicut System by a *kudimaramat canal* or the canal dug by customery labour. The tank was dug up by the former Poligar or Chieftain of Kalahasti in 1583. Record of the origin of this village in its present location is found on a rock inscription. According to the North Arcot Gazeteer, a big rock on the verge of the Dusi village tank is covered with Tamil and Grantham characters which record land grants by Sri Raja Aavira Maharaja Raghuvira Raja in SS 1505. Buried in the soil of the bund is three stones bearing inscriptions probably stating the date of construction of the tank and its author - Venkatadri Naidu, Poligar of Kalahasti who named the tank Chennasamudram after his

father Chennappa Naidu.[57] Remains of an earlier village belonging to the Chola period is found in the fields close to the tank.

From Ranipet, where the tanneries are situated, the effluents let into the Ponne anicut system canal traversed through various villages and entered the Sennasamudram tank, after flowing through a distance of seven kilometres. By the late seventies, the crop yield in the village dropped dramatically that it became uneconomical to cultivate. Cultivation was abandoned altogether when the underground water systems feeding the 57 wells became contaminated. In order to survive the village had to shift occupations. The industrial boom of Ranipet led to urbanisation and expansion of the urban space at Wallajah, Arcot and Ranipet. The marginal and marginalised farmers now became quarry workers and brick layers. The agricultural labourers now forced to look outside went to work as construction labourers, quarry workers, in transport, etc., all marginalised professions. The problem of water pollution became progressively acute that drinking water, water for domestic purposes became totally unavailable. Cattle and sheep on which a good section of the village population now relied on for livelihood refuse

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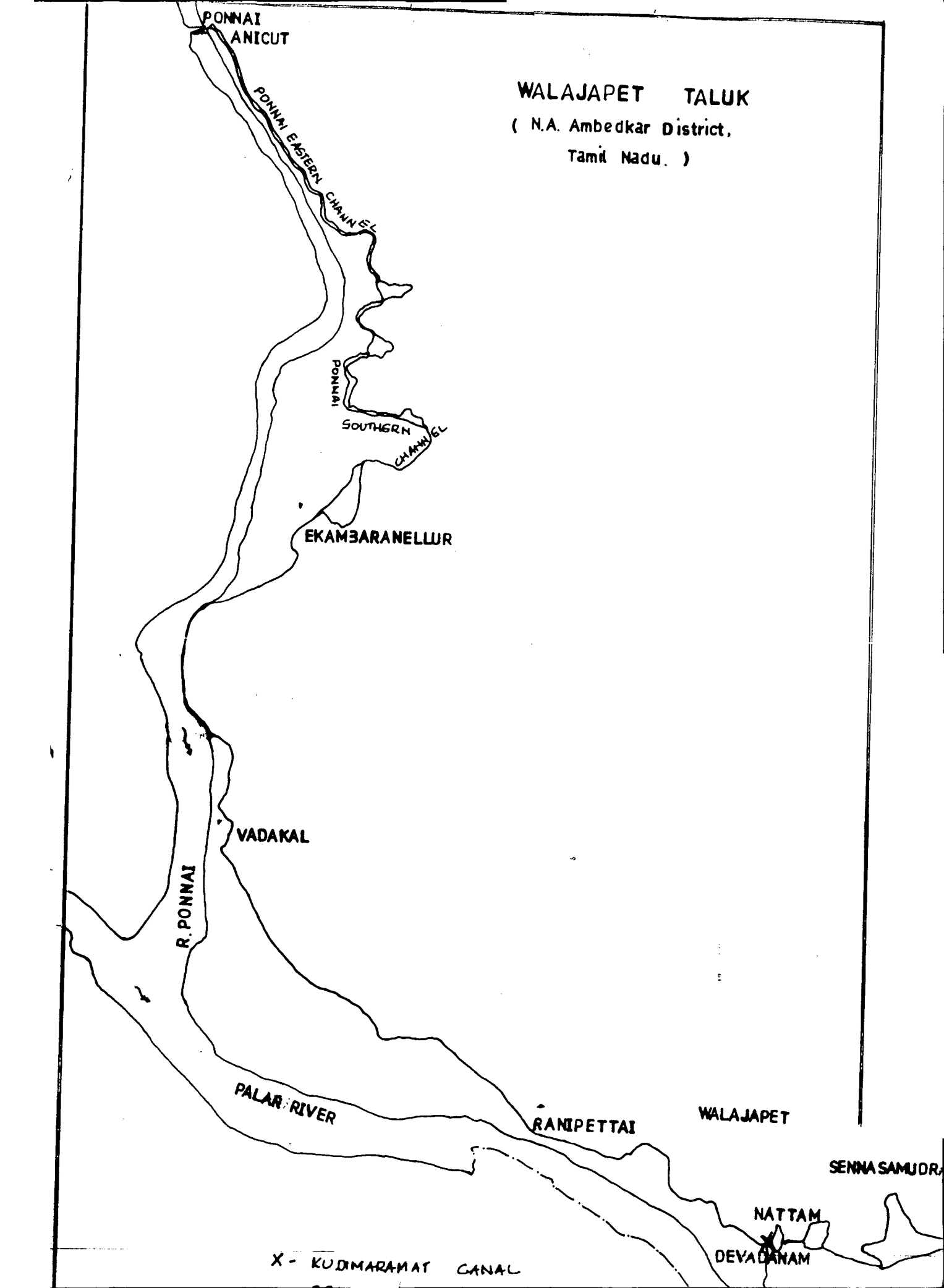
57. North Arcot Gazeteer, vol.II, Madras ,p.311.


