Abstract

Vocational interest is a developmental process and it spans almost throughout a person’s lifetime. Vocational interest leads to different choices, which starts from primary school. In the wake of industrialization and globalization the world of vocation interest has grown very complex. The major objectives of the study were to find out the difference between Vocational Interest and socio-economic status, gender, type of school of secondary school students. The sample consists of 140 students and the tools used for the study were Vocational Interest inventory and Socio Economic Status Scale. The result of the study reveals that there is significance difference between Gender and Socio Economic Status with regard to Vocational Interest. There is no significant difference between type of school with regard to Vocational Interest.

Key Words:

Vocational interest, Socio Economic Status, Type of school

Introduction

Vocational interest is a developmental process and it spans almost through out a person’s lifetime. Vocational interest leads to different choices, which starts from primary school. Thinking about vocation during the secondary stage is natural. The term vocational education is used to mean the education that should prepare persons to work more efficiently. Efficient vocational education implies specific education and training in the usable knowledge, skills and competencies for the occupation in question. The Secondary Education Commission (1952-53) suggested that
multipurpose school should be started to provide varied courses of interest to students with diverse aims, aptitudes and abilities. It recommended the introduction of diversified courses of instruction for the pupils. The diversified courses should begin in the second year of high school or the higher secondary stage.

According to Kothari Commission Report (1964-66) recommended diversification of courses after 10th grade the fact that general courses to be studied to be universally followed without any consideration for the individual psychological considerations neither possible nor desirable. The New Educational Policy (1986) suggested that the school and community should be brought closer through suitable programmes of mutual service and support. Work experience and national service including participation in meaningful and challenging programmes of community service and national reconstruction should accordingly become an integral part of education.

Okon (2001) stated that vocational development of youths and the preparation and guidance they receive for the world of work should be of interest to all of us. We are convinced that a better job of career guidance in our schools will help to solve some of the problems of alienation and relevance which face the school today. Egbochuku and Alika, (2008) reported that there is a significant relationship between socio-economic status and vocational interest on re-entry of girls into school. Socio Economic Status generates vocational interest more than any other factor. Logically it can be argued that attitude and interest are more or less dependent on the socio-economic background.

There are number of vocations in our country and the world. That can be classified into broad areas such as Medical, Engineering, IT, Teaching, Armed forces, Nursing, Clerical jobs, Business etc. The vocations in one area differ from those in others in respect of the abilities and life skills needed to achieve success in them. The secondary school students prefer only few of the many vocations about which they have some knowledge. This is known as the vocational interest.

The phenomenon of vocational interest of students is of immense significance to them and their parents in particular and to the society in general. Creating vocational interest is an inevitable function of modern educational system. In the wake of industrialization and globalization the world of vocation has grown very complex. This study tried to identify mainly the vocational interest of secondary school students with reference to socio-economic status, gender and type of school. There are so many factors influencing the vocational interest of the students such as parents, teachers, peer group, community and different subjects studied etc.

**Objectives of the study:**

The present study was undertaken with the following objectives:

1. To find out the difference between Gender and Vocational Interest of secondary school students.
2. To find out the difference between Type of school and Vocational Interest of secondary school students.
3. To find out the difference between Socio Economic Status and Vocational Interest of secondary school students.

**Hypothesis:**

The following hypotheses were made for the study:

1. There is no significant difference between Vocational Interest of secondary school
2. There is no significant difference between Vocational Interest of secondary school students between Socio Economic Status.

**Methodology / Sample:**

The investigator selected Pathanamthitta district of Kerala as the field of study. The sample of 140 secondary students was selected through proportionate stratified random sampling technique. The present study was confined to 10th class students of four schools in Pathanamthitta District.

**Tools & Statistical Techniques used:**

To collect data regarding Vocational Interest Inventory (Gopalan N.P & Vedamani N) and Socio Economic Status Scale (A.S. Nair modified by the investigator) were used. Based on the realization of objectives and hypotheses and to generalize the results the mean, t-test and F-test were used.

**Analysis:**

This section deals with the details of statistical analysis and its results. The mean and standard deviation for Vocational Interest and Socio Economic Status of sample were calculated separately for Gender, Type of school and Socio Economic Status. Results and interpretations are given in the following tables:

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Levene’s test for Equality of Variance</th>
<th>Test for Equality of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Boys</td>
<td>65</td>
<td>42.92</td>
<td>13.686</td>
<td>0.006</td>
<td>0.951</td>
</tr>
<tr>
<td>Girls</td>
<td>75</td>
<td>40.77</td>
<td>13.638</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
<td>41.98</td>
<td>13.708</td>
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<td></td>
</tr>
</tbody>
</table>

**Table. 1: t-test to test the significance of difference in Vocational Interest with respect to Gender**

The mean value shows in Vocational Interest, the mean for boys students was 42.92 which was low compared to Girls students 40.77. The Levene’s test of equality of variance was not significant (sig. = .951). The t-test shows there is significant difference (sig. = .021) in between Boys school and Girls school students at 5% level of significance with regard to Vocational Interest.
The mean value of Vocational Interest in Government school student was 13.91 with standard deviation 7.86, and for the Aided school students they were 14.28 and 7.07 respectively. The t-test shows t-value obtained for the effect of Vocational Interest on Type of school was 0.553. It was evident from the table that there is no significant difference in Vocational Interest among Government School and Aided School students at 5% level of significance.

<table>
<thead>
<tr>
<th>Type of School</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Levene’s test for Equality of Variance</th>
<th>Test for Equality of Mean</th>
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</thead>
<tbody>
<tr>
<td>Govt.</td>
<td>70</td>
<td>13.91</td>
<td>7.86</td>
<td>1.570</td>
<td>0.187</td>
</tr>
<tr>
<td>Aided</td>
<td>70</td>
<td>14.28</td>
<td>7.07</td>
<td></td>
<td>0.368</td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
<td>14.09</td>
<td>7.76</td>
<td></td>
<td>0.726</td>
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</table>

Table. 2 : t-test to test the significance of difference in Vocational Interest with respect to type of school

The mean value of Vocational Interest in Government school student was 13.91 with standard deviation 7.86, and for the Aided school students they were 14.28 and 7.07 respectively. The t-test shows t-value obtained for the effect of Vocational Interest on Type of school was 0.553. It was evident from the table that there is no significant difference in Vocational Interest among Government School and Aided School students at 5% level of significance.

<table>
<thead>
<tr>
<th>Socio Economic Status</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>35</td>
<td>22.88</td>
<td>7.09</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>65</td>
<td>27.03</td>
<td>9.94</td>
<td>25.632</td>
</tr>
<tr>
<td>Low</td>
<td>40</td>
<td>21.03</td>
<td>7.40</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
<td>22.80</td>
<td>7.85</td>
<td></td>
</tr>
</tbody>
</table>

Table. 3: ANOVA to test the significance of difference in Vocational Interest with respect to Socio Economic Status

The mean value of Vocational Interest in high socio-economic status students is 22.88 with standard deviation 7.09, for Medium group students they are 27.03 and 9.94 respectively and in low group students 21.03 in the mean and 7.40 in the standard deviation. The ANOVA shows F-value obtained for the effect of Vocational Interest components on socio-economic status is 25.632. This shows there is significant difference in Vocational Interest among high, medium and low group students at 1% level of significance.
Findings:
1. There is significance difference between Boys and Girls students with regard to Vocational Interest.
2. There is no significant difference between Government school students and Aided school students with regard to Vocational Interest. Aided school students have high Vocational Interest than government school students.
3. There is significant difference between socio economic status and Vocational Interest of students. Students from medium Socio economic level have high Vocational Interest than low and high status students.

Results and Discussion:
The major findings of the study revealed that there is significant difference between boys and girls with respect to Vocational Interest and found that boys are more interested in IT and Defense sectors whereas girls are more interested in opting Medical profession, Nursing and Teaching. Socioeconomic status also influenced by the vocational interest. In high group socio economic status family students are more interested to go abroad for highly paid jobs but at the same time medium and low status students are comparatively less interested to go abroad.

The government school boys are more interested Defense and Police profession at the same time girls are interested in Teaching and Nursing profession. In the case of aided school boys are interested in IT sector and girls are interested in Medical profession. The parents must not force their children to choose a vocation. The students must guide to choose a vocation considering their on ability, intelligence, capacity aptitude and interest.

It is recommended therefore, that vocational counseling should be provided in schools, counseling services should be provided for students who are enrolled in schools and for girls who are at risk of dropping out of school with a view to ensuring that they get well adjusted in the school systems.

In the present day situation, general education and vocational education are given in common platforms, the next step in the vocational interest planning process is to locate information about various vocations, because vocations are rapidly changing, it is important to locate current services of information such as products and services, including publications, videos, and internet resources, social media, friends, family, teachers, co-workers etc. We must stress here that there is need for both parents and students to take vocational planning very seriously as this will determine whatever the child will become in future.

In spite of the major recommendations of the various commissions and observations made by various committees, the vocational nature of education in secondary stage were less importance by various governments in India, hitherto we finds it very hard to provide the people with an occupation which would help them to earn their living.
References:


Conflict with the Game:
‘Shikar’ and the
‘White’ Coloniser

High on hill the hunter stands
Feeling the blood leap through his veins;
He is a man who understands,
Little he cares for worldly gains.
It isn’t the thought of the game he’ll kill,
Tho’ to stalk the buck to the end he’ll strive;
What thrills him most as he stands on the hill
Is the glorious feeling of being alive
(from a high range folk song,
The Hunter)

Abstract:

Hunting is an exercise followed from the past by
the primitive communities and continuing till now in
many many parts of the world. But it was transformed
in to a blood sport by the European masters with their
advent. Earlier the adivasis practiced hunting to meet
their day today requirements and was part of their diet
but the same thing was institutionalized by the colonizer
and become a notion of domination. The result was
tremendous decrease of wildlife in the native forest.

Hunting was an activity that More’s fellow
Englishmen held to be so delicious and so expressive of
power, that it was reserved for the aristocracy, who spent
thousands of man hours every year riding through the
countryside on horseback in search of game.¹ The early
planters were keen hunters and destroyers of game. This
points to the essence of their enterprise as planters which
was to destroy the jungles and create plantations in its place.
They engaged in constant battle with nature to bridle and
tame it. The hunter by killing the game was asserting his
domination over the nature. The trophies that hang on the walls of the museums and clubs represent the force of destruction happened in the past.

The forest mountains of Travancore was very rich with wide variety of forest flora and fauna. Those hill and forest tracts afforded some of the best sport as elsewhere in India. In the words of some of the eminent white shikaris, it was the abode of ‘large game’. In the words of Samuel Mateer, the author of ‘Native Life in Travancore’, “the sportmen and the naturalist will find an endless variety in the fauna; elephants and tigers, for instance so numerous in some parts that the hillmen are obliged to build their huts on tops of trees - wild oxen and deers, monkeys crocodiles, snakes, birds, fishes and insects”. Thus from the early time hunting played a major role in the lives of the people of the high range. Animals were hunted by them for food and at the same time they were worshiped by them on the other side. But when the plantation industry spread through the jungles the nature of hunting changed and became a blood sport and shikkar became one of the main recreations of the planter. At the turn of the century shikar differed vastly and went on to some extent large scale slaughter. It was however considered as a ‘capital sport’.

The Physical Position of the Hill:

The highranges of North Travancore are situated on the southern boundary of the Coimbatore District, in the Madras Presidency, and are divided into the higher and the lower ranges; the latter, lying to the westward contain the famous teak forests; their average elevation is not more than 2,000 feet above the level of the sea, with peaks and ridges rising to 4 and 5,000 feet. The whole of the lower range, with the exception of a few bare and rocky peaks, is covered with dense forest containing much valuable timber; whereas the higher range lying to the eastward consists of extensive open grassy hills and valleys with shola forests similar to those on the Nilgirries and Pulnies, varying in elevation from 6,000 to 8,000 feet and upwards, above the sea level.

The range is only separated from the Pulnies, which lie to the eastward, by the valley of Ungenaad; this valley is not more than 12 or 15 miles across in a straight line; its western end is shut in by two blocks of well wooded mountains with plateaus on their summits forming a connecting link between the Annamullies and the Pulnies. The general trend of the Highlands is N.N.E. and S.S.W., the highest elevations being to the north-east and to the south, gradually decreasing in sloping undulating hills towards the west, excepting the Anaimudi mountain and its plateau; which is situated at the extreme south west end of the range.

Colonel Hamilton of Madras Army visted the hills in 1863 and he was so excited on seeing the area magnificent splendor this grand mountain, standing out alone as it does amongst smaller hills no doubt appears higher than it really is. Viewing it from several points, comparing it with Nilgherries, Hamilton was in the opinion that it is the most lofty on the Annamullay Range, and it may perhaps prove to be a rival even to Dodabetta, as considered the highest mountain south of the Himalayas he had ever visited. Hamilton was so excited and vividly describes the area like this;

“It is difficult to judge the superficial area of a mountain range with accuracy by the eye, but having walked over nearly, indeed, I may say, the whole of the Annamullay Plateau, I think I am not far wrong in estimating it to be between 80 and 100 square miles, but this includes a large tract situated in the Travancore territory. Ungenaad valley...the views from this mountain are the grandest and most extensive I have ever beheld; some of the precipices
are of stupen magnitude, and the charming variety of scenery, comprising undulating grassy
hills, wooded valleys, rocky crags, overhanging precipices, the green fields, in the valley of
Ungeenaad, the grand mass of the Pulnies beyond, and the blue ranges in the far distance,
present a view far beyond my power to describe, and which must be seen to be appreciated;
in a word, the scenery in the Annamullays is surpassingly grand, and incomparably beautiful;
on our way to the Kartu Mullay we disturbed several herds of ibex, which, as they bounded
amongst the crags and precipices, added greatly to the effect of the grand and wild features
of the country we were passing through.\textsuperscript{5}

Game Limits:

The northern boundary extends from the pyratamalai in the north east along the boundary
between Coimbatore and Travancore. Its eastern boundary between, Travancore and British India
as far as the pass from Mlappara to Shivagiri about 10 miles of south Kothamalai. Its southern
boundary starts from Shivagiri pass on the east, south west to the southern point of the paradise
plateau. The western boundary lies from north ward along the mountain plateau known as
Nallathannipara and round its edge to the western edge to the mount estate so along the edge of the
cliffs to Granby estate and north Amarthamed and Kolahalamedu and again northward along the
edge of the plateau as far as Nagarampara then to Munnar on the highrange including the land above
400 feet and running west of Anaimudi along the western edge of Hamilton’s plateau and across the
valley to Vyruthymallai.\textsuperscript{6}

Primitive Practices of Life in the Hills:

The different adivasi population uses different customs and practices in their day today life,
however there is some sort of homogeneity in their pattern. In one respect or another way respect
and worship the nature. For example some of the hill tribe, Malapantarams being in the hunting stage
of civilization. Dogs are their sole companion. The community performs ‘Samikumbidal’\textsuperscript{7} in case
they have to damage or hurt their mother nature. Muthuvan of the highrange use neither the pellet
bow, nor the plain bow, but some especially at Puyamkutty use the plain bow. The stave if the bow
is made of bamboo, and the arrow of the reed. The string is made of the fibre of ficus. Children are
taught the use of the bow and arrow by the elders from their tenth year. The Mannan and the Uralis
use the pellet bow and the muzzle loading gun. The chief weapons of the other tribes are the digging
spud and the bill-hook.\textsuperscript{8}

The adivasis are living inside the forest for many generations, doing small-scale agriculture
and gaming of wild animals. J. D Munro referred them as ‘a handsome race’.\textsuperscript{9} The Muthuvans were
expert hunters and were guide and companion to the European planters. They helped them to reach
into deep remote areas in the forest of high range. The Muthuvans always kept aloof from outsiders,
and were friendly to the Europeans. W.S.S Mackay in his Account notes the close relation. They
were appointed as the forest watchers and guides because of their instinctive knowledge of the
geography, flora and fauna of the forest. The English planters used the term ‘Old Shikari’ to denote
the Muthuvan. Old Shikari is an honorific term peculiar to India and used to describe an expert
hunter as well as a good all round man who played and worked hard.\textsuperscript{10}
The Mannans practiced independent cultivation, and work as agricultural laborers. They are also engaged in the collection and sale of hill produce like honey. Hunting is resorted by them in order to supplement their diet. The Pooliars appear not to be at all particular as to what they eat; flesh of all kinds of animals is greedily devoured, and rats are a very favourite dish amongst them; they have a most ingenious rat-trap made of a bamboo stuck upright and bent with a string like a bow with a clever arrangement of noose and catch near the ground, and placed in front of the rat hole. They also catch jungle fowl and other birds with this spring. From their propensity to falsehood it was difficult to obtain anything reliable regarding their customs. The Muduvar, they have no fixed habitations, or villages; but wander over the mountains with their cattle, erecting temporary huts, and seldom remaining more than a year at one place. They eat sambur, ibex, pig, but will not touch the bison.

The high ranges abound in ibex; every rocky crag and mountain has its herd, but they are exceedingly wild; both the Pooliars and Muthuvans have periodical hunts after the ibex, which accounts for their being so shy; their mode of operation is as follows; before the hunt takes place they erect barriers of stout bushes at various spots along the passes frequented by the ibex. At every ten or twelve feet along the barrier there is a weak spot composed of light twigs with a running nooze of rattan surrounding it, the other end of the rattan being firmly secured to a post fixed in the ground; having made these preparations, they proceed to drive the ibex towards the barriers shooting any they can get a chance at on the way. The ibex on being driven up to the barrier rush at the weak portions of it and are caught in the noozes, from which, owing to their curved horns, they cannot possibly extricate themselves, and are quickly dispatched by their pursuers. The Pooliars endeavoured to persuade that very few ibex were captured in this way, and that it was only the Moodoowars that hunted them; but from the numerous barriers, it is, a very successful method of catching them. Palliyers exists on the slopes of the hills and they are not shikaris as the Muthuvans are, and are inclined to keep themselves aloof. The community started using the gun only with the mingling of the modern community. It is worth noting that they never hunted tiger.

A Brief History of the Highrange Game Preservation

The Game Preservation Association came in to exists in 1914 and its Wild Life Preservation Association was organised by the Government in 1928. The Association loosely existed from 1918 onwards. The effective organisation of the Association took place in 1928. In these days two Muthuvans Mayandy and Raju were appointed as forest watchmen and guards throughout the concession territory and their duty was to check the illegal hunting. The Association members were made honorary honorary wardens in the entire forests of the High ranges. The whole district was divided in to shooting areas such as Karunnakulam (the Arivikad-Yellepatty range), Rajamallai, Eravikulam and Tertian’s plateau (the Kundaly Gundumally Range). In 1937 the records of the big game shot in the district for the season show, three tiger, four panther, three bison, seven sambur, three ibex etc. in 1952 Kerala Wild Life Advisory board was was organised under the Chairmanship of Sree Chitira Tirunal Raja of Travancore. In the board Highrange was represented by J. C Gauldsburry, son of the famous shikar of High range C. P Gauldsburry.

The beginning of the war in Europe decreased the hunting in the hills because of the shortage of the ammunition for sport and the departure of the keen Shikaris from the district. As a result illegal
hunting increased in the forest. The tiger was once plenty in the forest, now become rare. In 1970s
tiger was extreme rare in the high range and only occasional sightings were reported from the
Eravikulam sanctuary area. It was in 1961 that the Government of India first put forward a proposal
to take over the Rajamallai or the Eravikulam as a sanctuary. But the Game Association imposed
restrictions on the entry of the forest. Finally the Central Government declared the area as a National
Park in 1978. Mr. A.J.E Steven, W.S.S Mackay and Mr. J.C Gouldsbury took initiative for the wild
life conservation in the high range. Now the high range witnessed a change in their policy i.e. hunter
turned to conservationist. With the initiation of these people a total prohibition on shooting was
imposed by the Government throughout the country by the Wild Life Act in 1972.

Elephants were plenty in these hills. When the Pooneate concession was arranged with the
Mr. Munro by the Travancore state, strict restrictions were imposed on the capture of the Elephants.
However the rogue elephants always remained a headache for the planters. In the special cases
orders granted to capture the animal on the condition that, the planter should cede the ivory to the
Government and he may be allowed to take one; the other should be purchased from the Government
by giving its market value.

**Spread of Plantations at the Expense of wild Life**

From 1860 the remotest of the Travancore hill was opened to the plantation industry at first
for coffee and cinchona and then tea. This was a land mark in the history of the hunting in these virgin
land. Once the plantations started, the animals whose abord was taken by the planters and the
animals who lost their home and interfered with the daily life of the alien. Now the animals became
‘intruder’ or ‘rogue’. In early phase of planting in Munnar the planter rode a horse and used to
return from the club with a lantern tied on the stirrup praying he would not meet a tiger or wild
elephant on his way. These narratives were common in everyday life at the hills.

From 1880 plantation spread all over the Anjanadan valley as elsewhere in the district.
Turner partner of Concession with Munro, cleared some land in the bottom plains of Devimala
(Presently the Devikulam estate). Baron John Rosenberg and his son Baron were the earliest planters
in partnership with Gribble and H. M Knight, a Peermade planter who had an estate in the southern
boundary of concession, they began to develop the property which in time known as Lochart and
Manale. These estates soon passed in to the sole ownership of Von Rosenberg. Later the Lochart
estate was developed by his son. In 1890 the first tennis court in the hills was added.

By 1885 Turner brothers were engaged in opening land at the point where the outlet trade
of the plains of British India to the north crossed the boundary of the concession. This was to
become Talliar estate where the last coffee in the High range flourished on 700 acres. H. M Knight
acquired land in the centre of the district at Munnar and Chokanad and by 1881 was a senior
planter on the hill. The next two planters joined with him was A. H Sharp followed by C. Donovan.
They started west towards the jungles of Munnar. A.H Sharp opened Parvathy right in the middle at
the forest. Donovan made his camp close to the confluence of the three rivers where the present
Munnar township developed. E. J Fowler opened up Annamali Estate and in 1882 C.O Master and
C.W Claridge on Sothuparai. C. W Martin, a fellow of H. G Turners in the Madras Civil Service
along with his 18 years old nephew from Ireland, Aylmer Fulke Martin (Toby) came to open Chittuvurrai
in 1883. C.W.W Martin retired in few years but Martin remained in the hill for clearing new land for
others and himself after that.

N. Kindsley of Kundale estate came from Nilgiris in 1884 and planted cinchona. E. J Fowler left in 1892 after entrusting Mr. R. F Russell as the manager. E. J Martin came from Ceylon in 1895 was his brother who later pioneered in to Anamallais. Mr. Russell opened the Benmore estate in 1892 and developed cinchona and coffee mostly on Pallivasal, Munnar and Chatta Munnar, now a division of Talliar estate. Sisal plantation was done at Madupetty. A. W John, the earliest of the tea brokers in Colombo Who initially bought land in the society days, cleared Kallar area in 1893, which was taken up by his son C. H John who managed it for the Finlays in 1936. R. Graham came up as the assistant of H. M Knight in 1894 opened a new estate named Grahams land, the only estate named after the person who started it.

The available data on the decline of the wild animals is meager but the available records points to a large number. Leopards were the largest victim in the hunt and the tiger was on the next position. Between 1862 to 1883 the number of exterminated leopards numbered 1459. The total number of tiger killed was 221. By the year 1900 the diminishing trend continued and this time from 1901 to 1910 was 412. On an average, about 4700 animals were victims of the blood sport from 1863 to 1910. 