PONNAI
ANICUT
WALAJAPET TALUK
(N.A. Ambedkar District,
Tamil Nadu.)
PONNAI EASTERN CHANNEL
PONNAI
SOUTHERN
CHANNEL
EKAMBARANELLUR
VADAKAL
R. PONNAI
PALAR RIVER
RANIPETTAI
WALAJAPET
SENNASAMUDR
NATTAM
DEVADANAM
X - KUDIMARAMAT CANAL

to drink the polluted water and even grass for animal consumption became scarce. People had to go to neighbouring villages to obtain their water supplies.

In 1984, the villagers' under the leadership of the Panchayat leader-- a dalit; the brahmin who was the former village officer (under the traditional system) and a Vanniar -- the dominant caste, organised themselves. Placing the village officials connected to the taluk office under guard, the populace numbering approximately 1500 boarded lorries, drove to the point where the Kudimaramat canal began, near a village called Devadanam and destroyed the canal carrying the effluent bearing water to the Sennasamudram tank (see map) . Although ten years have gone by the tank is yet to become free from the effects of the pollution and all the lands are yet to be brought under cultivation.

The destruction of the Kudimaramat Canal has caused greater problems. The effluent waters now diverted, flow into the Palar river course and enter the Mahendravadi channel, and the Kaveripakkam Channel, despoiling the tanks and land of many villages. Presently the villages of Vannivedu, Gudimallur, Thirumalaicheri, Thirupaikadal, Poondi, Thenkadappanthal, Sathambakkam, and Devadanam are totally or partially affected. The people having abandoned agriculture as fertile lands have become barren, now resort

to cutting up of the thorny scrub trees growing on their lands and from the nearby forests for sale as firewood.

5.15 **Redefinition of the Environment**

Degradation has also made the people of North Arcot district redefine the environment and natural sources of their villages. The village, as stated in chapter three is the place where feelings are structured and people seek to root themselves. With destruction of the environment and village sources the populace should be migrating. In some cases, particularly near Ambur and Vaniyambadi, individual migration has been reported. In Sennasamudram, the response of the brahmin community has been to sell the lands particularly the wet lands -- which were a symbol of status and a guarantee to certain wealth and migrate or start business. The cultivating castes have been reduced to being workers in quarries and construction industry. Quarrying and construction industry directly contribute to degrading of the environment. The top soil is usually lost and the gentle slope of the land disappears as more pits appear, pock marking the land. Forced to cut trees for sustaining themselves, the land becomes denuded and trees lose their natural value as exchange value dominates. Although pressurised to change their environment, the people of Sennasamudram have attempted to re-establish their original human - environment relation by destroying

the canal. Now the tank deprived of the Ponne Anicut waters does not fill up. The limited catchment area it possesses is not sufficient to irrigate the wet lands of the village. Inspite of a decade passing by the soil and water sources are yet to regenerate. The wet lands have lost their value, on the other hand, the dry lands have gained value as they still are relatively free from pollution and sustain the village population and cattle. Since the history of each individual is also linked to the village, the people of Sennasamudram consider their existential space as "defensive".

The tanners who are responsible for the situation defined the land surrounding their tanneries as valuable by degrading the surrounding land the tanners have been able to purchase them at low prices. Faced with protests, the tanners have resorted to letting the effluent Waters into the canals and river courses. For them, the Sennasamudram tank was an effluent storage reservoir. The Palar river has presently become a drainage where effluents can be dumped. Thus the tanners define their environment 'dispensible' as opposed to the villagers view of 'defensible'.