The period is quite noting that the spread of the plantations were doubled during this time. Coffee, cinchona and tea spread all over the highrange at the expense of the forest. The export of tea and coffee from Travancore witnessed a steady growth during these years;

<table>
<thead>
<tr>
<th>Year</th>
<th>Tea (in Value)</th>
<th>Coffee (in Value)</th>
</tr>
</thead>
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<td>112909</td>
</tr>
<tr>
<td>1895-96</td>
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<td>1903-04</td>
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</table>

**High Range Angling Association:**

Apart from hunting the European planters took keen interest in Angling. The high hills of the
High range is plentiful with reverine. In 1909 M. C Koechlin, John Charles and George Howlett together with P. R Buchanan imported a batch of Brown trout ova from Howieton in Stirligshire.27 Again a batch of Brown ova imported between 1909 and 1914. All in sum 25000 ova were put into a small hatchery on Chunduvurrai estate and about 10000 young brown trout were hatched out.28 These were liberated in the Kundale stream.29 Some were also put in the Kannimallai, Othaparai and Guderelay rivers. A. W John took a batch up into the wilds of Hamiltons plateau and stocked Eravikulam. It was there it done well for the first time. But no natural breeding of the Brown trout was done. By the 1920s there were no trout in the high range and again in 1932 it was again taken up and A. W John made a stock of Rainbow trout on the Chittuvurrai estate; the trout being purchased from the Nilgiri Game Association. AJE Steven, who accompanied AW John with the Historic journey of Rainbow was described;

“we set out full of high hope one early cold weather morning, but luck seemed against us; the SPMR lorry which was to bring the fish back broke down before it passed Nymakkad, but we carried on and decided to hire a lorry in Ooty. This we succeeded in doing and in the next morning, having sent the hireling ahead were on our way to Avalanche when the back axle of Johns car broke. We commandeered another lorry working on the road to take us to the rest of the way to the hatchery, and eventually collected the trout and started back for high range. It was an allnight journey with all of us John, myself, Manuel from the hatchery, driver, cleaner, and of course the fish, all crowded in to a rather rickety lorry. It was a mighty tired party which reached Chittavurrai next morning, but we got there with a very reasonable percentage of our Rainbow fry alive and kicking”30

This was the beginning of the fishing in the high range and the trout thrived and number doubled in the virgin water. In 1934 the High Range Angling association was formed and with the fund raised from donations and subscriptions further batch was imported from Avalanche and stocked Devikulam lake and Loch Finlay. Soon the membership grew and an attempt was made to start own hatchery and was successful in Arivikkad. But however it was not a success. The number of fish remained alive numbered only 178 and the hatchery was on the verge of closing. The remaining trout multiplied prodigiously. By this time fishing in the highrange was firmly established. With the available funds Wally Mackay built a new hatchery at the back of the Aneimudy and resulted in great success. The success of angling in the high range owes much to the knowledge, enthusiasm and skill of Walter Mackay. A second small hatchery was opened at Arivikad estate by Mr.A.J.E Steven in 1937. In 1932 some small lakes were constructed at Chittavurrai and stocked with Rainbow Trout obtained from the Nilgiris. They too disappeared because of their inability to breed in this peculiar climatic condition. In 1941 Rainbow trout were purchased from Ceylon and released in Eravikulam and Rajamallai streams.31 But a fair success was obtained. In 1943 with the support of the Mr. E. H Francis and with the financial assistance from the Company, a hatchery was built in Rajamallai. The site layout and the construction of the hatchery was undertaken by W.S.S Mackay.

In the early days big fish up to four lbs was quite common. But new problem arose i.e. with the increase in their numbers the size of the fish fell away and in the artificial waters like Devikulam, where natural breeding had not took place. During 1950 and 51 even the best waters were poorly supplied with big fish. The small fish had become established and ultimately decided to introduce new breed. 10000 Shasta ova was purchased from the Hazelme Trout Farm in Surray and put it in the Rajamallai hatchery.32 These fishes were crossed with the original rainbow Trout in the hills. The
current Rainbow trout is therefore the hybrid Rainbow-Shasta. These fishes only breed at a minimum elevation of 6000 ft above the sea level. By January of the next year it became excellent condition and the angling as sport continued.

**The High range Shikar:**

Organized sport hunting was absent in the highrange. By the end of the 19th century the sport hunting modeled after the Elk hunt and Ooty hunt were introduced in the Travancore hills. The high range hunt was a local innovation modeled as the Ooty hunt. One of the pioneer explorer of the hills, Col. Hamilton gives description of his shikar in the high ranges;

“It was on the 6th of March, 1854 that I killed my first ibex. I had gone on the 2nd with Brine to an old ruined Top Station between the Avalanche and Sispara. We walked the last fourteen miles to get ourselves in trim.... The next morning, the 3rd, we were out by six o’clock and went over a mountain where Brine a short time before had seen from forty to fifty ibex and had shot five. We did not see one, so bivouacked under a tree for breakfast and waited till it was time to watch for sambur; meanwhile I amused myself drawing ibex and deer on the barkless trunk of an old tree. Nothing appearing and being a very long distance from home, we proceeded by the side of a splendid forest stretching the whole extent of a long valley, and continuing down to the low country; in crossing a little branch shola, a large sambur jumped up in front of the shikarie who got frantically excited, and on his pointing out to me the stag standing broadside on, not above fifty yards off, I took what I thought was a very cool pot, but somehow or other managed to send the ball just over his back. I was awfully disgusted at the miss, particularly as a little farther on a jungle cock flew up into a tree and I knocked him over with a ball through his body. A few minutes afterwards I saw a hind standing breast on looking at me about eighty yards off; I could only see her neck and half her chest, but being determined if possible to retrieve my former wretched shot I took a steady aim, put a ball in the centre of the lower part of her neck, and another from the second barrel into the back of her neck as she dashed away, and I found her stone dead a short way in the jungle.”

Rules also came on as the hunting increased alarmingly, but the sport continued at an alarming rate. A game preservation association was existing in the Nilgiris from 1877 and a High range Game Preservation Association was formed in 1928. The grass huts made of bamboo leaf and the bamboo bed built by the Muduvan were the only hope for the planter in the early days.

Thus the hunting went on in the high ranges and once it was part of their self defence and later it turned towards a blood sport. The number of the animals hunted went on and many of the species faced extinction. The best example for this was Indian Tiger once it was plenty and reduced drastically during the later half of the twentieth century.
References:

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HYBRID FPSO-MKFCM AND MODIFIED SVM FOR SOFTWARE COST ESTIMATION

Abstract:

To develop a project successfully, it is necessary for any organization that the project should be completed within budget, on time and the project should have required quality. In order to produce a successful project, cost estimation is essential in managing software projects because of the uncertainty and diversity nature inherent in project development. In existing paper, Genetic Algorithm (GA) combined with COCOMO model on clustered data is proposed. It cannot make precise and reliable estimations on final status of the projects in respect with the required time and cost to finish the project relying on COCOMO model. In proposed work hybrid FPSO algorithm with Multiple Kernel FCM (MKFCM) is proposed for cost estimation with modified support vector machine classification (SVM). In this paper, a hybrid fuzzy clustering method based on FCM and fuzzy PSO (FPSO) is proposed which make use of the merits of both algorithms.

Index Terms: Multiple Kernel Fuzzy C-Means, Support vector machine, Fuzzy Particle Swarm Optimization

I. Introduction

Estimating the cost to develop software is different from estimating other manufacturing processes. In almost all other disciplines, the product is developed once and replicated many times using physical processes. Replication improves process productivity (duplicate machines produce more items faster), reduces learning curve effects on people and spreads unit cost over many items.

Whereas a software application is a single production item, i.e. every application is unique. The only
physical processes are the documentation of ideas, their translation into computer instructions, validation and verification. Productivity reduces, not increases, when more people are employed to develop the software application. Savings through replication are only realized in the development processes and on the learning curve effects on the management and technical staff. Unit cost is not reduced by creating the software application over and over again.

This manual helps analysts and decision makers develop accurate, easy and quick software cost estimates for different types of systems and operating environments (e.g., ground, shipboard, air and space). The intent is to improve quality and consistency of estimating methods across cost agencies and program offices through guidance, standardization, and knowledge sharing.

This manual describes a bootstrap approach to software cost estimation based on data analysis. The bootstrap approach has four basic steps:
1. Collect software cost metrics data.
   The data used in this manual is from DoD’s Software Resourced Data Report (SRDR)
2. Prepare the data for analysis (e.g., normalizing different measures of the same metric)
   · This step heavily relies on a set of standard metric definitions
   · Data is then normalized to the standard set of metric definitions
3. Create cost estimating relationship (CER) models from the data
   · Segmenting the data into groups
   · Productivity benchmarks or ratios
   · Formulae with parameters size, effort and schedule
4. Challenges in using CERS with modern software development practices
   · Rapid Change, Emergent Requirements, and Evolutionary Development
   · Net-Centric System of Systems
   · Model-Driven and Non-Development Item-Intensive Development
   · Ultrahigh Software Systems Assurance
   · Agile and Kanban Development

Metric Definitions: The next step is preparing the data for analysis. Before doing anything with the data, the metrics must be defined. This chapter covers:
· These baseline definitions are used to assess the homogeneity of the data collected. When the analysis step begins, the data needs to be as comparable as possible for apples to apples comparison.
· Metric definitions also define the inputs and outputs of the CERS. An awareness of the metric definitions is very important to prevent misuse of the CERS.

Data Assessment: With an understanding of the data sources and metric definitions, this chapter covers the assessment of the data for use in analysis. Missing data is removed. The confidence in the data is rated. Each data record is compared to the metric definitions and, where necessary, data is transformed to be compliant with the metric definition.

CERS: The cost estimating relationships are based on the data collected. This chapter shows the use of relatively simple statistical methods to create CERS from the data:
· Data is segmented into two categories: Operating Environment and Productivity Type
Data is analyzed for productivity ratios within the groups
Data is then analyzed for one- and two-variable models within the groups

**Cost Estimation During the Software Life Cycle:**

Cost estimation should be done throughout the entire life cycle. The first time cost estimation can be done is at the beginning of the project after the requirements have been outlined. Cost estimation may even be done more than once at the beginning of the project. For example, several companies may bid on a contract based on some preliminary or initial requirements, and then once a company wins the bid, a second round of estimation could be done with more refined and detailed requirements. Doing cost estimation during the entire life cycle allows for the refinement of the estimate because there is more data available. Periodic re-estimation is a way to gauge the progress of the project and whether deadlines will be able to be met.

**Cost Estimation Process:**

In order to understand the end result or the outputs of the software cost estimation process we must first understand what is software cost estimation process. By definition, software cost estimation process is a set of techniques and procedures that is used to derive the software cost estimate. There is usually a set of inputs to the process and then the process uses these inputs to generate or calculate a set of outputs.

**II. Architectures**

**A. Existing System:**

To handle the unpredictability that is generated by the inherent uncertainty contributed by the software cost drivers, soft computing techniques such as GA and Neural Network have been developed. GA is an optimization technique used in researching the optimal solution randomly. A COCOMO based model is proposed here combined with GA. Any soft computing technique results more accurately if the data values used have some sort of relationship. For the purpose of efficient use, this scheme uses cluster based GA. In the clustered approach the test data are classified by the Neural Network, which is an efficient technique for classification. Neural Network learn from the past experience and give the result for new test case, following which the best fit parameters can be applied to obtain the effort.

The existing system is based on the cluster structure. Here the methodology employed for the CGANN model is described. The model uses the FCM algorithm for clustering the input data sets. Then GA algorithm is used to find the best parameter of the COCOMO model for every cluster. A feed forward neural network is trained using the clustered values obtained for each project, by employing back propagation for finding the cluster values of testing data values.
1. Clustering Data

In this module, due to the inherent nonlinearity in the data available for software cost estimation, gaining accuracy in prediction is more difficult. This nonlinearity can be reduced by defining the certain relationship between the data values that can be attained by classifying the data into different clusters. Soft computing technique such as GA results better on such data. The cluster structure has the following two steps. 1. Unsupervised learning for training data: To cluster the data, a soft clustering algorithm Fuzzy C-Mean (FCM) algorithm is used. FCM is a data clustering technique wherein each data point belongs to a cluster to some degree specified by a membership grade. A data having N observations is clustered around K centroids. Each value in the data set belongs to a cluster having the maximum value of membership. 2. Supervised learning for test data: The classification of the test data values is done by using the neural network. Back propagation model of neural network is used. It is a multilayer feed-forward neural network. A neural network can be divided into two phases. The first phase is called the training phase in which some training data is passed into the network and the weights are adjusted through the back propagation algorithm to reduce the generated error. In the second phase, the new data point or test data is fed to find the result based on past experience.

2. Genetic Algorithm

In this module, GA is applied for cost estimation optimization. Holland first introduced GA as adaptive search algorithms that are based on concepts of natural selection and natural genetics. GA simulates a process of natural evolution that operates on chromosome. It works with parameter coding, rather than the parameter values. The working principle of GA depends on the representation of individuals, objective function, and genetic operators. Every individual is represented with the binary string. An objective function is used that decide the fitness of an individual. GA works with the principle of survival of the fittest, the individual having large fitness value is supposed to be more stable and close to the solution. GA uses three basic genetic operators: reproduction, crossover, and mutation. Reproduction operator uses the fitness of an individual solution and decides whether a string should be select for the new population, also called selection operator. There are a number of methods used to select an individual in the new population, Roulette wheel is one of the famous among them. Crossover requires a mating of two randomly selected strings. A part of the string is exchanged between two. The main characteristics of the parents are transferred to their
child used for the new generation. Mutation operator works on the bits of the individuals. It adds information in a random way that introduces diversity in the population. A number of bits are randomly changed when the string is copied into the new population.

3. CGANN Cost Estimation:

In this module, to handle the unpredictability that is generated by the inherent uncertainty contributed by the software cost drivers, soft computing techniques such as GA and Neural Network have been developed. GA is an optimization technique used in researching the optimal solution randomly. A COCOMO based model is proposed here combined with GA. Any soft computing technique results more accurately if the data values used have some sort of relationship. For the purpose of efficient use, this scheme uses cluster based GA. In the clustered approach the test data are classified by the Neural Network \[8\], which is an efficient technique for classification. Neural Network learn from the past experience and give the result for new test case, following which the best fit parameters can be applied to obtain the effort.

COCOMO

In this proposed work we choose (Constructive Cost Model) COCOMO, which is the most famous model for software cost estimation proposed by Boehm. It is used for estimating software cost, effort and schedule that help the software developers regarding their decisions about investment, setting software budgets and schedule. COCOMO model define the relationship between development cost \( (pm) \), the size of the project and the EAF. It can be defined by the mathematical formulation as shown in eq.

\[
\text{EAF} = \prod_j EM_j
\]

Here, \( c \) and \( k \) are the statistical parameters that are previously estimated by using Boehm classification. Effort Multipliers (EMs) are values of the cost drivers associated with development complexity. Intermediate version of COCOMO model is used in this study that has fifteen cost drivers that are categorized into three groups. Each cost driver or effort multiplier has some value from the categorical set of values (very low, low, nominal, high, very high, extra high).

B. PROPOSED SYSTEM

In this system, we have tried to modify Support Vector Machine (SVM) for better accuracy in software cost estimation. Here we have modified SVM to account for gene redundancy and keep a check on it. In this paper, a hybrid fuzzy clustering algorithm based on MKFCM and FPSO called MKFCM–FPSO is proposed. The obtained results showed that in the hybrid models the values of Magnitude of Relative Error (MRE) and Mean Magnitude of Relative Error (MMRE) were reduced compared with COCOMO model and also the accuracy of Percentage of Relative Error Deviation (PRED) was higher in the hybrid models.
Use of SVM in such data analysis is not new but it is not up to the mark we desire. So in this manuscript, we have tried to modify Support Vector Machine (SVM) for better accuracy in cancer genes systemization. Here we have modified SVM to account for gene redundancy and keep a check on it. In the other approach, instead of keeping bias a constant in SVM, we have tried to modify SVM by bias variation which we call as Orthogonal Vertical Permutator (OVP). More formally, a support vector machine constructs a hyperplane or set of hyperplanes in a high- or infinite-dimensional space, which can be used for classification, regression, or other tasks. Intuitively, a good separation is achieved by the hyperplane that has the largest distance to the nearest training data point of any class (so-called functional margin), since in general the larger the margin the lower the generalization error of the classifier.

Whereas the original problem may be stated in a finite dimensional space, it often happens that the sets to discriminate are not linearly in that space. For this reason, it was proposed that the original finite-dimensional space be mapped into a much higher-dimensional space, presumably making the separation easier in that space. To keep the computational load reasonable, the mappings used by SVM schemes are designed to ensure that dot products may be computed easily in terms of the variables in the original space, by defining them in terms of a kernel function selected to suit the problem. The hyperplanes in the higher-dimensional space are defined as the set of points whose dot product with a vector in that space is constant. The vectors defining the hyperplanes can be chosen to be linear combinations with parameters \( \alpha_i \) of images of feature vectors that occur in the data base. With this choice of a hyperplane, the points \( x \) in the feature space that are mapped into the hyperplane are defined by the relation: \[ \sum \alpha_i k(x_i, x) = \text{constant}. \] Note that if \( \varepsilon \) becomes small as \( \|x - x_i\| \) grows further away from \( x_i \), each term in the sum measures the degree of closeness of the test point \( x \) to the corresponding data base point \( x_i \). In this way, the sum of kernels above can be used to measure the relative nearness of each test point to the data points originating in one or the other of the sets to be discriminated. Note the fact that the set of points mapped into any hyperplane...
can be quite convoluted as a result, allowing much more complex discrimination between sets which
are not convex at all in the original space.

**METHODOLOGY**

The proposed methodology is based on the cluster structure. Here the proposed
methodology employed for the MKFCM model is described. The proposed model uses the FCM
algorithm for clustering the input data sets. Then FPSO algorithm is used to find the best parameter
of the COCOMO model for every cluster. A feed forward neural network is trained using the
clustered values obtained for each project, by employing back propagation for finding the cluster
values of testing data values. The flowchart of the proposed model is shown in figure

**Clustering Data**

Fuzzy c-means (FCM) is a method of clustering which allows one piece of data to belong to
two or more clusters. This method (developed by Dunn in 1973 and improved by Bezdek in 1981)
is frequently used in pattern recognition. It is based on minimization of the following objective function:

\[ J_m = \sum_{i=1}^{n} \sum_{j=1}^{C} u_{ij}^m \| x_i - c_j \|^2 \]

where \( m \) is any real number greater than 1, \( u_{ij} \) is the degree of membership of \( x_i \) in the cluster \( j \), \( x_i \) is
the \( i \)th of d-dimensional measured data, \( c_j \) is the d-dimension center of the cluster, and \( \| * \| \) is any
norm expressing the similarity between any measured data and the center.

Fuzzy partitioning is carried out through an iterative optimization of the objective function shown
above, with the update of membership \( u_{ij} \) and the cluster centers \( c_j \) by:

\[ u_{ij} = \frac{1}{\left( \sum_{k=1}^{C} \left( \frac{\| x_i - c_j \|}{\| x_i - c_k \|} \right)^{2/m-1} \right)^{2/m-1}} \]

\[ c_j = \frac{\sum_{i=1}^{n} u_{ij}^m x_i}{\sum_{i=1}^{n} u_{ij}^m} \]

This iteration will stop when \( \sum_{i=1}^{n} \sum_{j=1}^{C} u_{ij}^m \| x_i - c_j \|^2 \leq \mu < \delta \),
where \( \mu \) is a termination criterion between 0 and 1, whereas \( k \) are the
iteration steps. This procedure converges to a local minimum or a saddle point of \( J_m \).

The algorithm is composed of the following steps:
Multiple KFCM (MKFCM)

While fuzzy c-means is a popular soft clustering method, its effectiveness is largely limited to spherical clusters. By applying kernel tricks, the kernel fuzzy c-means algorithm attempts to address this problem by mapping data with nonlinear relationships to appropriate feature spaces. Kernel combination, or selection, is crucial for effective kernel clustering. Unfortunately, for most applications, it is not easy to find the right combination. We propose a multiple kernel fuzzy c-means (MKFC) algorithm which extends the fuzzy c-means algorithm with a multiple kernel learning setting.

To discover nonlinear relationships among data, kernel methods use embedding mappings that map features of the data to new feature spaces [12]. Consider a set of M such mappings,

\[ \Phi = \{ \hat{\Omega}_1, \hat{\Omega}_2, \ldots, \hat{\Omega}_M \}. \]

Each mapping \( \hat{\Omega}_k \) recodes the l-d data \( x \) as a vector \( \hat{\Omega}_k(x) \) in its feature space whose dimensionality is \( L_k \). Let \( \{ \kappa_1, \kappa_2, \ldots, \kappa_M \} \) be the Mercer kernels corresponding to these implicit mappings respectively, \( \kappa_k(x_i, x_j) = \hat{\Omega}_k(x_i)^T \hat{\Omega}_k(x_j) \).

To combine these kernels and also ensure that the resulted kernel still satisfies Mercer’s condition, we consider a nonnegative combination of these feature maps, \( \hat{\Omega}_2 \), that is,

\[ \hat{\Omega}_2(x) = \sum_{k=1}^{M} \omega_k \hat{\Omega}_k(x) \text{ with } \omega_k \geq 0 \]
Algorithm:

Given a set of \( N \) data points \( X = \{x_i\}_{i=1}^{N} \), a set of kernel functions \( \{\kappa_k\}_{k=1}^{M} \), and the desired number of clusters \( C \), output a membership matrix \( U = \{u_{ic}\}_{i,C}^{N,C} \) and weights \( \{\omega_k\}_{k=1}^{M} \) for the kernels.

1: procedure MKFC(Data X, Number C, Kernels \( \{\kappa_k\} \ M \ k=1 \))
2: Initialize membership matrix \( U(0) \)
3: repeat
4: \( u'_{(t)}_{ic} = u_{(t)}_{ic} \) \( \forall \) \( i = 1..N; \ c = 1..C; \ k = 1..M \) do
5: \( \alpha_{ic} = \kappa_k(x_i, x_i) - 2 \sum_{j=1}^{N} u'_{(t)}_{jc} \kappa_k(x_i, x_j) + \sum_{j=1}^{N} u'_{(t)}_{jc} u'_{(t)}_{jc} \)
6: end for
7: end procedure

Fuzzy Particle Swarm Optimization:

Pang et al. (2004) proposed a modified particle swarm optimization for TSP called fuzzy particle swarm optimization (FPSO). In their proposed method the position and velocity of particles redefined to represent the fuzzy relation between variables.

The fuzzy PSO (FPSO) maintains a population of particles. Each particle is responsible for generating a feasible network topology. A particle in PSO progresses iteration by iteration, learning from its own history, and it also inherits characteristics from other particles generating high-quality solutions. This is done while simultaneously considering the design objectives and constraints. In FPSO, a particle incrementally improves an already existing solution. This improvement is done by replacing low-quality links with high-quality ones. The guidance in selection of links is provided by three parameters: the particle’s current position, its own best position so far, and the best position in relation to the particle’s neighborhood.