The State responded by defining the environment as degradable. After the destruction of the Kudimaramat canal, the state fostered cases in the leadership of the

movement in Sennasamudram. By pointing out that the Canal was built by the people by their customary labour, and that the people of Sennasamudram had the right to destroy it, the state was forced to withdraw its case.

5.16 **STATE AND ENVIRONMENT MANAGEMENT IN INDIA**

India is one of the few countries in the developing world which has enacted a large body of environmental laws. The concern and awareness of environment was expressed as early as 1853, when the Shore Nuisance (Bombay and Kolaba) Act was passed.[58] Immediately after the Stockholm Conference on Human Environment, in 1972, a National Committee on Environment Planning was constituted and later was upgraded as Department of Environment (DOE) under the direct charge of the Prime Minister. But the DOE was greatly handicapped as it lacked authority and faced many jurisdictional problems. In 1985, the DOE was further upgraded to Ministry of Environment under the charge of a Minister of State. The Minister for Environment on taking charge reported that there were about 4000 polluting industries of which only 200 had installed effluent treatment plants.[59] By 1985, the issues of environment became a serious concern that eighteen out of the

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58. John McCormick, op.cit., p.160.

59. Ibid., p.161.

twenty-two states had enacted their own environmental laws and set up environment pollution control boards. Inspite of such institutional arrangements, the industries continue to degrade the environment as pollution control boards often collude with the industries, either refuse to release information (of the tests conducted) when sought by private and concerned citizens.

5.16.1 **LEGAL STATUS OF POLLUTION CONTROL:**

So far, in Tamil Nadu, there has been no comprehensive legislation for water pollution control. At present, for regulating pollution, recourse has to be taken to some stray provisions in the (Madras) Public Health Act 1939, the (Central) Factories Act 1948, and the (Madras) Factories Rules 1950.

Section 36 of the (Madras) Public Health Act states that no person shall put into any water-course: (a) any poisonous, noxious or polluting liquid proceeding from any manufacturer, (b) any solid refuse of any manufacturer or any other waste or putrid solid matter and (c) any solid or liquid sewage matter nor shall any person commit any nuisance in or in the neighbourhood of any water-course. The Act also states that whoever contravenes the above provisions shall be fined Rs.50/- and that continued contravention after the first conviction shall be punished with a fine of Rs.50/- each day.

Section 17 of the (Central) Factories Act 1948 stipulates that effective e arrangements shall be made in every factory for the disposal of effluents and the arrangements shall be approved by the authority prescribed by the State Government. By virtue of the powers conferred by the Central Act, the State Government has ruled, in Rule 17 of the (Madras) Factories Rules 1950, that prior approval of the arrangements for effluent disposal shall be obtained from the Public Health authorities and that such prior approval shall accompany applications for the location of factories. The State Public Health officials have been notified as additional inspectors for the purpose of inspection of factories in respect of effluent disposal arrangements. The penalty for improper effluent disposal arrangements, as for any other contravention of the Factories Act, has been fixed as three months' imprisonment or a fine upto Rs.500/- or both, and for continued contravention after the first conviction, the penalty has been fixed at Rs.75/- per day.

In Tamil Nadu, the tanning industry has been found to be a major polluter. Inspite of having specifically identified the leather industry as a major polluter, the State and Central Governments have been reluctant to impose severe sanctions in view of the foreign exchange earned by the industry. "Strangely pollution caused by tanneries has

never been on the agenda of any political party".[60] The Environment and Forest Minister, Mr.Z.R. Ansari, on a debate on Water (Prevention and Control of Pollution) Amendment Bill, in 1985, stated that, *entrepreneurs would be free to go ahead with their projects if decision was not reached by the Pollution Control Board to issue a no-objection certificate for the industrial projects within four months*..[61] This is clearly a statement which expresses the lack of political will to tackle environment problems. Similarly at the state level, the Tamil Nadu Minister in Charge of Pollution Control confessed at a News Conference that it was impossible to check pollution caused by growing industries.[62] In 1993, more than 150 cases were registered against tanneries (see Table) Under such circumstances, the people of North Arcot face a grim future.

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60. 'Pollution despite prosecution of 11 tanneries in Ranipet', *The Hindu*, Coimbatore , 4 April 1994.

61. 'Four-month time for anti-pollution boards to clear industrial projects', *The Hindu*, Madras, 6 September 1988.

62. *The Hindu*, Coimbatore , 21 April 1989.