For the FPSO, the gbest model has been used (although the lbest model could be applied
as well). Once the initial set of solutions is generated, the global best particle is chosen on the basis of the goodness value calculated in the initialization phase. Note that, at this stage, each particle’s current position is its best position. In the following iterations, each particle updates its position based on information provided by the particle’s immediate previous position and by the alterations (moves) performed on the particle through the velocity update vector. The velocity of a particle is updated on the basis of moves performed on the particle in its immediate previous position, the particle’s own best position so far, and the overall best position achieved by any particle in the swarm in any iteration. Moreover, to avoid premature convergence, the global best particle is updated regularly, i.e. as soon as a particle’s overall goodness becomes higher than the overall goodness of the global best particle, that new particle is selected as the global best particle, and the search process continues.

If no updating is done, then the algorithm will very quickly converge on a solution that might not even be a local minimum. A ‘move’ in FPSO includes removing a link and introducing a new link such that the tree is maintained. Then, the constraints are checked to evaluate the feasibility of the performed move. However, the notion of moves in FPSO depends on three factors, namely: moves performed in the immediate previous position of the particle, the structure of the particle’s own best position, and the structure of the global best particle. For all these factors, the number of moves performed to get the new position of the particle is governed by parameters such as acceleration coefficients, inertia weight, and velocity clamping. Values of these parameters decide how many moves are required to get the new position of a particle.

1 Fuzzy–PSO Algorithm

```
Initialize random velocity and position
Do For i = 1 to swarm size
   Calculate fitness function (fit) which is the function to be minimized
   If fit < best pattern
      ith particle best position = ith particle position
      best pattern = fit
   end if
end for
find the first k min best pattern and corresponding particle
For i = 1 to swarm size
   Find charisma values for k particle
   Update velocity
   Update position
end for
Checking the limits of the maximum velocity
```

SUPPORT VECTOR MACHINES

Support Vector Machines were proposed by Vapnik. They are a method for creating functions from a set of labeled training data. The function can be a classification function with binary outputs or it can be a general regression function. We will restrict ourselves to classification functions. For classification, SVMs operate by finding a hypersurface in the space of possible inputs. This
The hypersurface will attempt to split the positive examples from the negative examples. The split will be chosen to have the largest distance from the hypersurface to the nearest of the positive and negative examples. Intuitively, this makes the classification correct for testing data that is near, but not identical to the training data.

**EXPERIMENTAL RESULTS AND DISCUSSION**

The two datasets are used in the validation of this study. The data used in this research taken from the COCOMO database. This data set has 63 projects with 16 effort drivers and actual effort for each project. For the purpose of this study, the dataset is divided into two parts, one for training purpose and second for testing the validity of the model. The training and testing data is divided in the ratio of 80-20%. Hence, 50 projects are used as the training data and 13 projects are used as the testing data.

<table>
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<th>Models</th>
<th>MKFCM_FPSO</th>
<th>CGANN</th>
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<td></td>
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**I. CONCLUSION AND FUTURE WORK**

In this paper, we have proposed a KFCM clustered based PSO model that estimates the cost of software project using COCOMO model. The Historical data is used to generate the model. The previous developed projects are classified into cluster and the optimized parameters are obtained using PSO algorithm. SVM is used to classify the new project that is supposed to be estimated. The hybrid approach has a significant improvement over the COCOMO model.

In future hybrid FPSO algorithm with Multiple Kernel FCM (MKFCM) can be proposed for effective cost estimation with ANFIS

**References:**

മുംബൈ കോർജ്ജറി - പ്രവൃത്തി

മാത്രം

മാനേജർ മാൻഡാമനിൽ നിന്നും ടാഷൻ സിസ്റ്റം പ്രവൃത്തിയിൽ എഡിറ്റർ ആയി മാത്രമേ നിന്നു. മാനേജർ സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ മാറ്റം 

അതിന്റെ ഉപയോഗത്തിലെ പ്രശ്നം, പ്രവൃത്തിയുടെ റുൾ എന്നിവ മാത്രമേ നിലനിൽക്കുന്നു. മാനേജർ സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ മാറ്റം 

കോർജ്ജറി മാൻഡാമനിൽ നിന്നും എഡിറ്റർ ആയി മാത്രമേ നിന്നു. മാനേജർ സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ 

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ഭാഗവദം

പ്രവൃത്തി മാനേജർ സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ മാറ്റം എന്നിവ മാത്രമേ നിലനിൽക്കുന്നു. സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ മാറ്റം

സോഫ്റ്റ്‌വേറ്റ് കമ്പനി നിയമ പ്രവൃത്തികളിൽ മാറ്റം
തമ്മാനായി സേവനശേഷിയെടുക്കാനാണ്് പ്രതിപാദിക്കുന്നത്, ഇതിനു താഴെ ഉണ്ടാക്കാൻ ഉത്തമമായ വഴിയും നിലനിൽക്കുന്ന സ്ഥലം കാണാനുള്ള സ്ഥാനമാണ്് പ്രതിഭവാടിയാണ്് കരുതുന്നത്. ഉദ്ദേശിച്ച പ്രത്യേകിച്ച് സമ്പദസേവനമായി സ്വഭാവത്തില്‍ അനുഭവപ്പെടുന്ന മൂല്യാന്ത്യാണ്് അകലക്കാന്് അണ്ടാക്കാവുന്നത്. അതേസമയം ഒരു നത്യം വിശ്വസിക്കാന്് മാത്രമായി പരാമര്ശിക്കേണ്ടതു്, അന്തരീക്ഷത്തില്‍ സ്വഭാവപ്പെടുന്ന സ്ഥലം ആരംഭിക്കേണ്ടതു്. എന്നാല്‍ അന്തരീക്ഷത്തില്‍ അന്തരിക്ഷത്തില്‍ അണ്ടാക്കാതിരിക്കേണ്ടതു്.

മൂല്യം സമ്പദശേഷിയെടുക്കുന്നത് അനുഭവപ്പെടുന്ന അകലക്കാന്് സമ്പദശേഷിയെടുക്കാനാണ്് പ്രതിപാദിക്കുന്നത്. ഉദ്ദേശിച്ച പ്രത്യേകിച്ച് സമ്പദശേഷിയെടുക്കാനാണ്് പ്രതിപാദിക്കുന്നത്. ഉദ്ദേശിച്ച പ്രത്യേകിച്ച് സമ്പദശേഷിയെടുക്കാനാണ്് പ്രതിപാദിക്കുന്നത്. ഉദ്ദേശിച്ച പ്രത്യേകിച്ച് സമ്പദശേഷിയെടുക്കാനാണ്് പ്രതിപാദിക്കുന്നത്.
നിലനിന്നുൊക്കതെ ‘ആയുര്വേദ’തു ലളിതമാക്കു സാമൂഹിക പ്രവർത്തനങ്ങളാണ്. 1987-നു ആരോഗ്യ കാനാകിയതിന്റെ മുദ്രാജ്ഞായായി ആഘോഷിക്കപെട്ടു. 8 വരികളിൽ ആർ ഭാഗരണം ഒഴിച്ചിരിക്കുന്ന മുട്ടുപോലെ ഓക്കനഞ്ചായി. 1988-നു ആയുര്വേദ പ്രവർത്തനങ്ങൾ നടത്തുന്ന മുന്നിൽ പ്രവർത്തനങ്ങൾ, എന്തു പെടുത്തിയാലും തന്നെ കൊല്ലുന്ന മാത്രമേ.
ഒരു ഭാഷയും കരാറും ഒരു ഭാഷയും ഉള്ളതുമായ ഒരു ഭാഷയും. ആശാരി ആവൃത്തിയും, പ്രസാദം, അധിശുദ്ധ നാം ആശാരിയിലെയും ഉൾപ്പെടുന്നു. പ്രസാദത്തെ അധിശുദ്ധാനാമത്തെ കരാറും, അധിശുദ്ധാനാമത്തെ ആശാരിയിലെ ഉൾപ്പെടുന്നു. ആശാരി നമ്മൾ പാലിക്കുന്ന സാംസ്കാരിക കർമ്മാത്രയിലെ ആ്യമാല എല്ലാവരും.


d. 

1. ആ്യംമാല പ്രമുഖമായി, പ്രത്യേകിച്ചും ആ്യംമാല പാലിക്കുന്ന ആ്യംമാല ആ്യംമാല ഉള്ള ആ്യസ്സാധാനം പാലിക്കുന്ന ആ്യസ്സാധാനം ഉള്ള ആ്യസ്സാധാനം

2. ആ്യംമാല പ്രത്യേകിച്ചും ആ്യംമാല പാലിക്കുന്ന ആ്യംമാല ഉള്ള ആ്യസ്സാധാനം പാലിക്കുന്ന ആ്യസ്സാധാനം ഉള്ള ആ്യസ്സാധാനം

3. ആ്യംമാല പ്രത്യേകിച്ചും ആ്‌യംമാല പാലിക്കുന്ന ആ്‌യംമാല ഉള്ള ആശാരി പാലിക്കുന്ന ആശാരി

4. ആ്യംമാല പ്രത്യേകിച്ചും ആ്‌യംമാല പാലിക്കുന്ന ആ്‌യംമാല ഉള്ള ആശാരി പാലിക്കുന്ന ആശാരി
3. आंशिक रचना, 2009, समालोचना 30, दक्षिण 12, दक्षिण 36.
4. समालोचना विषयक रचना, 2008 प्रकाशित 21.
5. “Poetry of the highest type manifests itself as altogether objective. When once if withdraws itself from the external world to become subjective it begins to degenerative.” ‘मासिकसूचनालय संपादक’ अक्षर अंतरस्तोणि: अमान्यत, 1997, एम 315.
6. आंशिक रचना, समालोचना तथा अनुलोकामल, समालोचना रचनालय, 2008 प्रकाशित 21, आंशिक 1.
7. आंशिक रचना, समालोचना तथा अनुलोकामल, अंतरस्तोणि विषयक, आंशिक रचना, 2009 प्रकाशित 18, आंशिक 53.

संक्षेपीग्रहीत
3. आंशिक रचना, 2009, समालोचना 30, दक्षिण 12, दक्षिण 36.
4. समालोचना विषयक रचना, 2008 प्रकाशित 21.
5. समालोचना अंतरस्तोणि, 2009 प्रकाशित 18.
ROLE OF VAIKUNDA SWAMIKAL IN
UPPER CLOTH REBELLION

Abstract:
Several movements were started by Christian groups and some forward minded Hindus, especially lawyers and many educated upper class Hindus also took up the cause of covering the bosom of the low-caste women of Travancore. These movements started by Vaikunda Swamikal, Arattupuzha Velayudha Panikkar and other religious leaders and Christian missionaries had considerable impact on these reforms. Among them most important was ‘Shannar Revolt’. As a result, various changes took place against the above mentioned social customs and social evils. The present paper discussed about role of Vaikunda Swamikal on Shannar Revolt.

Introduction:
Shannar Rebellion is otherwise known as Melmundu Kalapam, Melsila kalapam, or Upper Cloth Rebellion and so on.¹ This was a social reform movement of lower caste group viz. Shannars (Nadars) against the social injustice of the Government and the High caste Hindus such as Nayars, Brahmns etc. in the South Travancore.² The struggle of ‘Shannars’ was to secure for their women folk the same rights in regard to dress as those of the women of upper caste Hindus. By long standing custom, the inferior classes of the population were forbidden to wear an upper cloth of the kind used by the higher caste.³ The immediate and ostensible subject of dispute was the use of an upper cloth by women of unprivileged classes. The caste Hindus did not like to see the women of socially backward classes walking through the streets and roads with their bosom covered. A disturbance also started among them. This resulted in the Shannar Revolt. Several movements started by some
forwarded minded Hindus, especially lawyers, many educated upper class Hindus took up the cause of covering the bosom of low caste women. The most respectable personality was Vaikunda Swamikal. He also had considerable impact on this reform.

Vaikunda Swamikal (1803 – 1851)

Vaikunda Swamikal was born at Thoppil in the present Kanyakumari district. He was also known as Muthukutti Swamikal. A man of progressive outlook he founded in 1836 an organization called ‘Samatva Samajam’ in order to fight for the redressed of the grievances of the Avarnas as well as against the short comings and lapses in the state administration. The ‘Samatva Samajam’ seems to be the earliest social organization in Kerala and Vaikunda Swamikal as a pioneer among social revolutionaries. He also criticized the Brahmins and the temples maintained by them. He also turned his attention towards the discrimination in the ‘mode of dresses. He personally took the lead in conducting a series of agitations against this wild practice. His severe criticism to the government in relation to ‘upper cloth controversy’ emerged a head ache to the royal class and their caste men, who wanted to wreck it down at any cost, for wearing of upper cloth was only the monopoly of the Savarnas. Naturally enough, this resulted in heavy causalities and ultimately the heroic struggle which lasted for about four decades ended in the final victory of Shannars. The role played by Vaikunda Swamikal in this epic struggle is not negligible. Moreover, the lower castes were prevented even from using the turban on their head. Therefore Swamikal appealed to his followers to use turban on their head as a mark of status. Moreover to maintain equal status with other caste Hindus, he encouraged his people to wear shoulder cloth. He disapproved the idea of conversion to circumvent the social disabilities of the low caste. He wanted them remain as Hindu and fight for legitimate right.

In this critical juncture, it was at the instance of socio-religious reformers and L.M.S Missionaries that the Royal proclamation of Uthrdam Thirunal Maharaja was issued on 26 July 1859 abolishing all restrictions in regard to the covering of the upper part of the Nadar women. But there was still the stipulation that they should not imitate the dress of the women of the Caste Hindus. The LMS Missionaries and British authorities continued to express their desire to the Maharaja, with regard to the need of better legislation granting perfect freedom to the Non Castes in the matter of dress. This pressure made the Travancore Government undertake fresh legislation in 1865. Revolution changes had taken place in the position of Non Caste, with the proclamation of Ayilyam Thirunal Maharaja on 19 Mithunam, 1040 ME (1865), permitting the women of all the backward classes to cover their bosoms by wearing the so called “Upper cloth”.

Even the evil practice if not allowing lower caste women to cover their breasts continued. The law was breached almost by everyone; the Government turned a blind eye on in the early 20th century, with further agitations and with stimulus from some British Officials, Dewans and popular Press, and the legislation could be implemented to a great degree. It is interesting that women liberation movement people were telling the women to return the natural state of removing upper-cloth and let the breast to be exposed to their own liking. At last various social reformers took place in the matter of dress. All classes of women got equal rights and privileges for wearing dress of their own wish. The legislation also support to this. To conclude, that various social reforms took place in the matter of dress. All classes of Hindu women got equal rights and privileges for wearing dress of their own wish. The legislation also supported it.
References:
Abstract:

The environment affects the growth and development of the person. It affects peoples behavior, body, mind and heart especially women. Women’s in India especially the rural women greatly depends upon environment for their day to day survival, they plays a major role note only protecting but also in recreating the biological diversity in India. They are often played leadership roles or taken the lead in promoting an environmental ethic, reducing resource use and refusing and recycling resources to minimize waste and excessive consumption. In this background, this paper reveals the relationship between women and environment and also their role in ecological movements in India.

Introduction:

Human beings are at the concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature. Women have an essential role to play in the development of sustainable and ecologically sound consumption and production patterns and approaches to natural resources management. They played a significant role since time immemorial as primary food providers, conservators of forests and forestry products. In recent times women’s contribution to conservation of environment and their misery due to environment degradation are being recognized, grudgingly by the world. Women’s initiative in starting and running ecological movements, especially in Third World Countries.

In 1987, The Right Livelihood Award, instituted for vision and work contributing to making life more whole, healing our planet and uplifting humanity, was given to the women of chipko movement, who put life of forests above
their own the crowning glory has been the recent award of the Nobel Peace Prize for 2004 to Kenyan environmentalist Ms Wangari Mathai, who started Green Belt Movement in her country, which is responsible for 30 million trees now. This award makes a statement about the importance of environmental conservation in bringing about peace, prosperity and equally in the modern world and it also acknowledges the significant contribution of women towards this end.

Environment

Environment defined as the sum total of all living and non living components. It creates favorable conditions for the existence and growth of living organisms. The environment has never been constant or static. It has been changing slowly, rapidly or drastically. All living organisms including human beings are affected by changes in the environment the changes may be harmful or beneficial. It constituted of all that nature bestows upon mankind irrespective of the boundaries which politics carves over the face of earth. The three fundamental resources of nature, land, water, and air are potentially powerful living constituents of environment because they are habitat to an innumerable variety of life forms both big and the microscopic.

The literal meaning of environment is the surroundings of an organism a community or an object. But environment is note uniform all over it varies from place to place. It is our basic life support system. It provides the air we breathe, the water we drink, the food we eat and land where we live. It provides us natural resources such as wood, fuel, energy and minerals. Most of the human activities affect the environment in one way or the other. Many parts of the environments have already been badly damaged by over use or irrational use of resources like forest, pasture, and farms. If we continue to do so, the damage will be irreparable and the consequences will be very serious.

Women and Environment

The man–environment relationship is as old as human existence itself. Traditionally man used natural resources wisely and economically and natural as a sustainer. This ensured sustainability of nature. Nature and women have historically been the primary food providers in natural farming based on sustainable flows of fertility from forests and farm animals to croplands. Women have traditionally integrated forestry and animal husbandry with farming, thus adopting a holistic approach to agriculture. Women have always worked in close association with nature and their work has always nurtured and sustained the environment. In India women are an intimate part of nature, both in imagination and practice. At one level nature is symbolised as the embodiment of the feminine principle and at another, she is nurtured by the feminine to produce life and provide sustenance. Besides producing food, women play main role in procuring, managing and utilizing water, fuel, and fodder resources. They conceived of their own bodies as being productive in the same way as they conceive of external nature being so. She use nature but do not dominate. They neither own their own bodies, nor the earth but the cooperate with their bodies and with the earth in order to let grow and make grow as producers of new life, women also become first subsistence producers and the inventors of the first productive economy. Women note only collected and consumed what grew in nature but they made things grow. They play an essentional role in the management of natural resources, including soil, water, forests, and energy and often have a profound traditional and contemporary knowledge of the natural world around them.
In modern times due to introduction of cash economy the relation of men and women with nature has become different. Men are happy to destroy nature to earn money but women continue to deal with the non-monetized, biomass based subsistence economy of the household. Today the man are generally alienated from their ecosystem, but not the women. New forest laws banning use of forest products also harm women the most. It has been noticed in India as well as Kenya that women are more interested in afforestation projects while men are interested in growing cash crops. In fact male trees and female trees are common jargon in afforestation projects. During the Chipko Movements, women had to fight their own men folk to save forests. They have always worked in partnership with nature and identify with it as producers life, hence they continue to care for the environment and adhere to their life producing and sustain practices while working with nature survival and sustenance. The woman plays a major role not only in protecting but also in recreating the biological diversity in India.

**Contribution of Women Environment Activists in India**

Environmental degradation, be it in the form of deforestation, depletion of natural resources like water, biomass or forestry products or pollution, has an adverse effect on the life of all indigenous people the most recourse they are completely dependent on nature for survival. It is the women who have to take care of the household needs, hence they are the worst affected by deforestation, destruction of biomass sources and shortage of water. This forces them to travel long distances to collect water, fuel, and fodder, spending extra time and energy. The decline in the availability of fruits, berries, firewood and other gathered items from forests and village commons has reduced the incomes of women directly. The dominant forms of development also have led to a devolution and marginalization of women’s indigenous knowledge and skills which they have acquired through their everyday interaction with nature. About 80% of Indian women are directly dependent on forests as managers of the local resource base.

The effect of environmental degradation are becoming more and more visible and new dangers threatening humanity. Global concern for environmental conservation and sustainable development is increasing and these issues are being discussed at national and international level for the past three decades. The official response has been to offer technological and managerial short term solutions, which are likely to give a new set of problems. While men in power believe that environmental problems are caused by other people in other places and offer solutions that may not be of much help to the actual victims, women face these problems themselves and rebuild connections with nature. They realize that what men do to nature also affects them, hence they work on their owe to rebuild nature, in order that they survive. They have responded to these changes by organizing themselves and revolting against the state structure in their own way. Some of the significant movements for the conservations of environment initiated by the women at the grassroots levels are:

**Medha Patkar and Narmadha Bachao Andolan**

Medha Patker is an Indian social activist and social reformer turned politician. She is the founder member of Narmada Bachao Andolan and was national convener of National Alliance of Peoples Movements. An alliance of progressive people’s organizations. She was a representative to the World Commission on Dams, to research the environmental, social and economic impacts of the development of large dams globally. She filed a public interest litigation in the Bombay High Court
against Lavasa, is a project by Hindustan Construction Corporation, in Maharashtra.

Medha Patker actively participated in Narmada Bachao Andolan. It is a social movement consisting of adivasis, farmers, environmentalists, and human rights activists against the construction of two of the largest proposed dams that is Sardar Sarovar and Narmada Sagar dam. In 1980s she went out to live with the tribal’s of the Narmada valley in order to make them aware of the negative effects of the dam construction. As she remained immersed in Narmadha struggle, she chose to quit her Ph.D. studies and focus entirely on the Narmadha activity. Thereafter, she organized a 36-day solidarity march among the neighboring states of Narmadha valley from Madhya Pradesh to the Sardar Sarovar dam site. She said that the march was “a path symbolizing the long path of struggle that they really had”. Using the right to fasting, she undertook a 22-day fast that almost took her life. She undertook a similar fast in 1993 and resisted evacuation the dam site. In 1994, the Narmadha Bachao Andolen office was attacked by a couple of political parties, and Patkar other activists were physically assaulted and verbally abused. The court ruled for Andolan, affecting an immediate stoppage of work at the dam and directing the concerned states to complete the rehabilitation process.

Vandana Shiva and Navadanya Movement

Vandana Shiva, a world renowned environmental thinker, activist, feminist, writer, and science policy advocate, is the Director of The Research foundation for Sciences, Technology and Natural Resource Policy. She serves as an ecology adviser to several organizations including. Third World Network and the Asia Pacific Peoples Environment Network. She is mostly known for her national and international green movements against genetic crops. Her contribution in the field of agriculture and food is mostly inclined towards the prohibition of genetically modified crops. In 1991, she started a national movement named “Navadana” to protest the diversity and integrity of living resources. “Navadanya” means “nine crops” that represent India’s collective source of “food security”. They claims to have helped more than 200,000 farmers convert to organic farming while training another 500,000 farmers in organic practices. It organizes present farmers by offering them free seeds in return for the promise they will save the seeds and share a percentage of the saved seeds free with other farmers instead purchasing “corporate seeds” with higher yields. In this exchange they also help convert farmers back to organic methods. In 2004 Shiva started Earth University, an international college for sustainable living. This teaches principles of Natural Law. Other initiatives are “Soil Not Oil”, Bija Satyagraha, Jaiva Panjayat, and Right to Food.

Amritha Devi & Gaura Devi- Chipko movement

The original Chipko Movement was started in the early 18th century in the state of Rajasthan. It was led by Amritha Devi of the Bishnoi community, in Rajasthan, 300 years ago to save the trees. Amritha Devi with 84 villagers risk their lives to protest the forest trees from felled on the order of maharaja. In khejali villege, 363 bishnois sacrificed their lives in 1730 AD while protecting green Kejeri that are considered sacred by the community. The present movement derives its name from it. This movement started in 1973 when forest resources were sold to industry at throw away prices and award of right to fell trees was given to outsiders. The local presents who valued these trees as a source of agricultural implements, revolted against this move and threatened to hug the trees and give their lives if the trees were cut. In the beginning both men women worked together to save the
trees, but latter when men saw money in getting contract to fell trees they gave up the protest. Women of course continued their protest.

The first demonstration organized at Mandel was considered as the starting point the movement. The second agitation took place at the Pindadr valley near Dungri – Pantoli village, the third protest place at Reni where the women’s of the village under the leadership of the Gaura Devi, the head of the village Mahila Mandal (women’s club), organized themselves together in order to foil the attempt of the government to cut trees in the forest. In doing so the women’s met with stiff opposition, abuse, and threats from laboures. The Adwani Satyagraha,in Adwani forest started in 1977 under the leadership of the Bachini Devi is an important landmark of the Chippko Movement. They tied sacred threads to the trees as a token of their vow of protection. Thus the Chippko Movement an anti deforestation movement witnessed the overwhelming participation of the women as against the men to protect the environment.

**Sugathakumari- Sailent Valley Project**

The Silent Valley project which becomes apparent in late 1970s in Kerala had always remained as focus of a major debate between environments verses development. This project planned to construct a dam over the Kuthipuzha River in Kerala’s Palakkad district. The major concerns of this movement were the adverse environmental impact on Silent Valley, one of the last surviving natural tropical forests in India and protecting a rare breed of monkey, lion-tailed macaque. Kerala Sasthra Sahithya Parishad under the leadership of Sugathakumari successfully stimulated public opinion on the necessity to rescue the Silent Valley from being ruined. She started the save Silent Valley campaign and her poem “Marathinu Stuti”(Ode to a Tree) turns out to be a mark of protest for the intellectual community in kerala. She was also the founder secretary of the Prakriti Samrashana Samithi, an association for safeguarding the nature.

**Mailamma- Plachimada Struggle**

Mailamma was an Indian social activist whose claim to fame was the campaign against Coco-Cola Company in Plachimada in Palakkad Kerala. She belonged to a native tribal community. She was the recipient of the Speak Out award by Outlook magazine and the Shree S akthi Award. She was directly affected by Coco-Cola operations in Plachimada, in Kerala’s Palakkad district. The water in her well had been so heavily polluted by Coco-Cola operations that it has been deemed unfit for human consumption. She played a key role in the campaign to hold Coco-Cola accountable for water shortages and pollution in the area, and it was under her leadership that the community forced the plant to shut down in March in 2004. The plant has remained shut down since. She was the founder of the Coco-Cola Virudha Samara Samithi in Plachimada which has spearheaded the campaign against Coco-Cola. The samiti has held a continuous vigil directly outside the plant gates since April 22’2002, demanding its permanent closure.

**Conclusion**

As consumers and producers, caretakers of their families and educators, women play an important role promoting sustainable development through their concern for the quality and sustainability of life for present and future generations. In the case of Indian women, they played an extensive duty for
the presentation of the environment. Practically being close to nature, women are always able to
realize environmental, issues better. Women have foremost proctor of bio-diversity. Therefore, women
have taken up the cudgels to protect the environment. The women’s who command and take part
enthusiastically in the ecological movements in India speak not mealy as the victims of environment
degradation but also represent the voices of emancipation and demands for the reorganization of
their traditional rights and liberties over the forest. What wonders will they be able to work if they
are given their constitutional rights and are exercise them. This would be beneficial not only to the
women but to the entire society as the work of these women will create a better and healthy environment
for humanity.

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CHILD RIGHTS IN INDIA

Abstract:
Different challenges and problems faced by orphan children are increasing day by day. They receive unfair treatment or be left out in any decision making. The constitution of India contains provisions for survival, development and protection of children in Part III and Part IV. The convention on the right of child adopted by the General Assembly on the United Nations defines basic right of children covering multiple needs and issues. Anyway, The Constitution guarantees all children certain rights, which have been specially included for them. The rights of the child is an expression of the interconnection of all rights that ensure human dignity of the child and are necessary for the complete and harmonious development of the child’s personality, including civil and political, social and economic rights of children. The article is intended to enlighten the need for upliftment of the present legal system of child rights as against their challenges of the times.

Introduction:
One third of India’s population constitutes children between the age group of 0 to 14 years. There is a vast urban and rural education gap, different challenges and problem faced by orphan children are increasing day by day. The fact that children are not adults and the low social status afforded to them in most societies means they may receive unfair treatment or be left out decision making. The constitution of India, which came into force in January 1950, contains provisions for survival, development and protection of children. these are included both in Part III and Part IV of the constitution pertaining to ‘Fundamental Rights’ and Directive principle of state policy’. Being one of the world’s largest democracy, India has a federal system of government, with the states having their own
democratically elected governments. To understand the interest of the child one must know their rights. The convention on the right of child adopted by the General Assembly on the United Nations on 20th November 1989 defines basic right of children covering multiple needs and issues.

The Constitution of India guarantees all children certain rights, which have been specially included for them. These include:

1. Right to free and compulsory elementary education for all children in the 6-14 year age group (Article 21A).
2. Right to be protected from any hazardous employment till the age of 14 years (Article 24).
3. Right to protected from being abused and forced by economic necessity to enter occupations unsuited to their age or strength (Article 39 (C).
4. Right to equal opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and guaranteed protection of childhood and youth against exploitation and against moral and material abandonment (Article 39 (F).

Besides, these they also have rights as equal citizens of India, just as any other adult male or female.

1. Right to equality (Article 14)
2. Right against discrimination (Article 15)
3. Right to personal liberty and due process of law (Article 21)
4. Right to being protected from being trafficked and forced into bonded labor (Article 23).
5. Right of weaker sections of the people to be protected from social injustice and all forms of exploitations (Article 46).

The rights of the child is an expression of the interconnection of all rights that ensure human dignity of the child. They are necessary for the complete and harmonious development of the child’s personality, including civil and political, social and economic rights of children.

Major Constitutional Provisions Relating to Children

Fundamental Rights:

Article 14: Shall not deny to any person equality before the law or the equal protection of the law with the territory of India.

Article 17: “Untouchability” is abolished and its practice in any form is forbidden...

Article 19: All citizens shall have the right-a) to freedom of speech and expression; b) to form associations or unions; c) to move freely throughout the territory of India; e) to reside and settle in any part of the territory of India.

Article 21: No person shall be deprived of his life or personal liberty except according to procedure established by law.

Article 21A: .......Shall provide free and compulsory education to all children of the age of six to fourteen years.

Article 23: Traffic in human beings and other similar forms of forced labour are prohibited.

Article 24: No child below the age of fourteen years shall be employed to work in any factory or mine or engaged in any other hazardous employment.

Development programmes in the country, including those for children, are carried out within the framework of the Five-Year plans. Some of these programmes are wholly funded by the central
Government, some by both central and state governments, and some entirely state governments depending on whether the programmes are classified as central, centrally sponsored or State sector schemes. In addition, a wide variety of Programmes are also being implemented in collaboration with international organisations and non-governmental organization, which are now going as a vibrant sector in the development and empowerment of children. In the ensuring paragraphs, let us now see the milestones achieved by India on the whole ever since it achieved independence with regard to survival, development, protection and participation of children both at the national and international level.

**International Conventions And Declarations**

India is signatory to number of international instruments and declarations pertaining to the rights of children to protection, security and dignity. It acceded to the United Nations Convention on the Rights of the child (UNCRC) in 1992, reaffirming its earlier acceptance of the 1959 UN declaration on the Rights of the child, and is fully committed to implementation of all provisions of the UNCRC. In 2005, the Government of India accepted the two optional protocols to the UNCRC, addressing the involvement of children in armed conflict and the sale of children, child prostitution and child pornography. India is strengthening its national policy and measures to protect children from these dangerous forms of violence and exploitation. India is also a signatory to the international conventions on civil and political Rights, and on Economic, social and cultural Rights which apply to the human rights of children as much as adults.

Three important international instruments for the protection of child Rights that India is signatory to, are:

* **Convention on the Rights of the child (CRC):** adopted by the UN General Assembly in 1989, is the widely accepted UN instrument ratified by most of the developed as well as developing countries, including India. The convention prescribes standards to be adhered to by all state parties in securing the best interest of the child and outlines the fundamental rights of children, including the right to be protected from economic exploitation and abuse and from physical or mental violence, as well as ensuring that children will not be separated from their families against their will.

* **Convention on the Elimination of all forms of Discrimination Against Women (CEDAW)** is also applicable to girls under 18 years of age. Article 16.2 of the convention lays special emphasis on the prevention of child marriage and states that the betrothal and marriage of a child shall have no legal effect and that legislative action shall be taken by states to specify a minimum age for marriage.

* **SAARC convention on Prevention and Combating Trafficking in Women and Children for prostitution** emphasises that the evil of trafficking in women and children for the purpose of prostitution in incompatible with the dignity and honour of human beings and is a violation of basic human rights of women and children.

**National Policies and Legislations addressing Child Rights**

The Fundamental Rights and Directive Principles of the Indian Constitution provide the framework for child rights. Several laws and national policies have been formed to implement the commitment to child rights.
National Policies:
The major policies and legislations formulated in the country to ensure child rights and improvement in their status include.
* National policy for children, 1974
* National policy on child labour, 1987
* National Nutrition policy, 1989
* National Health policy, 2002
* National charter for children, 2004

National legislations:
National legislations for protection of child rights in the country are:
* Guardian and Wards Act, 1890
* Factories Act, 1954
* Hindu Adoption and Maintenance Act, 1956.
* Probation of offenders Act, 1958.
* Bombay prevention of Begging Act, 1959.
* Orphanage and other Charitable Homes (Supervision and Control) Act: 1960.
* Bonded labour system (abolition) Act-1976.
* Child labour (prohibition and Regulation) Act, 1986.
Some of the important legislations are discussed below.

i) Child Labour (Prohibition and Regulation) Act, 1986
The Act was formulated to eliminate child labour and provided for punishments and penalties for employing children below the age 14 years in from various hazardous occupations and processes. The Act provides power to state governments to make Rules with reference to health and safety of children, wherever their employment is permitted. It provides for regulation of work conditions including fixing hours of work, weekly holidays, notice to inspectors, provision for resolving disputes as to age, maintenance of registers etc. Through a recent notification, child domestic workers up to 14 years of age working in hotels and dhabas have been brought within the purview of the Act. It is one step towards the total elimination of child labour.

ii) The Prohibition of Child Marriage Act, 2006
* Every child marriage shall be voidable at the option of the contracting party who was a child at the time of the marriage.

* The court while granting a degree of nullity shall make an order directing the parties, parents and guardians to return the money, valuables, ornaments and other gifts received.

* The court may also make a final order directing the male contracting party to the child marriage or parents or guardians to pay maintenance to the female contracting party to the marriage and for her residence until her remarriage.

* The court shall make an appropriate order for the custody and the maintenance of the children of child marriages.

* Child marriage to be void in certain circumstances like minor being sold for the purpose of marriage, minor after being married is sold or trafficked or used for immoral purposes, etc.

* States to appoint child marriage prohibition officers whose duties include prevention of solemnization of child marriages, collection of evidence for effective prosecution, creating awareness and sensitization of the community etc.

iii) The Commission for the Protection of Child Rights Act, 2005
The Act provides for the constitution of a National and State commission for protection of Child rights in every state and Union Territory. The functions and powers of the National and state commissions will be to:

* Examine and review the legal safeguards provided by or under any law for the protection of child rights and recommended measures for their effective implementation.

* Prepare and present annual and periodic reports upon the working of these safeguards.

* Inquire into violations of child rights and recommended initiation of proceedings where necessary.
* Undertake periodic review of policies, programmes and other activities related to child rights in reference to the treaties and other international instruments.

* Spread awareness about child rights and among various sections of society.

* Children’s courts for speedy trial of offences against children or of violation of child rights.

* State Governments and UT administrations to appoint a special public prosecutor for every children’s court.

**Schemes and Programmes on Child Protection**

Some of the existing child protection schemes and programmes include,

* A programme for juvenile justice: for children in need of care and protection and children in conflict with law. The government of India provides financial assistance to the state Governments/UT administrations for establishment and maintenance of various homes, salary of staff, food, clothing, etc for children in need of care and protection and juveniles in conflict with law. Financial assistance is based on proposals submitted by states on a 50-50 cost sharing basis.

* An integrated programme for street children with out home and family ties. Under the Scheme NGOs are supported to run 24 hours drop-in shelters and provide food, clothing, shelter, non-formal education, recreation, counseling, guidance and referral services for children. The other components of the scheme include enrolment in schools, vocational training occupational placement, mobilizing preventive health services and reducing the incidence of drug and substance abuse, HIV/AIDS etc.

* CHILDLINE service for children in distress, especially children in need of care and protection so as to provide them medical services, shelters rescue from abuse, counselling, repatriation and rehabilitation. Under this initiative, a telephone helpline, number 1098, run in 74 urban and semi-urban centers in the country.

* Shishu Greha Scheme for care and protection of orphans/ abandoned/ destitute infants or children up to 6 years and promote, in country adoption for rehabilitating them.

* Scheme for working children in need or care and protection for children working as domestic workers, at roadside dhabas, mechanic shops, etc. The scheme provides for bridge education and vocational training, medicine, food, recreation and sports equipments.

* Rajiv Gandhi National Creche scheme for the children of working mothers in the age group of 0-6 years.

* The scheme provides for comprehensive day-care services including facilities like food, shelter, medical recreation, etc to children below 6 years of age.

* National Child Labour Project (NCLP) for the rehabilitation of child labour. Under the scheme, project societies are the district level are fully funded for opening up of special schools/Rehabilitation centers, provide non-formal education, vocational training, supplementary nutrition and stipend to children withdrawn from employment.
References:

Abstract

Khaled Hosseini, the towering literary figure of the 21st century envisions the political and cultural milieu of Afghanistan through his three hundred pages historical fiction, The Kite Runner. The pre-independent Afghanistan and its life in nakedness are captured by Hosseini through various characters. The treatment he adopted for presenting the reality is remarkable in the present day context, where violence and bloodshed are like a common everyday phenomenon. As an Afghan born American novelist, Hosseini writes from his own experiences in the country and its communal violence in true colours. The war between the ethnic minorities in Afghanistan was a usual event when the writer spent his childhood there and in fact the main character Amir is a replica of the self of the author. Hence it is semi autobiographical in nature. A person’s history becomes the history of a nation is not a bewildering point, if one looks up the history of Afghanistan especially of its province Kabul. The lifelong struggle of its people are intertwined with violence which indeed is sprouted from the rigid cultural, political and religious consciousness of the minority section especially of the Pashtuns in Kabul. This historical novel encapsulates the pre-Russian invasion and pre-Taliban rule as well as Afghan under Taliban rule. Amir, the protagonist of the novel is not only a prey for the subjugation and suppression promoted by the Taliban rule there but also faces serious existential angst in a world of turmoil and transition. The lower strata of the society; the Hazaras are the most ill treated, evil affected section in the novel and this harrowing experience continues in the next generation also. Altogether the novel illustrates the prolonged pain and trauma of common people and the politics of power v/s religion in a war torn nation. The present paper intends to analyse the terror bound political
and cultural scenario of pre-independent Afghanistan and how it contributed to the moulding of characters in the particular country with the backup of trauma theory.

**Introduction:**

We have been talking about the idea of nationalism from time immemorial. It is a feeling of a person towards one’s own nation, if we put it in the simplest way. The extent to which this feeling is imparted varies from person to person and it is not perplexing that this particular idea of nationhood is misinterpreted / misrepresented in the 21st century. Literature from different lands clearly portrays their own culture and beliefs and how this culture and customs are intertwined with the idea of nationhood is important in the context of a religious minority state like Afghanistan. Khaled Hosseini’s *The Kite Runner* illustrates the very idea of ‘nation-state’ demanded by the Shia Muslims which in turn devour the country as whole and ends up in communal violence. Even children born to this nation are under terrific rule of Taliban and they are brutally murdered or even used as an unnatural sex object by the so-called powerful Taliban officials. Through the characters like Hassan, Amir and Sohrab, Hosseini illustrates the terror and existential angst they faced in the country.

As a Muslim minority nation like Afghan, the ethnic minorities are preoccupied with terror and trauma in their life as a whole. Almost all the characters are immersed in trauma and try desperately to overcome it. Hosseini writes, “We stayed huddled that way until the early hours of the morning. The shootings and explosions had lasted less than an hour, but they had frightened us badly, because none of us had ever heard gunshots in the streets. They were foreign sounds to us then. The generation of Afghan children whose ears would know nothing but the sounds of bombs and gunfire was not yet born. In December 1979, when Russian tanks would roll into the very same streets where Hassan and I played, bringing the death of the Afghanistan I knew and marking the start of a still ongoing era of bloodletting” (28). Amir, Hassan and Sohrab are deeply affected by this violence and lost the prime of their youthful lives in desperation and humiliation. Hassan; the son of the crippled servant of Amir’s father, is a Hazara; the lower strata of Muslim community who becomes a prey for the violent and devastating hunting of the upper class Pashtuns, and also by the inhuman Taliban rule. He suffers all these attacks from his childhood and ends up his life in an attack by the Taliban who completely destroyed his family. These harrowing experiences are transferred to the next generation also when his son Sohrab is captured by the Taliban officials. Amir who belongs to a rich Pashtun community also faces some incessant struggles and hardships when Taliban invaded the nation from the hands of soviets.

The two generations of Ali’s family, his son Hassan and grandson Sohrab implies the extent to which children fall victims to the brutalities of the Taliban rule. They undergo serious sexual harassments and gratification by the inhumane people. The innocent childhood of Sohrab is filled with sexual perverseness and acts of violent attacks by the Taliban officials and in fact the child is forced to dress up in a feminine manner. When Amir first meets Sohrab in the stadium he is astonished by the appearance of the boy in blue silk dress and having mascara on his eyes. Hosseini writes,

*Sohrab’s eyes flicked to me. They were slaughter sheep’s eyes. They even had the mascara—I remembered how, on the day of Eid of qorban, the mullah in our backyard used to apply mascara to the eyes of the sheep and feed it a cube of sugar before slicing its throat. I thought I saw pleading in Sohrab’s eyes.(239)*
Many of the orphans in Kabul are being adopted by the orphanages run by the Taliban where they are treated in the similar fashion as Sohrab. They don’t even have a chance to open up their mouth and silenced completely by the sheer use of the so called dirty power. The violence and bloodshed perpetuate to the coming generations also as Hassan’s tragedy is transferred directly to the life of his son. Hassan and his wife Farzana are brutally murdered by the Taliban and the same people inflicted pain to the next generation too. So the cycle of violence is an ongoing process and still it continues.

The upper class Pashtuns are not evaded from the terror and violence even though they consider themselves as of the supreme power in Kabul and that is presented through the main character Amir who enjoyed being an upper class Pashtun, also forced to migrate the place with his family. He even betrayed his close friend Hassan in his younger age when he was obsessed with this class and cultural consciousness. Later he was haunted by the betrayal which can be considered a form of sin, and becomes a soul yearning for redemption from the sin he committed. For most part of the novel, Amir attempts to deal with his guilt by avoiding it. But doing this does not redeem the sin but enlarges it. Every time when Ali’s name is mentioned he becomes irritated and reminisced on their past joyful days. Hassan was callously raped by the Pashtun boys in front of Amir and he couldn’t even help or console him. After that unpleasant incident, he started to avoid Hassan deliberately. This rape scene creates a negative impact on Amir which makes him somewhat traumatic later in life. The adoption of Hassan’s son Sohrab can be interpreted as a compensation of the sins he committed to the family of Hassan.

Sohrab is the yet another character of the novel who endures immense ferocities and later turns out to be a haunting figure in the mind of the readers. He experiences traumatic situations and becomes voiceless and defenceless figure towards the end of the novel. Meanwhile he suffers existential angst and is devoid of an identity of his own. As far as Sohrab is concerned it is not surprising to be a vulnerable figure since he is born and brought up in a war torn nation and living in the hands of barbaric people. Almost all inhabitants of Kabul except the Talibans are entrenched in identity crisis where they cannot even claim a nation of their own. The relationship between Amir and Sohrab blossoms as he promised to adopt Sohrab as his own son and agreed to move with him to America. The little Sohrab dreams of a new life and suddenly the palace of dreams was broken into pieces as the Taliban officials made a hindrance on it. This has created a terrible shock and psychological trauma on Sohrab as he imagined of a new life with true colours. Psychological trauma is a type of damage to the psyche that occurs as a result of a severely distressing event. Trauma is often the result of an overwhelming amount of stress that exceeds one’s ability to cope, or integrate the emotions involved with that experience. A traumatic event involves an experience, or repeating events with the sense of being overjoyed that can be delayed by weeks, years, or even decades as the person struggles to cope with the immediate circumstances, eventually leading to serious, long-term negative repercussions. At the end of the novel, Amir and his wife Soraya try their best to make Sohrab overcome this intense traumatic situation where Sohrab lost his sound and becomes speechless. Khalid Hosseini writes, “Sohrab’s silence wasn’t the self imposed silence of those with convictions, of protesters who seek to speak their cause by not speaking at all. It was the silence of one who has taken cover in a dark place, curled up all the edges and tucked them under.”(320). They have arranged everything for him to escape from this emotional and mental breakdown.
Soraya had told me about the things she was planning for Sohrab. Swimming classes. Soccer. Bowling league etc. Now she’d walk past Sohrab’s room and catch a glimpse of books sitting unopened in the wicker basket, the growth chart unmarked, the jigsaw puzzle unassembled, each item a reminder of a life that could have been. A reminder of a dream that was wilting even as it was budding. But she hadn’t been alone. I’d had my own dreams for Sohrab”.

Finally they have succeeded in their mission through the symbolic kite running which has much more meaning associated with it and in fact the novel begins and ends in kite fighting event. The last section of the novel encapsulates the whole idea of relationship in a world where value and love are deteriorating in each second. Ultimately *The Kite Runner* is a novel about relationship especially the relationship between Amir, Hassan, Baba, Rahim khan Soraya and Sohrab and how the complex relationships in our lives overlap and connect to make us the people we are. The kites connected Hassan with Amir through their childhood mischiefs in kite running tournament. For them it was a symbol of love and care. Now Amir uses the same kite to regain the lost life of his dear son Sohrab. When the kites fly in the sky, the broken down Sohrab revitalizes and sprouts a smile on his face, “I looked down at Sohrab. One corner of his mouth had curled up just so. A smile. Lopsided. Hardly there. But there” (327). Even though the novel candidly portrays the socio-cultural and political turbulence of Afghanistan and it history, there lies a beautiful thread of relationships that connect each mind as the kite embraces the sky.

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ETHICS OF DEVELOPMENT:
AN ECO FEMINIST READING OF
SARAH JOSEPH’S GIFT IN GREEN

Abstract

The paper seeks to outline eco feminism with particular reference to the aspect of development. It is highlighted through the reading of Sarah Joseph’s Gift in Green. An explication of the connection between the domination and exploitation of Nature and domination and oppression of women by masculinist methods and attitudes is given to contextualize the study.