Cases Registered by Type of Industry

Type of Industry	No. of Cases	Percentage
Chemical	179	20.0
Petroleum	4	0.4
Fertilizers	6	0.7
Tanneries	154	17.2
Paints and dyes	1	0.1
Medicines	12	1.3
Foods	29	3.2
Other	508	56.8
Total	893	100.0

Source: M.S.Swaminathan in Anna Alvazzi del Trate and Jennifer Norberry (eds.), Environmental Crime, Sanctioning Strategies and Sustainable Development, United Nations Inter-regional Crime and Justice Research Institute and Australian Institute of Criminology, publication No.50, Rome/Canbedrra, 1993, p.326.

5.17 Conclusion

The leather industry is an export oriented industry. By it very nature it promotes integration of places and natural resources of a region into a globally operative economic process. North Arcot was the most suitable place for the leather industry to be located on account of its environmental conditions. After independence the industry was actively promoted by the state, in order do serve its needs for foreign exchange. The emergence of environmental issues as a global concern has proved to be a boon for the leather industry but a bone for the local populace. The Stockholm Conference forced closure of the tanneries in the

developed countries but opened the floodgates for degradation of environment through promotion of the industry in third world countries. The industry has caused problems like depletion of water sources, problems of access to water, destruction of forests and soils, in North Arcot and put the people into hardships., by destroying the causing capacity of the environment. The massive extent of degradation has naturally led to destruction of opportunities for sustainable livelihood in North Arcot. But the people not willing to accept this, have contested and have attempted to redefine their environment.

CONCLUSION

This thesis is a study of displacement — both at social level and at physical level. The concept *displacement* when combined with environmental degradation signifies that people are displaced from physical spatial location. The concept *DIS-PLACE-MENT* inheres the notion of *place* and *placement* of communities in space. Without being placed in a spatial area communities cannot be displaced. Moreover, the process of placement of people is a process of cultural negotiation with nature and space, for transformation of space into place.

Physical placement of people in space occurred at a historic period, when humans became food — gatherers. Food gathering was an activity which caused temporary placement, in a particular spatial location. Food gathering, a more reliable means of survival, also necessitated development of storage technology as the food could not be consumed immediately. With development of storage pits, humans began to lead a sedentary life. The sedentary life brought humans closer to the surrounding nature. Studying natural forms and plant life reproduction, humans slowly acquired the knowledge and practice of agriculture. Agriculture to flourish requires certain natural conditions and organisation of spatial nature. Nature when modified to secure conditions favourable to agriculture becomes

environment. Creation of environment was made possible by using technology and the early human used stone axes and fire to clear a space within Nature. Regular practice of agriculture secured the food needs and population began expanding. Population growth being a dynamic feature, it caused pressures within the settlements to move and colonise more space Thus agricultural practices and settlements began to spread to various other spatial locations. Domestication of animals also happened when man began to lead a sedentary life and animals provided energy and participated in the technological advancement to make agriculture a more successful endeavour.

Nature does not exhibit same characteristics at all points of space in the earth. it can occur as a mountain, plain, grassland, forest, desert, ocean, lake, etc., at different spatial points. In a given spatial area, a particular feature of Nature remain dominant. This made negotiation with Nature a completely different process and cultures distinct to each location arose in course of time. Perception of Nature and cognitive systems regarding Nature, developed around the dominant feature exhibited by Nature at a particular area. On account of this, the process of transformation of Nature varied with different cultures and people. Accompanying this process was the variation in economic activities, religious systems and culture features. This variation of Nature and the

resultant definition of society has been explained with regard to the South Indian Tamil Society.

South India and particularly in the semi arid tracts of Tamil speaking areas, the natural features are vastly different. There are plains, mountains, desert, a long coastal area, and forests. The early Tamil culture speaks of the cultures which prevailed in each of the unique areas as *Tinai*. The mountain areas and the culture which evolved there was known as *kurinji* and the people were given the appellation *kuravar*. The coastal tracts spawned a cultural group of people called *parathavar* while the ecological region was called *neythal*. *Mullai* was the forest areas and was inhabited by *itaiyars* and *aayers*. The desert region was called *paalai* while the inhabitants were called *maravars* and in the riverine plains and the delta region was the *marutham*, peopled by the *uzlavars*. In each of these ecological regions a unique culture arose where the gods, economic activities, cultural forms, practices etc. became peculiar to that specific region. Each ecological cultural region was the cosmic world for the gods. The people considering themselves to be part of the Nature organised themselves, their settlements and activities in a manner that bespoke of their total identification with Nature. Furthermore, Nature was perceived as female and a one-to-one relationship with Nature was the highlight of the *Tinai* concept.