Introduction:

Sarah Joseph occupies a unique position in Malayalam literature through her writings permeated with the impetus and beauty of feminist perspective. Her creative writing, embellished with a genuine language, remains unparalleled- a language that confronts the patriarchal authority and encourages even her fellow beings to speak against the atrocities inflicted upon them. Her writings pay due heed to the women, environment, marginalized and the deprived. The ecofeminist writer Sarah Joseph in her novel Aathi, translated by Valson Thampu into English as Gift in Green (2011), is an unconventional novel about the people and the land that they inhabit. It speaks for earth, the pristine beauty that was, the putrid mess that is, and mainly the many ways the past had turned into the present. Aathi is a lagoon, not a utopia, but a land cherished by everyone- a land of beauty, pristine serenity and a rich repertory of natural resources. A remarkable characteristic of the people of Aathi was their indigenous knowledge of growing rice in salt water.

Ecofeminists are of the view that there are important connections between the domination and oppression of
women and domination and exploitation of nature by masculinist methods and attitudes. The term ecofeminism was coined by Francoise d’Eaubonne in 1974 in the book *Feminism or Death*. The strand of ecofeminism predominant till today is cultural ecofeminism. Developed in the 1970s, cultural ecofeminism reclaims women-nature connections as liberating and empowering expressions of women’s capabilities to care for nature. The women-nature connections that hold particular importance for cultural feminists are “embedded in deep social and psychological structures…resurrection of pre-patriarchal religions and spiritual practices … making women’s ways of knowing and moral reasoning better suited to solving environmental problems” (Warren).

Ecofeminists insist on the right of each form of life to live and thrive in the ecosystem. Like all environmentalists, feminist ecologists are concerned with human relationships to the natural world and intent on discovering relationships- among human beings as well as between humans and non-human nature- that contribute to a healing, or healthy planet. Ecofeminists differ from other environmentalists in their emphasis on the ways that “nature” has been envisioned as female (or feminine), the parallel and mutually reinforcing oppression of women and nature, and the ways that environmental problems and issues specifically affect women. They contend that women have a more intimate relationship with nature because of their gender and their biology. These associations allow women to be more sensitive to the sanctity and degradation of the environment. They suggest that this sensitivity ought to be prized by society insofar as it establishes a more direct connection to the natural world with which humans must coexist.

Sarah Joeph’s *Gift in Green* is a scathing critique of modernization. She modeled the land of Aathi on an island Valanthakkadu in Ernakulam district of Kerala. She was amazed at the lives of the people who subsisted on fishing, picking mussels and farming Pokkali rice. They earned a much three hundred rupees a day picking mussels but never fished for more than that as they count on the fish and mussels as their fixed deposits. In *Gift in Green*, she depicts a land called Aathi, covered by water on all sides and characterized by primeval beauty. It is an unconventional novel about the relationship between a people and the land they inhabit. According to the author, “…the ancient Indian concept is of harmonious co-existence with nature. If you lived in the forest, you would be only as important as any other living organism in that habitat,” (Joseph, Interview). Aathi treats nature and its occupants, including humans, with an inviolable sense of equality.

The people of Aathi lived the water-life, drawing sustenance from the water and the fields. Their water-life meant that their daily immediate needs were met from earth and water as they could collect enough food to feed the whole family just by working till noon every day. They were careful not to exploit nature, and realized the importance of maintaining the pristine purity of nature, and the water. Nature in turn, gave them plenty of oysters, fish and an idyllic surrounding in the lush green backwaters of Aathi.

The mangrove forest, that the people of Aathi affectionately call Green Bangle, encircles Aathi. It is an enchanting world in itself, its waters cool and serene. The people of Aathi are the children of soil. They have woven their life in the mystery of Green bangle as well as in the magnitude story telling.

Watching the sallow leaves fall noiselessly on the water, then float towards and accumulate at the bank, he would weave the tapestry of his life—interpretations. He would listen to the blessing of flowers, watch the moss dance, the glow worms
emerge from their hide outs, and read the trails of tiny worms. His mind would clear; his lungs fill with a new vitality and his stomach with heavenly happiness….. (25).

These mangroves contained plenty of fish, which the people used to catch with their bare hands. The people met their daily needs without exploiting the water. They tilled the land and harvested paddy, white gourd, spinach and beans; they reared cattle and poultry as well. Aathi had the custom of storytelling evenings where people turned up with stories sprouting from the traditions of their islands. The storytellers came year after year, they wore white dress, the karnavar of Aathi would lead the storyteller by the hand and make them sit on the prow. They often tell stories with a moral message to be inculcated in their lives. The story telling begins with some exclusive rituals. After the introduction is over, the introducer would take off his head gear, emerge from the water, and stick the burning torch on the stem of a plantain tree. Introducer would arrive from the east, they may be Dinakaran, Ponmani or Ambu. When the storytelling begins, the wind of Aathi is sure to breathe upon the storyteller and baptize him into truth.

The destruction of Aathi begins with the arrival of Kumaran. He was betrothed to Kunjimathu but had run away from the water-life of Aathi to make money. Kumaran had come back to Aathi, to turn his poor, pristine motherland into a jungle of concrete and profits. Aathi was then destined for a different anthem. It had to yield more fish and rice, it had to succumb to Kumarans’ dream. He was the first in Aathi who sold his land and was also the first to abandon his father and mother. Kunjimathu resolved to live despising Kumaran for the rest of her life and for that she decided not to marry anyone. She brought back the land of Kumaran and took care of his parents. Kunjimathu believed that water knows everything and forgets nothing.

Kumaran is the epitome of modern capitalist and consumerist tendencies. He is the representative of new generation which does not pay heed to emotions but neglect one’s own values for pomp, luxury and enjoyment. After many years Kumaran returns to Aathi and the place starts plunging into doom for ever. He wants to exploit the fertility of Aathi and thrives ahead. Kumaran turns his pristine motherland into a jungle of concrete profits. He is always accompanied by an elaborate menagerie: policemen, a private army, a retinue of personal staff, a caparisoned elephant, a judge and a priest, prompting Ambu. Kumaran had extended a helping hand to rescue many from the mud and the marsh of Aathi. Kumaran persuaded the men of Aathi with riches and gave them ‘earth work’ for his project, and ironically the men worked against the earth and the water that sustained them and their generations, with the result that their lives turned hopeless, and with their own hands they polluted the pure water of Aathi with garbage and chemicals, which lead to various illnesses

Until then, the children of Aathi had never had any history of falling seriously ill. They had safe water to drink, clean air to breathe, oysters, rice and fish to eat. No matter how vigorously they thrashed about in water or played in the blazing sun, they had remained unaffected. Now they were behaving strangely and sniveling as never before, for no evident reason. It was more than they could take... their bodies itching...their limbs aching...their lungs choking (271).
This affirms Peter Barry’s view that, “Nature really exists…as an entity which affects us, and which we can affect, perhaps fatally, if we mistreat it” (Barry 252).

With the advent of capitalist patriarchal world system, which is an amalgam of modernization and developmental processes women, the flora and fauna and such weakest combinations were devalued to inferior to man. The masculine centered attitudes and practices led to large scale environmental degradation and exploitation of women. The woman being the carriers of life are more affected by ecological destructions and invasions. There can be no liberation of women and no solution to the ecological crisis within a society whose fundamental model of relationship continues to be one of domination. Thus the oppression of women is interlinked to the degradation of nature. They are the first victims of man’s brutality in the name of progress.

Magnificent expressions of women’s affinity towards nature can be seen throughout the novel. Not a single female character in the novel does any harm to the nature meanwhile they remain attached to the nature. At the same the unified efforts of the women led by Kunjimathu takes the first initiative to save Aathi. Aathi, the lagoon and its very existence is closely bound with Thampuran and his shrine. In Prologue, “Except for Thampuran’s shrine we had no other refuge in Aathidesham” (2). People believe Thampuran guided the backwaters and their whole lives. Aathi is bestowed with the boon of Thampuran; the prime cause of its prosperity in the form of rice, crab, fish etc. For instance, Thampuran’s shrine was a thatched one. As far as Kumaran was concerned, a thatched shrine does not suit, he wanted to build an edifice of gold for Thampuran, the savior of Aathi. When men folk quarreled over it, the collective inner spirit of women takes unanimously the decision to demolish the shrine, the cause of their dispute. The pride and potency of women, their determination - all are brought in to the light through this actions. The same women who had build the shrine with their hands - kneading and baking the clay, plastering the walls with soil, matting and thatching the roof - break down the walls with crowbars, pickaxes and spades. Even though they shed silent tears, they worked without ceasing and accomplish the task for the sake of Aathi and for the unity of its people. Kunjimathu’s intense mental anguish is clearly visible when she justify their task of demolishing the shrine to Dinakaran, when she says,

“who can destroy this darkness, Dinakara? Or set up a shrine for it ? The only problem is that this structure stands here… How does it matter that it stands or does not? Who can defile or fight over the shrine in our hearts… Don’t fight and kill each other in the name of Thampuran, Dinakara. If darkness is our deity, where and how will you build a shrine for what fills the universe and has no beginning or end?” (119 )

The exploitation of women and nature is interlinked through the character of Kumaran. Kunjimathu, jilted by Kumaran, pursues the water life steadfastly. On one hand Kumaran represents the capitalist patriarchy with the motive and self interest of development whereas Kunjimathu represents a woman who is one with nature and protect it with all her might. She is the carrier of the harmonious existence with nature prevalent in Aathi and mourns at its fall. The shame and pain which haunts her over years strengthens her mind to take the
resolve that she will protect Aathi. Being confronted by many adversities, Kunjimathu was not ready to succumb before anything. She gets agitated when she saw the high tide that was all awaiting to arrive, was not being able to enter the paddy fields because of the granite embankments that Kumaran had constructed. She gathers the women and the solidarity woman nurture, care and recreate the environment and set the field once again for farming. They built the ridges and dykes, all by themselves and they waited for high tide. The water of Aathi respond to the plea of women by rising in a flood and submerges Aathi.

Whenever there is a threat for their children or to their beloved Aathi, the inner turmoil of women become clearly visible. The mothers worry about feeding the children once their subsistence bases are destroyed. But they suffer the worst when children start falling ill after the dumping of toxic waste in Aathi. Sarah Joseph depicts a heart – rending picture of the poisoned Pokkali land. Nineteen children dies of cholera, only then the people are ready to undergo a rethinking and realize their faults. Being mothers and wives, the women were forced to leave their Aathi when their husbands and children lured into selling their land and moved into flats in city. Their lives sharing and affection came to an abrupt end. However Kunjikkali and her son Unnimoon felt an isolation which they never felt in Aathi’s bosom at their new home on the twentieth floor of a huge building. They soon leaves the “mesmerizing city of Kumaran” (279) to live their life of, “water, boats, nets, rice, fish, oysters, earthen pots, wooden ladles, sleeping mat, reed mat, well… nothing” (280).

The exploited women and exploited nature suffer the same mental anguish and helplessness amidst the patriarchal authority. Gitanjali and Kayal are visitors to Aathi. Kayal has been inflicted with a strange disease. Gitanjali arrives in Aathi seeking a remedy for Kayal’s ailment, only to get her recovered from the mental turbulence she suffers. Kayal is physically and mentally wounded by the patriarchal society. The terrible account of how a metropolis snatched a little girl and played a havoc with her reveals the intensity of terrors she went through. The remedy prescribed by their guru is to, “know the water, and let her see water, hear the sound of water, play with water” (57). But soon they have to face the fall of Aathi.

Shailaja is yet another character of significance. She is married to Chandramohan who belongs to Chakkamkandom. Shailaja leaves her bridegroom and his polluted village, after the wedding night realizing that she can’t cope with the filthy nauseating atmosphere of Chakkamkandom. Before returning to home, her mother-in-law recounts the bygone days in Chakkamkandom which once was as lovely as Aathi and its present plight of stinking waste yard from the lodges nearby. The excretement from the lodges falls into a large canal called Valiyathodu and reaches the Chakkamkandam kayal. The pilgrims who come to Guruvayoor stay in these lodges and human excreta is dumped into these water bodies. Though Shailaja leaves Chakkamkandom to remain attached to the purity of Aathi, she later finds that Aathi has also become polluted and is unfit to live. The irony of Shailaja’s beloved Aathi getting more polluted later than that of her husband’s land points fingers at the environmental destruction and its negative impact on the whole living and non-living system.

The women of Aathi began to see a parallel between the devaluation of women and devaluation of land. This knowledge is the strong unifying force that prepares them for the final act of healing the land. When men head to the reconstructed temple of Aathi for the sacrifice, women join hands to begin cultivation in the last piece of uninfect field. This final move by the women of Aathi
to protect the land and water of Aathi is an eye opener to the modern reader. Nature signals a new beginning and birds arrive. Final sign of the ultimate victory of the people of Aathi is reinforced by the heavy down pour. Washing away all the dirt dumped by the cruel modern world it reclaimed once again its territories and Aathi got its water back. All that has been destroyed takes a rebirth.

Through the unique customs and eco-friendly nature of Aathi, the novel opens up possibilities for life practices based on mutual love and care respecting mother earth. Such a culture is exposed towards the end of the novel. “To Aathi’s children, even though they walked without a thought on Aathi’s bosom, she was like their own mother who, standing up to her neck in water…” (278). The author’s view of nature and women as one and the same is explicit in these lines,

“No human hand was allowed to touch the water, for the goddess of rice and fish dwelt in it. For the delicate water goddess to survive, the ceiling of marsh had to remain wet. The water mansion would collapse if the marsh were to go dry. If and when that happened, the goddess would go in search of a wet marsh through the deep, underground water paths: a journey full of hardships. Her anger, more destructive than fire rise in proportion to the difficulties she faced…” (102).

In *Gift in Green*, Sarah Joseph depicts a heart rending picture of how the consumerist urge rapes the virginity of the soil; ruthlessly kills the purity and existence of water, the basis of life. She is not against development but can’t help opening her eyes to the cruelty that underlies every development. The themes that Sarah Joseph addresses in her novel are not limited to shallow environmentalism but to deeper understanding that non-human nature is as important as human life. She felt the need to “speak out for the water-beds, the mangrove forests and the endangered bio-diversity there, or to express solidarity with those who subsist on gathering mussels or fishing” (Joseph, Interview). Our lopsided ideas of development stemming from self-importance have only helped to disrupt the intrinsic rhythm of Nature.

**References:**


THE MACHINE: REINVENTING THE COMPUTER

Abstract

It was the major research announcement at HP Discover this year and is HP Labs’ largest ever research project: what the company is dubbing “The Machine”. The Machine is a multi-year, multi-faceted program to fundamentally redesign computing to handle the enormous data flows of the future. It aims to reinvent computer architecture from the ground up. By using the clusters of special-purpose cores, rather than a few generalized cores; photonics link instead of slow, energy-hungry copper wires; memristors give it unified memory that’s as fast as RAM yet stores data permanently, like a flash drive enabling a quantum leap in performance and efficiency while lowering costs and improving security. Rising data volumes from cloud computing, the Internet of things, mobile networks, machine to machine computing are generating unfathomable and unmanageable amounts of data and a new computing architecture is necessary to deal with it. “The Machine” computing model can be the future of computing as it can process petabyte-sized ($10^{15}$) data sets much faster than today’s computers using very low energy. The Machine is able to manipulate massive graphs – the data structures underlying social networks for example – four times larger than the current record holder while using only one-twentieth of the energy.

General Terms:
Computing, Memory Hierarchy,

Keywords:
The Machine, Universal Memory, Memristor, photonic link, special-purpose cores.
Introduction:

By 2020, 30 billion connected devices will generate unprecedented amounts of data. The infrastructure required to collect, process, store, and analyze this data requires revolutionary changes in the foundations of computing. The current computers systems, especially servers can’t handle these large volumes of data in Geopbytes ($10^{30}$) scales, so we need a new solution.

Presently data floods the legacy systems and data is too big and too complex make it difficult to collect, organize, integrate and understand data. Each day internet produces 1 Exabyte ($10^{16}$) of data. This creates an explosion of data in data centers.

There are many shortcomings in present day computer model in handling huge volume of data. They spend up to 80 percent of their time and good amount energy on tasks there to manage the environment, not to perform the task at hand. This environment management is nothing but shuffling data between tiers of storage and memory. In modern systems the memory hierarchy can be 10 layers deep known as “the volatility chain. This hierarchy was efficient and economical and it was a brilliant way of achieving the necessary price/performance combination users needed including PC architecture. This hierarchy is an obstacle on the way to achieve highly efficient computing on large volume data.

Because in current environments, two key tasks are taking the majority of the effort. On one hand, instructions and data keep being shuffled between persistent storage, memory and cache. Things keep going up and down all the time through these layers. And in that process we go through multiple communication busses, each managed by their own software stack. These include virtualization layers, multi-tasking etc.

The Machine uses a universal memory that would have the speed of cache while having the persistence of storage. The Machine combine storage, memory and cache into a single device that would keep all the information and instructions when we need it. The Machine uses memoristors for this purpose, it is the ideal universal memory vehicle. It’s fast, incredibly energy-efficient and can be packed extremely tightly on a chip.

Another problem is that we use copper wires as computer bus in present systems but when we have huge memory/storage space naturally we will need to get quick access to all that memory and huge volumes of data to be transferred. In that case we will need huge cables that will consume great energy. When cables use high energy it will lead to higher heat dissipation. HP is using optical links that relay bits via photons rather than electrons. It will boost the throughput of information flowing between processor cores within data warehouses. This eliminates copper wires as the conduit and with them, a big source of energy and space inefficiency.

In present systems CPUs are using computing power to do things that we don’t need actually, so we are wasting the CPU power also. So you can easily work with low-energy chips, such as the ones used in cell phones if we are doing only the business process. “The Machine” replaces general-purpose processors with special-purpose cores integrated with memory and networking into a single chip package. Building on the foundations laid by HP’s revolutionary Moonshot microservers, this promises to slash the energy that conventional microprocessors require and crunch huge amounts of data much more rapidly.

And finally the current operating systems have to take care of all the overhead required. It would be very difficult to strip current operating systems of all those functions, so it makes sense to
create a new one because hardware alone won’t solve this problem. The fourth piece of HP’s vision
is a brand new operating system that orchestrates the flow of data between these hardware upgrades.

There will be a new operating system, a new type of memory (memristors), and super-fast
buses/peripheral interconnects (photonics). It sounds like The Machine would do away with RAM
and external storage, instead packing tons of high-density memristor chips onto the motherboard,
close to the CPU. Everything would be connected together at high speed using silicon photonics and
will no doubt be able to connect multiple Machines together via an optical interconnect, too.

It can be predicted that “The Machine” will impact our lives, it will place massive compute
and storage power into all sorts of smart devices - electricity meters, cell towers, cell phones, jet
ingines – and will encourage a new, distributed mesh model of cloud computing that both transforms
data into intelligence that can be immediately acted upon locally, and sends that intelligence securely
to a centralized location to be further shared, analyzed, and learned from.

1. THE BACKGROUND

In 1965, Gordon E. Moore published the now-famous prediction that computer processors
would double in power every two years. And despite widespread doubts about how long exponential
growth could continue, Moore’s Law still holds true, roughly half a century later. But when we look
to the future of processors working with electrons. Electrons have this issue that at a given moment
you never know exactly where they are. So you need a group of them to ensure, statistically, that
you have opened or closed a gate. Over the years we have made silicon traces smaller and smaller,
working with less and less electrons according to the Moor’s law. This law remained true for the last
50 years. But the moment we will no longer be sure a gate is opened or closed, as we don’t know
whether it will have been hit by an electron we are doomed to reach a limit.

So it is time to reconsider the clearly defined architecture the present day computers follow
since 1945 called the “Von Neumann” architecture. It consists of a control unit, arithmetic processors,
memory and input/output devices. Some special processors have been created with other
architectures, but all our general-purpose computers have been following this. Yes, there have been
major improvements, one of the key ones was the Reduced Instruction Set Computer (RISC)
systems introduced in the 80’s. All these computer had processors made up of silicon, the same
memory hierarchy and so on.

But the industry leaders are beginning to fret about a dilemma of a much larger order. The
problem is hybrid in nature, encompassing the combined challenges of improving processor speed,
storage capacity and networking throughput simultaneously to meet the towering growth demands
of data coursing across global networks.

2. THE SOLUTION

The solution Hewlett-Packard (HP) put forwards to this problem is named by the firm “The
Machine”. The Machine, a program announced in June 2014, aims to solve this rising problem by
coordinating and advancing four emergent technologies in parallel, to prevent the possibility that the
rising data flow could flood conventional legacy technologies. The four ingredients HP uses to cook
“The Machine” are,
2.1 System on a chip:
It starts with replacing general-purpose processors with special-purpose cores integrated with memory and networking into a single chip package. Building on the foundations laid by HP’s revolutionary Moonshot microservers, this promises to slash the energy that conventional microprocessors require and crunch through huge amounts of data much more rapidly. It’s like having a toolbox full of specialized tools rather than a Swiss army knife - the right tools are faster and more efficient.

2.2 Memristors:
Today, all our devices — from phone to supercomputer — constantly shuttle information between three layers of memory: what’s needed this instant (SRAM), what will be needed very soon (DRAM) and what may be needed later (storage). Memristors will be fast, dense and cheap enough to play both the “soon” and “later” roles at once and thereby speed up throughput by eliminating most of the to and fro. Critically, Memristor is also “nonvolatile” — meaning that no electricity is needed to maintain the data. This massively reduces the energy required to store data and makes systems virtually immune to power cuts.

2.3 Photonics:
Today, we use fiber optics to move data over long distances. To boost the throughput of information flowing between processor cores within data warehouses, HP is pushing ahead with optical links that relay bits via photons rather than electrons. This eliminates copper wires as the conduit and with them, a big source of energy and space inefficiency. High speed photonic fabrics — a term used to mean the web of connections between processor cores - will allow unprecedented storage and computational resources to be marshaled under a radically simplified programming model — moving data between hundreds of thousands of optimized computing cores and exabytes of Memristor storage.

2.4 Operating System:
Hardware alone won’t solve this problem. The fourth piece of HP’s vision is a brand new operating system that orchestrates the flow of data between these hardware upgrades. Virtually all software in existence is written to cope with the limitations of conventional architecture. Coders will be able to create applications that can manipulate and extract meaning from vastly larger data sets than is possible today.

Most applications written in the past 50 years have been taught to wait for data, assuming that the memory systems feeding the main computers chips are slow. HP has assigned one team to develop the open-source Machine OS, which will assume the availability of a high-speed, constant memory store. Another team is working on a stripped-down version of Linux with similar aims; another team is working on an Android version, looking to a point at which the technology could trickle down to PCs and smartphones.

2.5 About the recipe:
The operating system, memory (memristors), buses/peripheral interconnects(photronics) are all new in the proposed computing model. There will be a new operating system. The memory will
be a pack of high-density memristor chips connected to motherboard close to CPU. Everything would be connected together using high speed silicon photonics. Moreover in the case of memory if we could find a memory technology that is as fast and durable as DRAM, and as cheap as Flash and hard drives, we could combine—collapse—multiple layers of hierarchy. We call this combination of main memory and mass storage “universal memory. Suddenly, the job of the operating system becomes massively simplified. SRAM and DRAM remember only by continuously burning power. Flash is growing in popularity for at least part of mass storage today. It’s much quicker than a hard drive, but still very slow compared to DRAM. Flash is slow because data must be written and read—flashed—in large blocks.

3. THE CHANGING PARADIGMS

The Machine brings change to the computing in all aspect from hardware to OS. By discarding a computing model that has stood unchallenged for sixty years, we are poised to leave sixty years of compromises and inefficiencies behind. We’re pushing the boundaries of the physics behind IT, using electrons for computation, photons for communication, and ions for storage.

3.1 Memory Hierarchy: In this four factors memory represents perhaps the biggest opportunity for change. Computers have worked in a similar way for many years now. When a person wants to do something the computer’s central processor will issue a command to copy the program and a document from the slow disk it had been sitting on and bring it temporarily into the high-speed memory known as DRAM that sits near the computer’s core, helping ensure that the file you’re working on will run fast.

Why do we have a hierarchy, it’s a question of scarcity. To keep up with the processor, you need the fastest memory possible. Since the 1970s, the fastest memories have required continuous power. Computers have always been built with as much fast memory as a user can afford, and the required capacity comes from cheaper, but slower, technologies. The memory hierarchy evolved because fast memory is expensive to both buy and run.

The hierarchy of memory comprises three major layers: SRAM is used for on-chip cache memory. DRAM is used for main memory and mass storage is provided by Flash and hard disk drives. Looking at the first two layers, the memory that shares silicon with the microprocessor is called SRAM. Each bit is stored in a network of (usually) six transistors. Speed is paramount, because the SRAM has to keep up with the gigahertz pace of the microprocessor. The problem is that SRAM cells can take up most of the space on the chip They’re also the most difficult transistors to run reliably at low voltages and high frequencies, making them difficult and expensive to fabricate.
Fig 1: The conventional memory hierarchy

DRAM stores information as electric charge in a capacitor. The problem is that a DRAM capacitor is a leaky bucket of electrons. You have to keep refilling the capacitor every few milliseconds or the data will be lost. This wastes time—you can’t access data while a refresh is in progress—and power. As DRAM cells scale down, these twin problems get progressively worse.

At this point in the hierarchy, we cross an important boundary, the one between volatile and non-volatile. SRAM and DRAM remember only by continuously burning power. But some results of computation need to be recorded permanently. Of course, power loss is only one of the types of failure that we need to guard against, but given the consequences we all know of unexpected power loss, this boundary is an important one.

The final layer of our memory hierarchy retains information in the absence of power. Flash is growing in popularity for at least part of mass storage today. It’s much quicker than a hard drive, but still very slow compared to DRAM. Flash is slow because data must be written and read—flashed—in large blocks. It’s like picking up a dictionary when you only want a single word. This speed limitation isn’t a problem today because of the memory hierarchy: we have SRAM and DRAM to do the rapid work. Flash also has a surprisingly low limit to how many times it can be erased and re-written. SRAM and DRAM have effectively unlimited lifetimes, but Flash cells can break down after as few as 10,000 cycles. For this reason, it can’t be used for data-intensive main memory tasks.

Hard disk drives are used for the bulk of mass storage today. Although Flash is catching up, hard drives still offer the lowest cost-per-bit this side of magnetic tape. But they’re glacially slow and energy-inefficient. They’re also inconsistent: if two blocks of data happen to be next to each other then it’s not too bad. But if the blocks are far apart, millions of clock cycles can be wasted while the read/write head drags itself across the platter. Newton still matters, and $F=ma$ still means that moving drive heads and rotating platters burns energy.

The industry has developed all kinds of tricks to mask the delays caused by the memory hierarchy. Most use sophisticated algorithms to predict and deliver that data that will be needed next, such as caching and prefetching commonly used data. These algorithms have millions of lines
of code but when coming to social media era of 2014 from business database application era of 1990s those tricks not only fail to speed things up, they can actually slow everything down.

A problem with this architecture, according to computing experts, is that DRAM and the Flash memory used in computers seem unable to keep pace with the increase in data use. As the current memory technology hits its physical limits, we need to see a new kind of fast, cheap, persistent memory.

HP’s bet is the memristor, a nanoscale chip that consists of a grid of wires with a stack of thin layers of materials such as tantalum oxide at each intersection. When a current is applied to the wires, the materials’ resistance is altered, and this state can hold after the current is removed. At that point, the device is essentially remembering 1s or 0s depending on which state it is in, multiplying its storage capacity. Transistors toggle between an on or off state, whereas memristors, like analog devices, can occupy a range of in-between states. HP builds these chips with traditional semiconductor equipment and expects to be able to pack unprecedented amounts of memory - enough to store huge databases of pictures, files, and data - into a computer.

<table>
<thead>
<tr>
<th></th>
<th>Memristor</th>
<th>PCM</th>
<th>STT-RAM</th>
<th>DDR4</th>
<th>Flash</th>
<th>FIM</th>
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<tr>
<td>Cell area (μm²)</td>
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<td>16-64</td>
<td>9-6</td>
<td>6-3</td>
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<td>2-100</td>
<td>8.1-61</td>
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<td>10³-10⁴</td>
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<tr>
<td>Access time (ns)</td>
<td>&lt;10</td>
<td>≤200</td>
<td>10-80</td>
<td>≤20</td>
<td>10³-10⁴</td>
<td>10⁴-10⁶</td>
</tr>
<tr>
<td>Write time (ns)</td>
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<td>50-500</td>
<td>10-50</td>
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<td>10⁶-10⁹</td>
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<tr>
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<td>3D capability</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>

**Fig 2: Comparison of data storage technologies**

A problem with this architecture, according to computing experts, is that DRAM and the Flash memory used in computers seem unable to keep pace with the increase in data use. As the current memory technology hits its physical limits, we need to see a new kind of fast, cheap, persistent memory.

**Fig 3: A grid of memristor cells**
Memristance is a property of an electronic component. If charge flows in one direction through a circuit, the resistance of that component of the circuit will increase, and if charge flows in the opposite direction in the circuit, the resistance will decrease. If the flow of charge is stopped by turning off the applied voltage, the component will “remember” the last resistance that it had, and when the flow of charge starts again, the resistance of the circuit will be what it was when it was last active.

So now we are forced to find a memory technology that is as fast and durable as DRAM, and as cheap as Flash and hard drives. So that we could combine—collapse—multiple layers of hierarchy and get rid off overheads of the memory hierarchy. We call this combination of main memory and mass storage “universal memory.” Suddenly, the job of the operating system becomes massively simplified. Applications no longer have to be written to split large tasks into pieces so they can fit into a few gigabytes—or maybe a few terabytes for the small number of organizations that can afford it. With universal memory, petabyte-sized data sets can be held in memory to solve problems impossible to even attempt today. Latest Memristors can store a bit of data in less than 100 picoseconds. Light itself would only have travelled an inch in that time.

It is possible to directly attach the memristor technology to the central processing unit using fiber optics. Not only can you transfer information up to 6TB per second, but you do it with very low power consumption. So, you win on two fronts—speed and energy consumption. Lower consumption also leads to lower heat dissipation, which in turn allows less need for cooling and the opportunity to develop denser environments, so you use less space.

4.2 Processor Cores

The Machine has been based around some of the concepts of parallel processing. The total system is housed in a 4.3 U chassis and can accommodate 45 servers. The machine excels in areas where massive parallel processing such as real time data processing is required. The proposed machine uses 65% less power, 90% less space and 98% less cabling than traditional computing. The project under study already using specialized cores for different workloads.

High speed photonic fabrics - a term used to mean the web of connections between processor cores - will allow unprecedented storage and computational resources to be marshaled under a radically simplified programming model - moving data between hundreds of thousands of optimized computing cores and exabytes of Memristor storage. We believe that Memristor memory, which is being commercialized by HP, is the ideal universal memory vehicle. It’s fast, incredibly energy-efficient and can be packed extremely tightly on a chip. How fast is a Memristor? Our latest Memristors can store a bit of data in less than 100 picoseconds. Light itself would only have travelled an inch in that time.

4. The Result

So what is the result this all bring to the computing world? If HPE can deliver on these technologies - its timeline to do so reaches out through 2020 - the benefits will be enormous, with quantum leaps in performance and energy efficiency. The problems of having to build and find electricity for thousands of new data centers will effectively disappear. Computational tasks that today require government levels of funding and legions of data scientist will be within the reach of almost anyone. As with all innovations that come with great promise, The Machine will face its
ultimate test once it’s in the field. Once it’s there, HPE hopes it will not only address critical business needs today, but, more importantly, the ones we will face tomorrow.

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WHY SYRIAN CHRISTIAN WOMEN ENTER THE ENTREPRENEURIAL ARENA

Abstract:

The arena of entrepreneurship is being fast developed and as an important research area in India. Entrepreneurship, till a decade or two ago was considered totally male’s prerogative, but now it is being taken up a challenging females. This paper focuses on the entrepreneurial entry of the Syrian Christian women on the background of the history of women entrepreneurship. Women entrepreneurs in Syrian Christian community are not a homogeneous group and they display heterogeneous features like, achievements, competencies, creativeness, along with other factors such as their historical economic advantage, class dispositions and inherited capital acquired from one generation to other.

Keywords:
Entrepreneurship, Women Entrepreneurship, Syrian Christians, Inherited Capital

Introduction:

The field of entrepreneurship is being fast developed and as an important research area in India. But a few studies have been done in this area besides the contribution of some economists, sociologists, psychologists, and anthropologists. Entrepreneurship, till a decade or two ago was considered totally male’s prerogative, but now it is being taken up a challenging females.

As the situation stands today, the country cannot afford to have women as a major and important resource, most of the time sitting behind, untapped, unexposed, unrecognized and last of all ignored, while she is a major contributing factor in every walk of life directly or indirectly. In context of women becoming keen on shouldering
responsibilities as professional and enter in a new profession that is ‘entrepreneurship’. Women entrepreneurship is an inevitable factor of economic development. Women in the present society have been better awareness about their surroundings and modern developments. The emergence of the term ‘women entrepreneurship’ is a contemporary concept. They are doing a magical wonders in the world and it generate self employment and employment to others. Over the centuries the words ‘entrepreneur’ and ‘entrepreneurship’ have been used in various fields. The term entrepreneurship is gender neutral. Women entrepreneurship is one of the fastest growing concepts in the world. All economies have witnessed growth and development with the contribution of women.

**Entrepreneurship: A Conceptual Framework**

The word ‘entrepreneur’ comes from the French word ‘entreprendre’ which means ‘to do something’, and it was originally used in the middle ages in the sense of ‘a person who is active, who gets things done’. (Bert Hoselitz, 1951). The term entrepreneur in the early 16th century France was used for men who were engaged in leading military expeditions and in the early 18th century the term was frequently applied by the French Government for road, harbor and fortification contractors.

The term entrepreneur was popularized in economics by Schumpeter, all classical and neoclassical (exclude Schumpeter) economists consider the term entrepreneurship is not a volatile concept and not related to the process of economic development. Schumpeter defined “entrepreneur is an innovator, who foresees the opportunity and tries to exploit it by introducing a new product, a new method of production, a new market, a new source of supply of raw materials or half manufactured goods and or new organization of industry like creating monopoly position or breaking monopoly position”. In Schumpeter’s words, “entrepreneurship is a type of leadership (where he leads the means of production into new channels) rather than an ownership, and he gets satisfaction from using his capabilities in attacking problems”. Schumpeter also suggested that his idea of internally generated change, as opposed to change induced from the outside, was not only applicable to economic phenomena, but to all social phenomena.

In the 21st century, the Research Scientists Live De Bone pointed out that it is not always important that an individual comes up with an entirely new idea to be called an entrepreneur, but if he is adding incremental value to the current product or service, he can rightly be called an entrepreneur.

**Women entrepreneurship**

The past thirty years have seen the development of a burgeoning academic literature investigating the small firms sector from a range of different disciplinary perspectives. In a diverse and increasingly specialized research area, it is notable that relatively few studies consider the position of women as business owners.

The words ‘entrepreneur’ and ‘entrepreneurship’ have acquired special significance in the context of economic growth in a rapidly changing socio-economic and socio-cultural climates both in developed and developing countries.

Over the past few decades, there has been a substantive rise in women’s contribution in economic activities all over the world. Now, women entrepreneurs are active participants in the economic drama. In the recent years, transformation of lives and livelihood of the women have gained highest prominence in the world.

Female entrepreneurship has gained increasing attention over recent years in terms of theory,
practice and policy with women’s contribution to the growth process of a country widely recognized. As this extent body of evidence has developed, greater focus has been afforded to how gender shapes our understanding of entrepreneurial activity, particularly in respect to the embedded masculinity of the normative model of entrepreneurship.

**Women entrepreneurship in India**

Women constitute almost half of the population in the world; in the same manner women in India constitute around 615 million on 128 billion of the total population. Women have been considered as the central part of the nation. No nation attains progress and prosperity without the development of women. In India, women entrepreneurship is a new phenomenon in development of the economy of self, family and nation. Women entrepreneurs have been making significant impact in all segments of the Indian economy. Paradoxically, women in India are socially, politically and economically weaker than men even though the Indian Constitution strongly emphasizes the concept of equality. Entrepreneurship is one of the important tools to overcome this situation.

To empower women and attain economic independence, development of women entrepreneurship has been viewed as a critical entry point for women’s integration in development. Women’s economic empowerment is not just as a women’s issue, it is at the very core of national development, and the political and economic empowerment of women is an invaluable contribution to sustainable growth and responsible government.

**Women Entrepreneurship in Kerala**

Within India, the state of Kerala has carved out a separate niche for itself in development discourse due to its impressive performance over the years in the demographic and social development front. Much has been written about Kerala’s high level of female literacy, custom of matrilineal inheritance, political achievements regarding decentralized governance and commitment towards social welfare, high levels of life expectancy, low infant mortality and cohesive social structure promoting effective interpersonal channels of communication. (Bhatt and Rajan:1990; Kannan:1990; Kumar:1995.) Such achievements in social development have led to the emergence of the so called ‘Kerala Model of Development’(Kerala has followed a path of development “from welfare to growth”, it straight away promotes the welfare of the people by giving highest priority to social services with low per capita income).

Kerala being a small state at the tip of the India possesses certain unique demographic characteristics. On the basis of 2011 census, Kerala’s total population is 33,387,677 crore in which, the women population is 17,378,649. In the case of literacy rate Kerala has 93.91 percent, out of which women constitute 91.98 percent; whereas the corresponding national figures are 74.04 percent and 65.46 percent respectively. In the case of sex ratio, Kerala is one and only state in female outnumbered males. According to 2011 census, the sex ratio of Kerala is 1084 females per 1000 males. In the sphere of the wage structure, employment, professions, service and technical scenario women have equality with men. Women in Kerala have signed their presence in every walk of life with men. Women in Kerala are better educated and enthusiastic even through the number of women entrepreneurs are very small and their economic participation is in an embryonic stage.

In Kerala, the numbers of educated women are increasing year after year, which leads to the problem of unemployment among women. To overcome the problems, Kerala Government has
started self-employment programmes for them during the period of International Women’s Year 1975. During this period, more and more women had come forward to start new industrial units. The Industries Department, Government of Kerala has defined women industrial units as “units owned and organized by women and engaged in small scale and cottage industries with not less than 80 percent of the workers are women”.

In Kerala, there is no reliable data available regarding the role of women in the entrepreneurial scenario of the state. The available data shows that, the industrial sector of Kerala was dominated by small-scale traditional industries before the plan period. Till 1970’s there was no women units were recorded. Government and private agencies have been made efforts to promote women self employment since 1970’s.

Women entrepreneurship gained importance in Kerala after the launching of International Women’s Year in 1975. In April 1975 the Government of Kerala launched a massive programme to set up 10,000 small scale industrial units in the state during the course of the next four years. As part of the above programme, a special programme for women viz; Women’s Industrial Development Programme (WIP- Women Industrial Development Programme will be restructured with a view to ensuring maximum participation of women in the industrial development of the state and to encourage them to proceed towards non-traditional areas of operation) was planned to commemorate the International Women’s Year (1975). Before that, there were only very few women’s industrial units and they are mainly in the co-operative sector.

Kerala Government has set up many programmes for the improvement of women entrepreneurs. Besides the WIP programme, the government launched number of programmes like, KSWDC, SIDBI, KSIDC, DIC, MSME, KITCO, K-BIP, NSIC, NABARD, KVIC, KVIB etc(KSWDC-The Kerala State Women’s Development Corporation, SIDBI-Small Industries Bank of India, KSIDC Kerala State Industrial Development Corporation, DIC-Development of Industries and Commerce, MSME-Ministry of Micro Small and Medium Enterprises, KITCO-Kerala Industrial and Technical Consultancy Organization, K-BIP-Kerala Bureau of Industrial Promotion, NSIC-National Small Industries Corporation, NABARD- National Bank for Agriculture and Rural Development, KVIC-Khadi and Village Industries Commission and KVIB-Khadi and Village India Board). The concept of DIC originated through the announcement the Industrial Policy of the Government of India in December 1977. The DIC’s came into existence in the state by July 1978 in all the districts.

The real emergence and growth of women entrepreneurs occurred during and after 1978. As on 31st March 1987 there are 1143 women’s enterprises [“An industrial unit is considered as women’s industrial unit only if it is owned and managed by women and women account at least 80 percent of the workers”(as defined by the Department of Industries, Government of Kerala)] in the small industrial sector of Kerala. They are spread all over the 14 districts of the state and engage in 13 different trade lines. They have made their mark both in the traditional and modern sectors. There are different schemes and agencies sponsored by the Central and State Governments to extent a helping hand to the needy women entrepreneurs in Kerala.

**History of Syrian Christians and contextualizing Syrian Christian women**

At present there are eleven living religions in the world, represented by Christianity,
Confusionism, Islam, Hinduism, Buddhism, Taoism, Shinto, Judaism, Sikhism, Jainism and Zoroastrianism. Christianity is one of the widely followed religions in the world. Of the religions that originated outside India but found a home here, Christianity is the oldest. The history of Christianity in India from the first century A.D up to the 16th century is virtually the history of the Syrian Christians of Kerala.

The history of Syrian Christian’s conversion has different views. According to one account Syrians were the descendents of high caste converts made by St. Thomas the Apostle in the 1st century A.D. Another version traced Syrian origins to Thomas of Cana, a merchant from West Asia, who settled in Kerala with his followers and made converts in the 4th century. Among Syrians there were two endogamous groups: Suddists, who claimed to be direct descendants of the early West Asian missionaries and racially pure, and Nordhists, said to be descendents of early high caste converts. Nordhists were much more numerous.

The Thomas Christians are also known as Syrian Christians for originally, their liturgy was in Syriac and they acknowledged the jurisdiction of the Syrian patriarch of the east in Damascus (Syria).

The Syrian Christian community is an influential part of the Christians in Kerala. This community is a heterogeneous one relating to their rights over property. Syrian Christians follow the patrilineal mode of inheritance. In Kerala, the patrilineal inheritance system denies the equal rights of Christian women in the community. This mode of inheritance revealed the gender discrimination. The inheritance rights were having discussed on Christians through customs and practices.

Patriarchy system gave lower status for women in society. This system explored the notion of superiority of the men over women. This system prevents women to take the ownership of property as well as it oppresses women in the society and also strictly restricts the individual freedom in the domestic space. During this time, women were considered as only servants and inferior to men. The patriarchal Syrian Christian family structure inversely affected the status of women in the family. However, they experienced much better status than other religions.

During the 19th century, status of Syrian Christian women improved due to modern education. Syrian Christian women started to get an opportunity to participate in the religious functions during this period. They were not strictly restricted to the domestic space because they had some rights to participate the religious ceremonies.

In the 20th century, Syrian Christian women had begun their participation in public space. Due to education, they enter into many awesome professions like teaching, nursing, medicine etc. Churches and many Christian educational institutions helped for achieving this goal. During this time most of the Christian men want to marry the educated girls for securing their future life inside and outside the country (at this time majority of the Christian men migrated to other foreign countries).

In the 21st century Syrian Christian women independently fulfill their wants and needs in their life. Besides the professions like nursing, teaching, doctors they have been enter a new field, which is ‘entrepreneurship’.

Why Syrian Christian women entering the entrepreneurial arena?

It is a fact that women in this community are having skills and ability to invent and innovate a business unit. Through this innovation they create a group that is, women entrepreneurs. Women entrepreneurs in Syrian Christian community are not a homogeneous group and they display
heterogeneous features like, achievements, competencies, creativeness, along with other factors such as their historical economic advantage, class dispositions and inherited capital acquired from one generation to other.

Syrian Christian women manifest a new tendency to begin entrepreneurial economic activity. It is because the fact that their highly educated status and economic well-being which is hierarchically passed from generation to generation has used as a capital (Inherited capital) for the investment. It is termed as new tendencies because of the historically conceived notion that those women in a patriarchal society and community, and a well off family seldom encourage women to involve in any economic enterprises. In fact, the community women in place were also subject to this notion because of the wealthy background of their family and the family they are sent off as wives. But, a new economic rationale works among the woman of this community and they sometimes make a collateral tie-ups with other woman who can invest in the business that they can run without much physical labour rather they started investing their inherited capital to invest in enterprises. At the same time, it is to be noted that most of the Syrian Christian women were considered entrepreneurship as a ‘leisure time spending economic activity’. Because, these women are enjoying much better status on ‘economic, social and cultural’ compared to women in other community. They were concentrating on manufacturing and servicing industry than trading industry. It is because of, the easiness to handle the problem in the former than the latter.

Syrian Christian women entrepreneurs run their enterprises with the help of their family. Because, the family structures of these groups of woman are highly patriarchal in nature, even though women are highly educated, they are not permitted to go out to do the business. So alternatively, these women form a family collective or ‘a community woman’s collectives’ and invest their inherited capital for entrepreneurship in their own place that may be near to home or sometimes in the home. Most of these entrepreneurs have economically yielded profit and the educated women could really work well in the entrepreneurial economic activity with the use of the capital vested with their family or ‘wealth in home’. In a nut shell, most of them felt that, through the entrepreneurial economic activity they can improve their status both in economic terms and the social. The social respectfulness as enterprising woman in the community got a new notion about woman’s work and status. What I mean here is that the old patriarchal rigidity of not allowing woman to work has slowly fading away rather a working woman with their own family capital (Inherited capital) get new social capital in the form of social respect and individual dignity.

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വിദ്യാഭ്യാസം -
ഉല്പാദനകൃതീസാവിതുകൾ

അതീവ അവശ്യത ഭാവമെയിരിക്കുന്നത്

കമ്പ്യൂട്ടർ വിദ്യാഭ്യാസം ചെയ്യുന്നതിന്

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കണ്ബാനക്കെട്ടിനു, മാതൃകയിൽ വേണ്ടിക്കെട്ടിനു മാതൃകയിൽ താത്തിൽ എണ്ണം കൊടുക്കുന്ന കേന്ദ്ര രേഖകൾ മാതൃകയിൽ മാതൃകയിൽ മാതൃകയിൽ എണ്ണം കൊടുക്കുന്ന കേന്ദ്ര രേഖകൾ മാതൃകയിൽ മാതൃകയിൽ 

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അമ്മായും ഇറപ്പിച്ചിരിക്കുന്ന നിലയില്‍ തല്ലാതുപ്പിച്ചെടുക്കുന്ന പ്രതിരീതിയുടെ അപേക്ഷയുടെയും അതിൽ നിന്നും കാര്യത്തിന് മുള്ളുള്ളതിനാല്‌.