The *tinai* lost its relevance when the *marutham* region became a dominant force in the Tamil society. The *marutham* or the delta and plain region contained within it the forces of change. Possessing river waters and land suitable for agriculture, unlike other regions, in *marutham* soon there arose social differentiation with one group possessing land and the other functioning as labourers. Organisation of society, in this fashion occurred due to two factors — population increase and scarcity of irrigatable land. Population increase put pressure on the natural sources on which the society depended upon and a social organisation which resulted saw the emergence of two social classes. The initial pressure of population also brought changes in technology, whereby more land was brought under cultivation. This technological change is a crucial factor in reorganisation of the ancient *Tamizlagam*, as it paved the way for territorial expansion and the *mullai* or forest region was secured. *Mullai* was the only other region which possessed water sources in form of the river and streams. Domination of *mullai* demanded a particular type of orientation which is the territorial orientation. This orientation, a result of social organisation of society into classes and the emergence of political elites in form of chieftains, not only became the vehicle for colonisation of Nature but also the decisive

element regarding allocation and use of space.

Coinciding with the emergence of territorial orientation and kingdoms is the arrival of the Aryan groups, particularly the Brahmins into the Tamil Dravidian society. The Brahmins prevailed on the Tamil society and social organisation in terms of caste took roots. The principle of organisation of caste structure is the notion of purity – impurity. The marrying of this principle of purity – impurity with the territorial orientation gave rise to a new type of organisation of space. The caste ideology was 'projected' into space at macro-level and at micro-level while organising it. By this time, the village had emerged as the *Place*, and the principle of social segregation determined the placement of people at micro spatial level. Residential locations and ownership of land reflected this principle of segregation. Moreover the environment of the village comprising of the Nature sources of subsistance were also symbolised and organised on the same principles. The irrigated land because of its proximity to the water sources — the village tank, symbolised *purity* as water was a purifying element. The unirrigated land was *impure* and the waste land was the *polluted*. Access to common property sources also was based on these very same principles with the untouchable getting to enjoy the wastes and the impure service castes having accessibility to the unirrigated cultivable land. At

macro-level places came to be organised and arranged on the basis of economic activities. People engaged in specific activities were located at particular points in space and permitted access to certain resources which helped them to become dominant numerically and socially in those territorial locations. Thus places at macro-spatial level broadly reflected the caste structure of the feudal Tamil society.

The modern period brought substantial changes to places and by extension to placement of people in space and society. The colonial economy being outwardly directed strove to integrate places and bring the natural sources in villages under a centralized authority. Development of communication facilities and transport systems aided the process of integration. Bringing natural sources under a central authority is the process of conversion of a natural source into a resource. The natural source so far sustainably used were now subjected to market forces, exchange values and became a commodity. The colonialism sprawled by capitalism, promoted commodification and conversion of natural sources to resources, because only having access to resources to manufacture commodities capitalism could flourish. The outwardly directed colonial economy had to provide commodities for exchange at London, therefore only those commodities in demand were to manufactured. For manufacturing capital, labour and raw

materials were assembled at points in space called central places. These central places connected to all villages were the integrative element in the colonial economy.

Independence brought no change in the outward direction of organisation of economy. Under the guise of development integration of places and the process of conversion of local environmental sources into resource continued unabated. As places become more and more enmeshed into the national centralised economy which in turn was connected to the global economic system, changes occurred at local levels. Losing the control of the local sustainable environment, many of the local communities lost their livelihood and joined the 'reserve army of labour'. The increasing integration of national economy into global placed such demands that the local environment was used to fulfill those demands. Thus local natural sources became resources to meet the needs not of the local communities but those at distant places. The leather industry became one such instrument in serving the needs of the people creating global demands. To meet the increasing demands, the leather industry was forced to adopt certain technology by the state. This technology generated effluents harmful to the environment particularly the water sources that the carrying capacity of the environment was destroyed. Destruction of the carrying capacity of local environmental sources affected the livelihood of a large populance and

thus displacement occurred socially and physically. The local population having a sense of place which structured their identification with place protested and have forced the state to take measures to resolve the environmental crises by putting up effluent treatment plants. But the effluent treatment plants have not proved to be a great success.

Article 21 of the Indian constitution guarantees the fundamental *right to life and personal liberty*. Implicit is *the right to a living environment*. Therefore any action which violates this right can be deemed to be an infringement of Article 21 of the constitution. But the state through its policies has been infringing this 'right to a living environment'. *An outward directed economy necessarily infringes the right to life and personal liberty by redirecting the use of local environmental sources*. As long as the national economy is a part of the capitalist mode of production it becomes impossible to sustainably develop. For capitalism continually seeks to integrate places as it searches for new markets and newer sources of raw materials. Land, water and other sources are limited and can support only certain levels of population. Demands which exceed the limits of the environment to support and economic practices which grievously harm the regenerative capacity of the environment, are present only because of the integration of

the local environment into national and global markets. Therefore, decentralisation of the control over environment can produce results as the local community possessing better knowledge of the local natural sources, would be able to put the environment into better and sustainable use for they know their own priorities. But at the same time the state will have to guarantee equal access to resources to all classes and castes in society.

APPENDIX I

From:
M/s M.R.Ramanan,
P.S.Subramanian,
Advocates,
'A' Panel Lawyers,
N.A. Dt.Committee for Legal Aid &
Advice,
Vellore, N.A. Dt.

Vellore
Dated: 18.2.1985.

To

The President
North Arcot District
Committee for Legal Aid & Advice
Fort,
Vellore, N.A. Dt.

Respected Sir,

Sub:- Tannery Effluents posing great Hazard to the health and well being of the people in and around Ambur - Study of the problems - visit of the areas affected - submission of Report - Regarding.

Ref:- Letter requesting us to visit Ambur and other places to Study the Health Hazard created by Tannery effluents in Ambur and nearby areas received from the Legal Aid Committee - Letter of Tamil Nadu State Legal Aid and Advice Board dated 10.12.1984 - bearing No.7106/84.

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1. We were requested to visit Ambur Town and the nearby areas to ascertain the extent of health hazard created by the effluents of the tanneries in and around Ambur Town and submit our Report to enable the Legal Aid and Advice Board of Tamil Nadu to take prompt steps for effective control if not in the total eradication of this most vital issue affecting and lakhs of innocent but helpless human lives, which has been in existence to the knowledge of both the State and Central Governments for more than three decades.

2. We visited Ambur and the villages nearby. We met the Officer-in-Charger (Judicial II Class Magistrate) Legal Aid Centre, Ambur after due earlier intimation to him. We were able to meet the residents of different villages in around Ambur. The Officer-in-Charge of Legal Aid Centre, Ambur and his staff evinced good interest in the subject and rendered us the required assistance and guidance.

3. We were able to find out that the residents of Ambur and the villages adjacent to it have been making several representations to the Government in the Centre and the State for the past several years pointing out the difficulties faced by the evil effects of the effluents from the tanneries. All sorts of promises at different times and levels were given to the people to keep them dreaming of a

pollution free drinkable water and a good and habitable environment in the heart of the town and the villages surrounding the same. It is an endeavour here to force the attention on the agitations already made by the public including the press which might show the enormity of the problem.

4. Statistics:- We visited some of the villages affected by the effluents from the tanneries. Between Vaniambadi viz. Ambur, Balur and Paroambut there will be on a modest estimate, 150 tanneries along the banks of `Godder'and `Palar' rivers. It is said that Ambur accounts for about 60% of the total production of Leather of different varieties in the whole of India and that the daily rate of production of leathers and crossed 200 tonnes per day. About 200 villages around Ambur are affected. It is seen that to process one kilo of leather, a minimum of 35 to 40 litres of chloride free water is required as per the Deport of the Central Leather Research Institute for 1981. As per the Technical Report dated 28.5.1983, of the Hydrological investigations carried out in Solur village near Ambur it was noticed that 176 chemicals including acids were contained in the Tannery effluents. If 40 litres of water with chemicals are required for one kilo of Leather, with the production of 200 tons of Leather per day at present and likely

to be increased multifold in the next four to five years with the springing up of more tanneries like mushroom in and around Ambur Town, the magnitude of the effluent water used with chemicals and acids let out daily can be shockingly imagined.

5. Dangers faced by Human and animal lives:- The effluents are let out from the tanneries to the nearby lands, then to Goddar and Palar rivers. The lands, the rivulets and the river receive the effluents containing toxic chemicals and acids. The subsoil water is polluted ultimately affecting not only arable lands, wells used for agriculture but also drinking water well.s The entire Ambur Town and the villages situated nearby do not have good drinking water. Some of the influential and rich people are able to get drinking water from a far off place connected by a few pipes. During rainy days and floods, the chemicals deposited into the rivers and lands spread out quickly to other lands. The effluents thus let out, affect cultivation, either crops do not come up at all or if produced, the yield is reduced abnormally too low. The Chief Water Analyst of the Department of Water and Sewerage submitted his report dated 19.5.1984 to the District Health Officer, Vellore after analysis of samples of drinking water collected from Ambur Municipal Water Supply and Storage Department. In it,

it is said that "Bacteriologically the samples are of the satisfactory quality, chemically it is highly mineralised excessively hard and shows high figures for chlorides content. Unless the Tannery effluent discharges on the upstream is controlled, determination in the chemical quality will continue making the water unfit for the protested water supply".