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CONTRIBUTION OF ROYAL WOMEN IN THE FIELD OF COMMERCE;
AN OVERVIEW OF MUGHAL PERIOD

Abstract:

The royal life in the Mughal harem and cultural heritage bears testimony to the economic affluence and prosperity of the Mughal age which was one of the most glorious periods of Indian history. The Mughal Empire witnessed developments in all spheres of economy which included agriculture, internal and external trade, commerce and industries, banking and currency. Much has been discussed and written by eminent scholars on various aspects of economic condition of the Mughal age. This paper deals with contribution of Mughal royal ladies in economic prosperity of the Mughal Empire which occupies a unique place in the annals of India.

Introduction:

The Mughal emperors took a lot of personal interest in trade and commerce especially in sea-trade. Side by side with merchant vessels, there were ships owned by the Mughal emperors that were used for sea trade. Akbar was greatly interested in this field; Jahangir too had his own ships and participated in sea-trade. When Shahjahan as Prince Khurram was the governor of Gujarat he carried on a highly profitable trade in broad cloth, textiles, gumlac, indigo and tobacco and carried on this even when he became emperor. With such a flourishing atmosphere of trade and commerce prevailing during the Mughal period, it is not very unnatural that side by side with the Mughal emperors, the Mughal ladies, their close relatives and the nobles also took a lot of interest in this field and participated actively in the economic scenario of the Mughal age. Though too many royal ladies of the Mughal harem did not actively participate in the economic field, yet there were...
distinguished ladies of that time like Jahangir’s mother Mariyam-Uz-Zamani, Nur Jahan Begam and shahjahan’s daughter princess Jahanara, who are known to have taken an active participation in the trade and commerce of that time. There were also some others who contributed indirectly to trade and commerce.

**Participation of Mughal Ladies**

The royal mughal ladies built market places where there was a lot of buying and selling, built Caravanserais for the travelers and merchants, and also owned ships which carried on sea trade on their behalf. These ships usually operated between Surat and the ports on the Red Sea. They were of different types, like the pilgrim ships of 400 to 1500 tons, and the Junk, built on Chinese model and roughly of 30 to 400 tons. The Mughal ladies also owned large jagirs, the revenues of which went to them. Since owing these jagirs meant a lot of income for them, it can be said without doubt that they must have tried their best to improve the economic condition of these jagirs.

Even in an indirect manner the mughal ladies contributed to the flourishing economy of the Mughal age. The needs and requirements of the Mughal harem gave an impetus to many industries, including both the imperial kharkhanas and also those with flourished in other parts of the country. To fulfill certain requirements of their goods were also brought from foreign lands. Starting with textiles, the harem ladies dressed in the finest clothes made from the finest material whether of cotton, silk or wool. The muslins used for their cloths were of three types - Ab-e-Rawan (running water), Bafta Hawa (woven air) and Shabnam (evening dew). Muslins called Shabnam were famous as ‘Dacca Malmal’ and came from Dakha. The great love of mughal ladies for silk especially in making their dresses resulted in a lot of silk being imported from foreign countries like Banaras, Bengal and Orissa.

In fact till Akbar’s time we practically do not come across any royal lady who contributed in some way towards this field, except one of Humayun’s wives named Haji Begam, who happened to build a sarai called Arban Sarai near Delhi in 1560 AD, which had an accommodation of 300. Haji Begam’s motive behind building this sarai was certainly a charitable one owing to her charitable nature, but, building of sarais during the Mughal times, as in times before and after, certainly helped as means to boost up trade and commerce by providing shelter and security to pilgrims and also traders and travelers, who went from one place to another.

**Jodha Bai and her involvement in Sea Trade**

Akbar’s wife and Jahangir’s mother Jodha Bai, who had the title of Mariyam-Uz-Zamani, was greatly interested in trade and commerce of her time and was the first royal Mughal lady who participated directly in it. She had her own ships and carried on brisk trade from the Surat port to various ports on the Red Sea. One of her ships was the famous Rahimi of Surat. Many foreigners who were in India during jahangir’s time make mention of the ships of Queen Mother Mariyam-Uz-Zamani and the brisk trade that was carried on by them between India and Arabia, in their accounts. William Fitch wrote that, “the Emperor’s mother, or others acting under her protection, carried on extensive trading operations, and at this time a vessel belonging to her was being laden for a voyage to Mocha. The foreign merchant powers had an eye for the Queen Mother’s ships including Rahimi. The English wanted to capture them to make the Mughal Emperor Jahangir aware of the impatience of the English merchants and their grievances. In 1613 AD the Portuguese came in to
direct conflict with the Mughals for capturing one of the Queen Mother’s ships “which was to be laden for Mocha”. This ship had valuable cargo and passengers and also had a Portuguese pass guaranteeing her against molestation. The Mughals were greatly angered by this high-handed behavior of the Portuguese.

One of Jahangir’s Hindu wives Jagat Gosain who was the daughter of Raja Udai Singh of Jodhpur and who was the mother of Prince Khurram, later Shahjahan, did not contribute directly towards the economic field, but she is said to have founded a village called Sohagpura where ruins of palace and tomb are still found. This village was a famous manufacturing centre for fine bangles of glass.

**Role of Nur Jahan in Mughal commercial activities**

Other than Jahangir’s mother and in a scale much larger than her, it was Jahangir’s last wife, the illustrious Nur Jahan Begam who took a very active part in trade and commerce other fields like art, architecture, education, literature and even politics, Nur Jahan’s participations in the economic field too was quite substantial and much more than any other Mughal lady of the royal household. Nur Jahan’s commercial activities were not confined to trade alone. She is famed to have built market places and sarais, had ships of her own that carried on brisk trade and even coins were struck in her name. No other Muslim women enjoyed this privilege of having coins struck in her name. Nur Jahan’s coins were made of gold and bore the twelve signs of the zodiac, one sign on each coin. It is not clearly known how much of an economic transaction was carried on by these coins. Manucci calls them “current money”.

Nur Jahan had unlimited wealth around her. She was the pivot of the Mughal administration of Jahangir’s time and the whole administrative set up revolved around her. Apart from the wealth lavished on her by her Emperor husband, she received a lot of nazrs or offerings from many people who wished to please her in order to gain her favours. Nur Jahan owned vast jagirs, of her jagirs being that of Ramsar, which was about 20 miles south-east of Ajmer. The pargana of Toda, 80 km. south east of Ajmer on the trade route from Surat to Ajmer, and with annual revenue of 2 lakhs of rupees, were given to her by Jahangir as a part of the celebrations of Shahjahan’s victory in the Deccan. According to Beni Prasad, “If Nur Jahan could have been admitted to the order of mansabdar, her jagirs would have entitled her to the rank of 30,000.”

Nur Jahan Begam built sarais too, the most famous of her sarais being the Nur Mahal in Jalandhar. This sarai was built around 1620 AD and Nur Jahan bore the entire expenses of its construction. This sarai is situated 16 miles south of Jalandhar, 25 miles east south-east of Sultanpur and 13 miles west of Phalor. Jahangir speaks of this sarai in his memoirs. Nur Jahan built another sarai, again by the name of Nur Mahal Sarai near Agra. Peter Mundy mentioned this sarai in his accounts and said that it could accommodate two to three thousand people and 500 horses. The dress making, carpet making and jewellery making industries also got a boost under Nur Jahan’s encouragement and innovations. More and more skilled craftsmen also got employment in these industrial units.

Nur Jahan carried on sea-trade with foreign lands with a lot of enthusiastic vigour. She owned a number of ships. Her chief agent in her activities concerning foreign trade was her brother Asaf Khan. She was a very intelligent woman. She realized that the rivalry between the Mughals and
the Portuguese would create some interruptions in her trade with foreign nations, so she tried to favour the English merchants in the Indian Ocean trade system. She took an active interest in internal trade also. Pelsaert, while describing the city of Agra in his accounts, wrote that Nur Jahan Begam had offices there which “collect duties on all these goods before they can be shipped across the river; and also on innumerable kinds of grain, butter and other provisions, which are produced in the Eastern provinces, and imported thence.

Commercial activities of Jahanara Begam

During the reign of Shahjahan, his eldest daughter Jahanara Begam was the only royal lady who took an active interest and participated wholeheartedly in the prosperous trade and commerce of that time. Jahanara’s mother and Shahjahan’s wife favourite wife Mumtaz Mahal, though an influential lady of the royal court, did not take part in the trade and commerce. Akbarabadi Mahal, Shahjahan’s another wife seems to have built a sarai. But it was only Jahanara Begam who actively and contributed largely to the economy of those days.

Princess Jahanara built the famous caravansarai known as the Begam Sarai. It was built in Delhi and foreigners like Manucci, Bernier, Tavernier and Thevenot speak of it in their accounts. In it provision was made for adequate safety of the travellers and merchants, the gates being closed at night. This caravansarai was said to have been meant for the rich Persian, Usbek and other foreign merchants. The Begam Sarai was destroyed after the Sepoy Mutiny. Like Nur Jahan Begam, she owned many jagirs, the revenues of which came to her. Some of her jagirs were Panipat, Achchol, Bachchol, Safipur, Dohraha and Farjahara. The pargana of Panipat yielded annual revenue of one core dams. Since Princess Jahanara had great influence in her father’s administration, many people, even foreigners tried to please her through valuable gifts and presents in order to gain their favours. The Dutch sought her intervention to solve their problems.

Jahanara Begam invested her wealth in conducting brisk foreign trade and also got back in return huge profits. Invested her wealth in conducting brisk foreign trade and also got back in return huge profits. She owned a large number of ships and established friendly commercial relations with the Dutch and the English. Their co-operation helped her to carry on extensive trade and make huge profits. Manucci estimates her income to 30 lakhs of rupees a year apart from the precious stones and jewels owned by her. The most famous and largest of Jahanara Begam’s ship was called Sahebi after Begam sahib, the popular title of Jahanara Begam. It was constructed by the Begam at Surat, from where it operated. This ship sahebi was used by the Princess for profits as well as to assist Hajjpilgrims. The Sahebi, is known to have operated till 1663 AD. Another ship by the name of Gunjwar, which originally belonged to Shahjahan was given by him to Princess Jahanara in December 1629 AD, along with the instruments, valuables, drugs and material. It also operated from Surat.

Jahanara Begam is credited with the work of building two famous market places, one at Lahore and other at Delhi. These market places became the most important commercial centres of those cities where merchants even from foreign nations came with their goods. In Lahore, she planned and supervised the building of the Chowk Sarai Bazar. The famous Chandni Chowk built around 1650 AD in Delhi was also a contribution of Princess Jahanara. There was a pool in the centre of Chandni Chowk. On moonlit nights the whole complex and the pool shimmering in silvery
moonlight acquired the name Chandni Chowk. The Chandni Chowk even today continues to be one of the biggest commercial centers of the capital city.

**Economic Contribution of royal women during Aurangazeb**

During Aurangazeb there seems to have been no royal lady who actively participated in commercial activities. Aurangazeb’s second daughter, Zinat-un-Nisa Begam built fourteen caravansarais for poor travelers and merchants. Then there was Aurangazeb’s wife Nawab Bai who is said to have built a sarai at Fardapur.

**Conclusion**

In a conclusion, this short survey of the commercial activities and contribution of Mughal ladies from the times of Babur to Aurangazeb reveal that even in the intricate field of economy, the royal ladies of that age, if at all they came forward and participated, they did it actively and with a lot of interest. They invested large amounts in trade and commerce and got back many times more as returns in the form of profits. Also, their building market places and sarais and having their own ships carrying on external trade, helped in the existing process of trade and commerce. May be very few ladies came forward to take part in commercial activities, even then, the few that came forward left their deep mark in this field.

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Marital Rights of Women in Islam: Philosophising Qur’an

Abstract:

Marital rights are an important indicator of women’s general status in a society. In most of the societies and religious systems women have been given no independent right to enter a marital relationship of their own free will. A women is generally considered incapable of choosing a life partner as her mental capacity is supposed to be inferior to that of a man. However, the Holy Qur’an takes no such view and considers a women mentally as well as morally equal to man. This paper is an attempt to make picture about what Qur’an says about this matter.

Introduction:

Marriage in Islam, as is well known, is a contract between two equal partners. A women as an equal party can stipulate her preferred conditions in the same way that a man, the other partner, can. Men enjoy no superiority in this respect. Thus it will be seen that without the women’s approval, and approval on her conditions, a marriage cannot take place. She is clearly and equal partner in contracting a marriage. There is no concept of marriage as a sacrament in Islam. It is therefore, possible to dissolve a marriage just as any other contract between two individuals can be terminated.

First of all sex is no taboo in Islam. It is considered a legitimate activity within the framework of marriage. The creation of human beings is through sexual act. The Qur’an says; “So let man consider of what he is created.” He is created of water pouring forth, coming from between the back and the ribs.””Water pouring forth” is nothing but semen which comes from between the back and the ribs. Thus the Qur’an accepts that a sexual relationship between man and women necessary for procreation. Because
procreation is necessary for human survival marriage is encouraged in Islam, though it is no made compulsory. Thus it can be seen that marriage as an institution is encouraged by Islam because family life not only ensures survival of the human race but also guarantees social stability and a dignified existence for both women and man. According to the Qur’anic philosophy, there is nothing wrong with sex if it set used for procreation within the marital framework is not merely for enjoyment and pleasure.

The Qur’an does not approve of sex for pleasure or for fornication (musafaah); marriage has a purpose. Thus the Qur’an says:

“And so are (lawful) the chaste from among the believing women and the chaste from among those who have been given the Book before you when you give them their dowries, taking them in marriage, not fornicating nor taking them for paramours in secret.” The word for fornication used in the Qur’an is musafaah, which literally means shedding water mutually, i.e. ejaculation. So marriage even in the normal course is much more than the satisfaction of lust. When it is permitted with more than one women at a time, it has hardly anything to do with sexual lust; it is only to fulfil some social obligation which has arisen out of an abnormal situation like war or pestilence.

**Nikkah or Marriage**

In Islam both the bride and the bridegroom can stipulate condition for marriage. It implies that women are free to enter or not to enter a marriage contract. However, traditionally, the woman herself is not allowed to negotiate her marriage. She is given into marriage by her guardian (wali), who generally happens to be her father. In his absence her grandfather or brother acts as the wali. However, as far as the Qur’an and Islamic Shariah are concerned, her right to accept or reject a marriage proposal is untrammelled. Neither her father nor anyone else can coerce her into accepting a proposal.

Islam gave women a new status; it wanted to create a ‘new women’ as much as a new man. However, the old ethos soon robbed the women of that status and set back her position. A close study of the Qur’an would reveal that she was given full autonomy in matters of marriage. Her marriage depended on her approval being given under her own conditions. According to the Qur’an, any believing man can marry a believing woman without any consideration of social status. He question is whether a man wishing to marry a woman enjoys a higher or lower status. Technically this is called the concept of kafa’i which literally means equality.

**Practice of Child Marriage**

In the Holy Qur’an there is no concept of child marriage as such. The Qur’an mentions only the concept of Nikah irrespective of age and status. Its main concern is marriage as union between women and man for procreation and for solace for each other and not when and with whom. However, it must be said that the ulama who advocate child marriage do not impose the father’s decision on the girl when she grows to adulthood. Instead, she is given ‘the option of puberty’ technically known as khiyar al-Bulugh, according to which the girl who has been given in marriage in her childhood by her wali or marriage guardian has the option of accepting or rejecting the marriage on reaching adulthood. This right of her’s is absolute and no one can interfere with it, not even her father or any other female or male relative. Thus Fyzee says, “If a muslim minor has been
married during minority by a guardian, the minor has the right on attaining majority to repudiate such marriage.” Thus we can say that while permitting child marriage the rights of adult women have been safeguarded by the Muslim jurists.

**Concept of Mahr**

*Mahr* or dower money is an essential part of Islamic marriage. Without *mahr* a *nikkah* cannot be said to have been properly solemnized. Dower money must be paid or fixed before the solemnization of a marriage and it is the exclusive preserve of the women or the bride to determine the amount. Also *mahr* belongs to the wife alone. Neither her father nor husband can claim it. She can spend it the way she likes. However, the Qur’an does not use the word *mahr*, but either *sadaqatun* or *ujurun*. *Sadaqatun* is derived from *sadaqa* which means truthfulness, sincerity and a gift given as an act of virtue. It is not something to show off one’s social or financial status.7

Another word used for dower in the Qur’an is *nahlah*. *Nahlah*, according to Raghib, is something given without any expectation in return, i.e. purely out of love and regard. *Nahlah* is derived from *nahl*, which means honey. Thus *nahlah* is something sweet yielded by the honeybee without any expectation in return. Similarly, *mahr* is what is given purely for love, not for any return. Thus the concept of *mahr* was greatly refined by the Qur’an. The Qur’an repeatedly exhorts men to give *mahr* to the women they intend to marry. Also, the Qur’an does not specify any *mahr*.8 It is right of the bride to demand as much as she desires. It could be nominal or it could be quite substantial. Where the husband has no capacity o pay, it could be as nominal as an iron ring or teaching. The husband thus cannot take back the dowry which he has given to his wife at the time of divorce. *Mahr* also often acts as a security against divorce though it is not its original intent.

**Conditions in Marriage**

Since marriage is contractual in Islam either side can validity lay down certain conditions. It is technically known as *Khayarat-shart* or choice to put conditions. However, the option to annul the marriage is not mentioned as a condition per se in the contract. That which is mentioned as a condition in this case is a particular quality such as the bride’s virginity or the groom’s possessing a university degree, in a manner that if the said quality is not found to exist the other party shall have a right to annul the contract.

**Maintenance of the Wife**

The Qur’an puts the entire burden of maintenance of the wife on the husband whatever her own wealth and income. She is not obliged to give her husband whatever her own wealth and income. She is not obliged to give her husband anything from her income. Even if a husband is poor and she is wealthy, the husband has to give her maintenance according to his capacity. There are different verses on maintenance of the wife in the Holy Book. Thus a man who has abundant means must spend abundantly on his wife and if his means are scarce he should spend accordingly but he must maintain his wife.9 It is to be noted that maintenance includes food, residence and clothing. About residence the Qur’an says:

“Lodge the where you live according to your means, and injure them not to straiten them. And if they are pregnant spend on them until they lay down their burden. Then if they suckle for you, give then
From the above quotes, we can say that Qur’an broadened the concept of the wife’s maintenance. The husband will have to spend extra, if necessary, to maintain her during her pregnancy. Not only that, she should be paid recompense for suckling the child. If she does not agree either because of inadequate recompense or for other reasons he should employ a wet nurse. No other scripture or system of law has provided so much for the wife way of maintenance. It may seem odd that the mother should be paid for suckling her own child. But for suckling she needs extra energy which can come only from better and richer food and hence she should be compensated by her husband. Along with this the Qur’an also uses the words “This is to exhort both husband and wife that they should not view their relationship only in material terms but in human and moral dimensions as well.”

As far as the wife is concerned, she is not obliged to spend on her husband but she can do so of her own free will if she possesses the means of doing so. Maintenance, as pointed out above, includes the provision of food, and shelter. However, food does not mean raw food but cooked food. She is not obliged to cook food. Similarly, it is not enough to give her a piece of cloth; she should be given sewn clothes or her husband should bear the sewing charges. And as for residences, she can demand a separate house to live in and is not enough to give her a piece of cloth; she should be given sewn clothes or her husband should bear the sewing charges. And as for residences, she can demand a separate house to live in and is not obliged to live with her husband’s parents. However, if he cannot provide a separate house, he is obliged to provide a separate house, he is obliged to provide a separate portion of it with separate access to it. Maintenance also includes apart from food, clothing and housing and other things necessary for her comfortable living.

If the wife becomes old or is struck with madness or falls sick and is not capable of intimacy, it will be obligatory for the husband to pay her maintenance. If she is imprisoned for a crime committed by her the husband will not be responsible for her maintenance, but if the husband is imprisoned for no fault of hers, it will be obligatory for him to maintain her. A women has the right to demand maintenance dues from her husband. If the husband is absent she can take a loan for her maintenance and her husband will be obliged to pay it back provided court has fixed the amount of maintenance.

**Conclusion**

There are many misconceptions surrounding women’s rights in Islam. This article is only to be viewed as a basic outline of women’s rights in Islam regarding marriage. Marriage in Islam is viewed as an important and sacred union between a man and women that fulfills half of one’s religious obligations. Islamic law granted women the right to deal in many affairs within the society directly, rather than dealing via a guardian. Women in Islam are officially responsible and in charge of running all their affairs including marriage. Thus we can say that women throughout the past centuries of Islam have been honored, respected, and dignified.
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Abstact:

Robert Hoge, born with deformed legs and facial tumour, embraces ugly in a beauty-obsessed world. As an adult, Hoge has made a career as a journalist in the world of the media. He was also the media adviser to former Queensland premier Anna Bligh. Robert Hoge’s new memoir is about his childhood—his first day of school, making friends and learning to ride a bike. But it’s also about getting called “cripple,” having multiple reconstructive surgeries and teaching himself how to play sports with two artificial limbs. Hoge lives in Brisbane, Australia, with his wife and two daughters. His new memoir is called Ugly. The former speechwriter and political adviser have written a memoir of his experiences in a bid to help others to overcome such deformities. In the memoir he discusses with severe deformities and narrates how his own mother was so horrified by his appearance that she branded him ‘ugly’ and even admitted that she ‘wished he would die. Ugly is about courage and provides awareness to people about the idea of ‘beauty’ or ‘ugliness.’ The research paper tries to look at Robert Hoge’s memoir as a tool to study the disabled and define disability in the Australian milieu. To define disability Robert Hoge himself tries to see beauty in ugliness. The concept of norm and normalcy is recognized for reading the memoir and to redefine disability. This novel attempt as a novice in this vast area hopes that the book is recommended to counselors, pediatricians, nurses and also the literary academia for future research.

Keywords: Disability, Normalcy, Beauty, Ugliness, Norm
Beauty is truth, truth beauty is often discussed line to enlarge a noble vision in universe. Beauty is symbolic that signifies to dwell and encourage larger significations and is, perhaps believed as truth. Truth, again an abstract notion of the ideal is understood to be the embodiment of beauty. This phenomenon is responded in this research article. If Keatisian or the Renaissance philosophy is the truth, eventually it is accepted that ugly is false. The prejudiced approach of the society in creating varied binaries to establish certain ideology propagates negative messages to the public. In the creation of binary oppositions such as good/evil, beauty/ugly, royalty/commoners there is a signified which operates to define beauty, ability and disability. One among the signified-disability, raise the pivotal question that has to address though it’s high time to do so.

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Disability In The Australian Milieu

People with disability have the right to freedom, respect, equality and dignity. Australia’s ratification of the United Nations Convention on the Rights of Persons with Disabilities in 2008 reflects the Australian Government’s commitment to take action and support a coordinated plan across all levels of government to improve the lives of people with disability, their families and carers. The Survey of Disability, Ageing and Carers (SDAC) collects information about the wellbeing, functioning and social and economic participation of people with disability in Australia. The SDAC was developed to align with the World Health Organisation’s International Classification of Functioning, Disability and Health 2001 (ICFDH). The survey defines disability as any limitation, restriction or impairment which restricts everyday activities and has lasted, or is likely to last, for at least six months. In 2015, almost one in five Australians reported living with disability (18.3% or 4.3 million people). A further 22.1% of Australians had a long-term health condition but no disability, while the remaining 59.5% had neither disability nor a long-term health condition.