6. We travelled from Alankuppam, Solur, Ambur, Thutnipattu Chinnavarigam, Oomerabad, Madhanapalli to Masigam village. There is considerable concentration of Tanneries along this route flanked on either sides of the road leading upto Pernambut. The stink emanating throughout was highly nauseating with an unbearable experience of mental and physical torture. From the residents of these places, we learnt from our interview with some of them that they got tired of their unheaded representations to the Government and other voluntary Welfare agencies and subjected themselves to the destiny to decide their fate.

7. In a paper of the community action for Development, a service organisation registered under the Societies Registration Act, 1890 at the First Workshop on peoples participation in Environment Management organised by the Indian Institute of Management, New Delhi, held during 16.4.1984 and 2.5.1984 it has been

submitted interalia as follows: "Though it is reported there are a lot of known and unknown health disorders noticed in all the people of the area on account of water pollution, there has been no indepth study either by the Government or non-government groups. The curiosity action For Development has been actively involved in conducting surveys and small studies, using doctor member, only symptomatic compilation of the disease pattern was possible, due to lack of facilities. The most interesting and shocking information is the reporting of a new diarrhea called 'milk diarrhea' which has been recorded by the Government Hospital in Ambur which could be due to chemical contamination of the breast milk". We met the Chairman, Mr.Narayanamurthy, an young graduate having made a good study of this subject and who was able to get the help of some of the organisations in Germany and other countries for making a study on this problem. He himself visited Germany and later led agitations with the help of the local people to attract the attention of the Government but without success. We m,et members of other people in other areas and ascertained their views.

8. Newspaper coverage. The far reaching representations of the tannery effluents in these areas have been highlighted from time to time for past over a decade

or more. Some of the available paper cuttings are enclosed with this report.

9. Suggestions:- The Tanners have come to stay. The Industry is a Foreign Exchange earner. But one moot point is whether at the cost of the lives of lakhs of people with increasing human population, the activities of the tanneries should be encouraged on monetary considerations. We find that the tanners have absolutely no regard for the healthy environment in and around their tanneries. The effluents discharged have been stored like a pond openly in the most of the places adjacent to cultivable lands with easy access for the animals and the people. The Ambur Municipality, which can exercise its powers as per the provisions of the Madras District Municipalities Act (1920) more particularly under Sections 226 to 231, 249 to 253 and 338 to342 seems to be a silent spectator probably it does not want to antagonise the highly influential and stupendously rich tanners. The powers given under Section 63 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) have not been exercised in the case of tanneries in Ambur and the surrounding areas. The amendment passed in 29.1.1981 under this Section to the rules framed under Water (Prevention and Control of Pollution) Rules, 1975 is seen to be intended for collection of nominal

fees under several; headings for the consumption and use of good water for the discharge of "Sewage or trade effluent into a stream or well or sewer or on land under Section 26 of the Act" than for seriously enforcing the provisions for the safety and well being of the community at large and the prevention of environment pollution.

10. These are separate autonomous Boards constituted under the Acts which could tackle the problem effectively, given of course, the will to do. In "The Hindu" dated 4.2.1985 under the caption "TALCO-tanners" plan treatment plant" it is reported that the Tamil Nadu Leather Development Corporation (TALCO) has taken the initiative to float a joint Sector Company to set up a common effluent treatment plant for tannery units and the estimated costs of a plant proposed to be set up at Vaniambadi, a Town in North Arcot District and only 20 kilometres away from Ambur was Rs.2/- crores and the equity component would be Rs.67 lakhs and the debt component Rs.133/- lakhs. The TALCO, it seems have proposed to invest Rs.17.5 lakhs and ask the tanners to provide 16.8 lakhs. The tanners of Ambur are not governed by this proposed move of TALCO. How far the above proportions is workable in reality, instead of enforcing the provisions of law on this vital known problem is anybody's guess. The tanners of Ambur have

not so far set up treatment plants for the discharged effluents from tanneries but on the other hand, shielding under the cover of protection provided by vested interests legislators and other bodies in their regard, have been successfully getting in time stipulated by the Government extended from time to time. How far an action under section 133 Criminal Procedure Code fruitful is at any rate, not thought of the affected parties, fearing probably, the laws delays in Courts and to choose the person to bell the cat. A public interest litigation in the Form of Writ Petition Against the tanners for letting out the discharge of untreated tannery effluents and against the Government for implementing the provisions of the Water as well as Air (Prevention and Pollution) Acts as to save the public from the Health Hazards may be thought of as a first step. After all the tannery effluent discharge continues with the Governments' licences to the Tanneries.

11. Conclusion:- We have only attempted a cursory study of the subject being freshers. We would have made an indepth study if sufficient time was given to us. Within the time of about 1-1/2 months given to us. We were able to gather material mentioned above and it will be seen that they would themselves call for an immediate action on the part of the Legal Aid Board to

do the needful in this connection to save the lakhs of people affected by this. We are enclosing the materials we collected during our three trips to the area where we met and talked to several people. The statements recorded are also enclosed.

Vellore, N.A.Dt
18.2.1985.

Sd/-P.S.Subrahmaniam.
M.R.Ramanan
Advocates, A. Panel

Lawyes, N.A.Dt.Committee

for Legal Aid & Advice.

True Copy

Sd/-xxxx
Advocate.

Sd/-
Panel Member
Legal Aid Committee.

APPENDIX II

DEPARTMENT OF AGRICULTURE

From: Thiru G.Mutharasan,B.Sc.(Agri)
Asst.Agriculture Officer
Farmer's Training Centre
Navalak, (Via) Ranipet
North Arcot, PIN 632 404.

To: Thiru M.Venkatgesan
Farmer's Research
Council Coordinator
Thenkadapanthangal
Vilage & Post
Wallajah (Tk) mN.A.Dt.

Na.Ka. N.P.C85/82 Dated 15.8.82.

Sir,

Subject: Agriculture - Farmers Training Centre, Navlak - meeting held on 8.6.82 of District Coordination Committee and the action taken - Resolution No.13 and further action, Passing of Information - in this regard.

Refer: - This office letter No.Na.Ka.P.885/82. Dated 19.6.82.

In the above mentioned letter, with regard to the petition made by you and the subsequent action you are requested to meet the concerned government officials. You had requested to solve the effluent problem arising out of the Ranipet Leather Industry, in Resolution No.13. In this regard the District Development Officer, Ranipet submitted a detailed report to the district Collector in his letter No. E 1/9133/82 dated 30.7.82. The contents of the letter by the District development officer reads, that he has visited the canals through which the Ranipet Leather Factory wastes or effluents pass through and the areas

which gets affected. Also, he has mentioned that the effluents pass through four canals to Pinji village and gets stagnated in the Sadai tank situated in Porumboke land of Survey No.76 in the village and from there, through three canals it passes through the fertile and porumboke lands, crosses Pinji roads to mingle in Poondi Senna Samuthram tanks. Moreover, he has mentioned that the effluents which comes in between the Madras-Bangalore highways and the old Pinji village road also the effluents coming from the leather industries situated in between Wallajah-Pinji road and the new Madras Krishnagiri National highways and also the effluents from the leather industry nearby newly laid Bangalore-Krishnagiri by pass road gets mingled together. Later on to mix with the rainwater, thereby getting into the fertile lands causing heavy damage.

Further, he has made a mentioned that the Sadai tank in Pinji village survey No.76 comprises around 7.36 acres and the effluent from the tank through old Wallajah Pinji salai and Bangalore-Krishnagiri Criss-cross salai towards the canal in which the rain water gets drained thereby mingling and spoiling the fertile land. Further to put an end to this,

Action 1 - Re ovating the Sadai Tank, deepening the tank's capacity;

Action 2 - The industries located in the western side of the Madras-Chittar-Bangalore National highways, and the effluents coming from the industries in the Southern and Northern side must be stopped at a vantage point and through cement pipes or by stone built canals can be diverted to Sadai tank itself so that the effluents get vapourised and fertile lands gets protected..tb .50"

Canal building can be done by Wallajah Panchayat union under the National Rural Development Scheme. The expenses for action No.1` can be got from the owners of the industries according to their production. For this the district Collector has recommended that a meeting can be arranged with owners of the industries, District Health officers and other Officers related to the issue, where it can be discussed and conclusions can be drawn. He has attached the map for the proposed Plan, so I request you to get in contact with Commissioner, Wallajah Panchayat Union and duly make us known the steps have been taken.

Sd/ G.Mutharasan
Asst.Agricultural Officer

Copy to:- Dist.Development Officer
Ranipet, N.A. district. For information

'Copy:- Commissioner, Panchayat Union'
Wallajah, For further action.

/By Order/

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