The Federal Disability Discrimination Act 1992 (D.D.A.) provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people. Disability discrimination happens when people
with a disability are treated less fairly than people without a disability. Disability discrimination also occurs when people are treated less fairly because they are relatives, friends, carers, co-workers or associates of a person with a disability.

The law D.D.A. privileges the disabled but that license was denied to Robert Hoge by his own mother for the first time when he was pushed out from her womb. Hoge responds on how his mother reacted when she learned about his deformities in an interview:

I was born in the early 1970s, so before prenatal scans were commonplace, and I’m the youngest of five children. And my parents had four healthy kids before me. I’m not going to call my brothers and sisters normal, but they were certainly healthy. And so I think, you know, my parents had every right to expect the healthy, normal child they thought they were owed. But I turned up without any warning, with these deformities. And my mother didn’t even see me before I was taken away to intensive care, and she knew something was wrong because it was a difficult labor. ...

As I pointed out in the beginning the objective of the paper is to define disability, Robert Hoge himself tries to see beauty in ugliness. This could be explained by analyzing an instance in his life that explained his deformities to other growing up kids.

Normally with one quick and short answer. So, you know, kids would ask me, “Why have you got bumps on your head?” or “Why have you got a squished nose?” or “Why don’t you have any legs?” And I would simply say, “I was born that way.” And probably nine times out of 10, the questions wouldn’t go much further than that. ... That satisfied them, and it certainly satisfied me.

To continue the beautification of his “ugliness” he decides not to have a major reconstructive surgery that would diminish the appearance of the birth defects. He made that decision when he was 14. By then, he had 24 different operations, some quite small and some very large and complex. And his parents said, “Well, Robert, you’re almost an adult so you get to choose.” His parents and doctors talked about the potential side effects of the operation and chances that he might go blind. During this discussion his brother, when he heard that, piped up and said, “Well, what use it is looking pretty if he can’t even see himself?” So right then and there “I decided no, I’m not going to have this operation.”

In another instance from the memoir, Robert Hoge moves against his doctors’ advice when he decided to opt out of the surgery. He had genuine love and affection for the massive changes all of the doctors and nurses who worked on me made to my life. But he feels that doctors are tinkerers. As a continuation he exceeds to comment that he is not going to look like “Brad Pitt or George Clooney, so I think I should just stick with my rather distinctive face and go from there.”

**Conclusion:**

The lived experiences of the registered memory which dwells through many internal as well as external struggle drives Robert Hoge’s book that credits to recommend for future research. It tries to redefine disability through acknowledging differences in appearance without attaching value to them. Hoge gently recognizes that he is ugly but it is negated by his dears and receives a respond as “No you’re not, you’re just… different” and, “everyone is beautiful in their own way” (quoted from youtube videos). It’s comfortable to say that about oneself, though, because a self has realized how
a subject look lake is part of the self but not all of self. This realisation doesn’t come fully formed when a baby is born. It developed over years of thinking, teasing, talking, friendship, bullying and love. These are some things one figures out along the way.

Ugliness is not the absence of beauty. It’s not in opposition to it. Ugliness is its own, wonderful thing. Defining ugliness only in opposition to beauty narrows our sense of normal. A quick look at history shows that defining beauty in one particular way is just another fashion choice – apt to change with the seasons. Defining a person’s appearance only in terms of how it relates to that definition robs us all of a deep richness. Appearance is linked to identity and self-worth. Acknowledging the breadth of differences in appearances helps us acknowledge differences between people.

Beauty itself is a million points on a map. Beauty is a contested space. Notions of what is or isn’t beautiful are constantly changing. No one, except maybe supermodels, will win, however, if we define beauty as just one point on the end of a continuum with ugliness at the other. Beauty isn’t the end point of a treasure map; it’s actually a million different destinations, with a million different ways of getting there. Defining beauty more broadly creates room for better acceptance of appearance diversity.

Considering the above arguments on beauty and ugliness, disability is defined as a physical or mental condition that limits a person’s attitude, norms, or activities. So if we were to take the literal meaning of this, then every single person would be known as having a disability. A fear is a disability because it inhibits us from doing something. One disability should not be distinguished or highlighted more than another. If we look close enough, we all have a disability and the truth is that having a closed or judgmental mind is also a disability. We are all people with disabilities, some more visible than others, therefore we should all be considered normal just doing life in different ways.

Works cited:
Abstract

In a world mired in horrendous violence, bigotry and suffering, September 11 is repeatedly dredged up in our collective memory as words like ‘terrorism’ have unfortunately entered our common parlance, with the Charlie Hebdo killings, the IS atrocities and the Paris bombing being the most recent attacks in the global spate of such news. Not that 9/11 was the first terrorist attack on a nation or the most devastating one. Indeed, such attacks are a daily reality in many parts of the world, especially in South Asia, the Middle East and Africa. But 9/11 catapulted ‘terrorism’ into the living rooms, classrooms and psyches of the world’s population in an unprecedented manner, probably by virtue of its unique status as a foreign attack on the mightiest nation on earth, the United States of America, whose political/cultural omnipresence is an undeniable fact, whether one likes it or not. The ‘War on Terror’ that followed made the entire world a battlefront and had catastrophic consequences for hundreds upon thousands of civilians in Afghanistan, Iraq, Pakistan etc. And in 2016, we are still grappling with its after-effects, most notably in the form of a highly unstable and politically volatile Middle East afflicted by warring sectarian factions and terrorist groups vying for domination. To say that 9/11 still rings loud in the collective memory of people all over the world would be no overstatement. My paper strives to locate 9/11 and the subsequent ‘War on Terror’ in a socio-political/historical context, departing from the dehistoricized manner in which it has been popularly talked about, couched in Manichaean binarisms. It argues that casting 9/11 as an event that escapes comprehension—as an inexplicable act of
barbaric atrocity targeting freedom, democracy and modernity—thereby pushing it into a historical vacuum, is counterproductive, to say the least, to any constructive analysis of 9/11, its causality or impact. The past is the key to the present and we can never fully understand where we are today unless we know what path we travelled to get here.

Keywords: 9/11, geopolitics, terrorism, War on Terror, American foreign policy, neoimperialism, clash of civilizations

Introduction:

Without a story, we are, as many of us were after September 11, intensely vulnerable to those people who are ready to take advantage of the chaos for their own ends. As soon as we have a narrative that offers a perspective on the shocking events, we become reoriented, and the world begins to make sense again.

- Naomi Klein, The Shock Doctrine: The Rise of Disaster Capitalism

The suicide attack on the Twin Towers of the World Trade Centre on September 11, 2001 was a watershed moment in history in more ways than one. When those nineteen terrorists—fifteen from Saudi Arabia, two from the United Arab Emirates, one from Lebanon, and one from Egypt—hijacked four US passenger airplanes and flew two of them into the World Trade Centre towers and another into the Pentagon, with the fourth crashing in rural Pennsylvania when the passengers attempted to retake the cockpit, it left an indelible imprint on history. Its importance lies not in the size or scale of destruction because it looks dwarfed in comparison with the casualty toll in many other catastrophes in human history like the Holocaust or the perpetual wars and strife that continue to ravage sections of the globe to this day. 9/11 was a singular event because it was the first time since the 1814 burning down of Washington by the British that mainland America came under attack from foreigners. Reportedly affiliated to Saudi fugitive Osama bin Laden’s al-Qaeda terrorist organization, the hijackers were allegedly acting in retaliation for America’s support of Israel, its involvement in the Persian Gulf War and its continued military presence in the Middle East. The disaster which left around 3,000 people dead and several thousands injured was seen as a direct challenge to America’s perceived invincibility. The magnitude of the event issued from the tremendous repercussions it had (and continues to have) on the rest of the world.

9/11 brought the spotlight on the so-called rift between the West and the East, or to be more specific, ‘civilized’, technologically advanced, Christian/secular Western powers and ‘barbaric’, ‘backward’ Muslim countries of the East stuck in the quagmire of a ‘medieval’ religion. What could have been a great occasion for the expression of universal humanity and solidarity with the innocent victims unfortunately metamorphosed into a revivified ‘clash of the civilisations’ and a highly faulty ‘War on Terror’, with the accompanying revival and perpetuation of stereotypes and prejudices, and even the construction of certain new ones. It is undoubtedly the most significant landmark in world history since the collapse of the Soviet Union. It opened a Pandora’s box of issues revolving around identity, culture, religion, pluralism, multiculturalism, assimilation and neo-imperialism. It opened the floodgates of an overwhelming ethical quandary as politicians, lawmakers, scholars, commentators, writers, artists and laymen alike found themselves forced to take a stand in the aftermath of 9/11. The complexity of the issue was compounded by the extremely intricate nature of international geopolitics in this highly globalized world.
The rhetoric of loss and violation permeates discussions of 9/11 to such an extent that it is often difficult to gain critical perspective. Ann Keniston and Jeanne Follansbee Quinn assert in Literature after 9/11, “no one wants 9/11 to be misrepresented, politicized, co-opted, or distorted. Yet, it seems difficult not to do just this” (1). The official 9/11 discourse in America hinged on the construction of a collective sense of victimhood as an “innocent nation” at the receiving end of an inexplicable act of barbaric atrocity targeting freedom, democracy and modernity. Immediately after the September 11 attacks, President Bush branded them as the outcome of “evil”,”despicable acts of terror” (“Transcript”, ABC News). Richard J. Bernstein dubs 9/11 as “the very epitome of evil in our time” (x). However, history has proved time and again that couching something ‘evil’ is a convenient excuse for intellectual and moral slipshodness—something that is evil is beyond understanding and hence any kind of retaliatory action is beyond judgement. Terry Eagleton argues that “the word ‘evil’ is generally a way of bringing arguments to an end, like a fist in the solar plexus . . . it is an end-stopping kind of term, one which forbids the raising of further questions” (8). And an unquestioning civilian compliance with state policies was the aim of the US government in the days following 9/11.

In the hyped-up atmosphere of impenetrable trauma, nationalistic vengeance and narcissistic self-righteousness—which was amplified by media discourse and government policies, and spilled over into every home, street, office and mall of America—9/11 was projected as an incommensurable catastrophe that erupted out of the blue and warranted retaliatory military aggression on a global scale targeting a host of less privileged third world countries in the name of flushing out terrorism. In her study of Athenian politics in which she investigates the Athenian state’s interdiction of ritualized mourning by women, Loraux talks of how the Greeks believed that public manifestations of private grief posed a threat to democratic deliberation and discussion. The Greeks were troubled by “the affinity that exists between grief and anger. The emotions of grief, which are the wellsprings of lament, spill over into emotions of anger, even rage” (xi). Loraux argues that when faced with obsessive, unreined and endless mourning, “we see the ultimate justification for revenge, for the spirit of vendetta, for all the horrors of retaliation against earlier horrors” (xii). President Bush and his administration did not shy away from embracing Manichaean binaries of good and evil, civilized and uncivilized, justice and injustice in their pursuit of this ‘War on Terror’ with Bush (in)famously issuing an ultimatum to the world’s nations shortly after 9/11 that each one of them now had a choice to make: either line up behind the USA in this ‘War on Terror’ or incur the wrath of the gargantuan American superpower. The rest of the world had a false dilemma thrust upon them as Bush proclaimed in his Congressional address of September 20, 2001, “Either you are with us or you are with the terrorists” (“Transcript”, CNN). The American post-9/11 state of emergency saw the implementation of heightened surveillance and security measures in every walk of life, suspension of ordinary civilian rights and the public flaunting of a moralistic fury that threatened to devour any opposition in its path—be it nations suspected of harbouring terrorists or voices of opposition against the ‘War on Terror’ from within the USA. Schulz and Reyes point out that “patriotism, understood as a balance of solemnity, obedience and consumerism, became a foundational topos of official public memory after 9/11 and it served to quell most dissent” (637).

Any attempt to understand 9/11 through a larger lens of global political violence and any criticism of the ‘War on Terror’ was condemned as either unpatriotic or morally relativistic by the jingoistic discourse of post-9/11 America. The USA's role in perpetrating terror across the globe as part of its Cold War policy of stymieing the growth of nationalist leftwing politics at any cost; the
millions butchered, tortured or rendered homeless as the USA openly or covertly supported and even installed brutal military dictatorships after overthrowing popularly elected governments in vast swathes of Latin America and Southeast Asia—Indonesia, Uruguay, Brazil, Paraguay, Haiti, Turkey, the Philippines, Guatemala, El Salvador, Nicaragua and Chile being striking examples—in the latter half of the twentieth century; the millions sentenced to starvation, disease and death by US-imposed embargos that asphyxiated the national economy and civic amenities, especially in post-Gulf War Iraq; the continuing injustice of the US foreign policy in the Middle East of propping up harsh and oppressive regimes that obstruct political democracy and independent national development, in order to ensure that the oil wealth of the region keeps on flowing “to the West and to small Western-oriented elites and corrupt and brutal rulers backed by Western power” (Chomsky 45)—these have all been completely obliterated from or relegated to the sidelines of memory by the United States. The reasoning supplied by President Bush to Americans’ flummoxed query after 9/11 “Why do they hate us?”: “They hate our freedoms: our freedom of religion, our freedom of speech, our freedom to vote and assemble and disagree with each other” (“Transcript”, CNN), was eagerly lapped up by the American masses.

But the suffering, the anger and the humiliation of the victims of the atrocities committed by the US neoimperial superpower cannot be erased. The past is the key to the present, and we can never fully understand where we are today unless we know what path we travelled to get here. It was George Santayana who said that those who know nothing about history are doomed forever to repeat it (92). This is probably why scholars and commentators like Noam Chomsky, Ward Churchill, Judith Butler, Susan Sontag, Aijaz Ahmad and Arundhati Roy have time and again drawn attention to the USA’s complicity in bringing about the disaster of September 11 through its ruthless foreign policy of military intimidation/massacre, political destabilization and economic annihilation of any nation that refused to toe the American line. In an article in the Washington Post titled “Why do they hate us?”, novelist Mohsin Hamid cites “the accreted residue of many years of U.S. foreign policies” as one of the major reasons for anti-Americanism. He goes on to elaborate that “these policies are unknown to most Americans. They form only minor footnotes in U.S. history. But they are the chapter titles of the histories of other countries, where they have had enormous consequences”. Noam Chomsky calls the United States a “leading terrorist state” (48) and elucidates his claim with the chilling, bloody accounts of massive US-sponsored political violence in Nicaragua in the 1980s; its direct involvement in the overthrow of the democratically elected President of Chile Salvador Allende and the disbandment of its Parliament to be supplanted by the horrendous military regime of General Pinochet on September 11, 1973—in what Latin America remembers as its very own 9/11; its abetment of the Turkish government’s genocide of Kurds in the 1990s; its 1998 bombing of the Al-Shifa pharmaceutical company in Sudan that produced 90 percent of the impoverished African country’s major pharmaceutical products; its support of Israeli atrocities in Palestine; the bombing of Iraq’s water and sewage treatment plants and massive US-imposed sanctions that resulted in the deaths of half a million Iraqi children after the Gulf War of 1991, etc.

The US legal code defines an act of terrorism as, any activity that (A) involves a violent act or an act dangerous to human life that is a violation of the criminal laws of the United States or any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State; and (B) appears to be intended (i) to intimidate or coerce a civilian
population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by assassination or kidnapping. (Qtd. in Chomsky 47)

If the USA’s appalling record in international geopolitics impelled by Cold War logic and hegemonic interests does not qualify as terrorism, what does? As the political scientist Michael Stohl lucidly explains, “great power use and the threat of the use of force is normally described as coercive diplomacy and not as a form of terrorism” even though it involves “the threat and often the use of violence for what would be described as terroristic purposes were it not great powers who were pursuing the very same tactic” (qtd. in Chomsky 48). Chomsky pithily proposes that the 9/11 atrocities constitute an event of historic importance because, for the first time in modern history after the War of 1812, the world’s largest superpower was subjected to the same kind of terror that they have routinely perpetrated elsewhere; “for the first time, the guns have been directed the other way” (44).

Hamid Dabashi does not mince words when he ponders:

Why is it that death and destruction causes so much loathing and outrage when it takes place in Mumbai, London, Tel Aviv, or New York and not when it is multiplied ten thousandfold in Baghdad, Kandahar, Beirut, or Gaza City? The answer cannot be sought in the sandy domains of malice and malevolence. It must be carefully cultivated in the immediate historical vicinities where the politics of despair and the economics of domination combine to create a moral mandate to divide and rule—where some are perceived as more human than others. (6)

In a scathing essay published on 12 September, 2001, just a day after the attacks, entitled “‘Some People Push Back’: On the Justice of Roosting Chickens,” Ward Churchill, former Ethnic Studies Professor at the University of Colorado who is of Native American origin, wrote that the events of September 11, 2001 are “chickens [coming] home to roost in a very big way at the twin towers of New York’s World Trade Center”, suggesting that America was merely reaping what it had sown through a long history of violent domination and attack upon indigenous people. Dwelling on the USA’s sustained military and economic assault upon Iraq since 1991 which, till date, had resulted in the deaths of half a million Iraqi children, he says:

The Iraqi youngsters, all of them under 12, died as a predictable—in fact, widely predicted—result of the 1991 US “surgical” bombing of their country’s water purification and sewage facilities, as well as other infrastructural* targets upon which Iraq’s civilian population depends for its very survival. If the nature of the bombing were not already bad enough—and it should be noted that this sort of “aerial warfare” constitutes a Class I Crime Against Humanity, entailing myriad gross violations of international law, as well as every conceivable standard of “civilized” behaviour—the death toll has been steadily ratcheted up by US-imposed sanctions for a full decade now. Enforced all the while by a massive military presence and periodic bombing raids, the embargo has greatly impaired the victims’ ability to import the nutrients, medicines and other materials necessary to saving the lives of even their toddlers.

Demolishing widely circulated myths of American innocence, Churchill points out that two high United Nations officials attempting to coordinate delivery of humanitarian aid to Iraq resigned in succession as protests against US policy. One of them, former U.N. Assistant Secretary General
Denis Halladay, had repeatedly denounced what was happening as “a systematic program . . . of deliberate genocide” and his statements appeared in major American newspapers during the fall of 1998. Shortly thereafter, US Secretary of State Madeline Albright openly confirmed Halladay’s assessment. Asked during the widely-viewed TV program Meet the Press to respond to his “allegations,” she calmly announced that she’d decided it was “worth the price” to safeguard US interests and accomplish its objectives. In fact, Karl and John Mueller, writing in Foreign Affairs, concluded that the sanctions had killed more Iraqis than had been killed by “all the weapons of mass destruction in human history” (qtd. in Ahmad 273).

A major part of the USA’s foreign policy has centred upon “American exceptionalism”, that is, the longstanding belief that the United States differs qualitatively from other nations—a difference that makes it possible, for instance, for the US to be critical of British or Russian/Soviet imperialism but not its own. That the US is superior to developing or undeveloped nations is taken for granted. Thus the bombing of civilians in Iraq or Afghanistan is justified, whereas even suggest that the terrorist attacks upon US civilians can be attributed to specific political grievances against America’s conduct in the world, is considered gross blasphemy. The violent backlash that dissenters like Ward Churchill and comedian Bill Maher—who suggested that the 9/11 terrorists were anything but cowardly—had to face stands testimony to this. In the words of Judith Butler,

> anyone who sought to understand the “reasons” for the attack on the United States was regarded as someone who sought to “exonerate” those who conducted that attack. Editorials in the New York Times criticized “excuseniks,” exploiting the echoes of “peaceniks”—understood as naive and nostalgic political actors rooted in the frameworks of the sixties—and “refuseniks”—those who refused to comply with Soviet forms of censorship and control and often lost employment as a result. (xiii)

But Terry Eagleton contends that “you can condemn those who blow up little children in the name of Allah without assuming that there is no explanation for their outrageous behaviour—that they pulverise people simply for kicks. You do not have to believe that the explanation in question is sufficient reason to justify what they do” (7).

However, most mainstream analyses immediately after the event either totally eschewed seeking the ‘why’ of September 11, choosing to focus instead on the unremitting trauma let loose by the attacks, or fell back on a Huntingtonian thesis of a ‘clash of civilisations’ as the cause of the attacks—manifested, for example, in the September 16, 2001 issue of the New York Times that asserted that “the perpetrators acted out of hatred for the values cherished in the West as freedom, tolerance, prosperity, religious pluralism and universal suffrage” (Schmemann)—which served merely to stroke the western ego and further fuel self-centred rage. Arundhati Roy brilliantly argues in “The Algebra of Infinite Justice” that

> [f]or strategic, military and economic reasons, it is vital for the US government to persuade the American public that America’s commitment to freedom and democracy and the American Way of Life is under attack. In the current atmosphere of grief, outrage and anger, it’s an easy notion to peddle. However, if that were true, it’s reasonable to wonder why the symbols of America’s economic and military dominance—the World Trade Center and the Pentagon—were chosen as the targets of the attacks. Why not the Statue of Liberty? Could it be
that the stygian anger that led to the attacks has its taproot not in American freedom and democracy, but in the US government’s record of commitment and support to exactly the opposite things—to military and economic terrorism, insurgency, military dictatorship, religious bigotry and unimaginable genocide (outside America)?

Aijaz Ahmad contends that “no political explanation of September 11 was possible without seeing the cruelty of that act as a response—albeit a humanly intolerable and politically irrational response—to the accumulated cruelties perpetrated by the United States and Israel in the Arab world” (40; emphasis in the original). Terry Eagleton has highlighted that seeking to contextualize 9/11, to probe its historic and socio-political background, is not an attempt to rationalize Islamic fundamentalism.

On the contrary, [Islamic fundamentalism] is ridden with the most virulent strains of prejudice and bigotry, as its torn and butchered victims have good reason to know. But those lethal fantasies are mixed in with some specific political grievances, however illusory or unjustified its enemies may consider them to be. [9/11] also took the Arab world’s sense of anger and humiliation at the long history of its political abuse by the West. To define Islamic terrorism as evil . . . is to refuse to recognize the reality of that wrath. . . . For champions of this viewpoint, the only solution to terrorist violence is more violence. More violence then breeds more terror, which in turn puts more blameless lives at risk. The result of defining terrorism as evil is to exacerbate the problem; and to make the problem worse is to be complicit, however unwittingly, in the very barbarism you condemn. (158-59)

Writing in 2002, Chomsky expatiates that the background conditions from which the terrorist organizations arose, which provide a mass reservoir of sympathetic understanding for parts of their message, even among those who despise and fear them, should be probed if we are to reach an intellectually and morally honest and productive understanding of 9/11 which alone can cut off the spiralling violence. He says:

Forty-five years ago President Eisenhower and his staff discussed what he called “the campaign of hatred against us” in the Arab world, “not by the governments but by the people.” The basic reason, the National Security Council advised, is the recognition that the U.S. supports corrupt and brutal governments that block democracy and development, and does so because of its concern “to protect its interest in Near East oil”. (149)

It was the American conviction of its own supreme insularity from violence and suffering that was radically shattered on 9/11. “Our world, parts of our world,” DeLillo wrote in an article in December 2001, “have crumbled into theirs, which means we are living in a place of danger and rage” (“In the Ruins” 33). Bush was inadvertently accurate to a large extent when he declared on September 20, 2001:

On September the 11th, enemies of freedom committed an act of war against our country. Americans have known wars, but for the past 136 years they have been wars on foreign soil, except for one Sunday in 1941. Americans have known the
casualties of war, but not at the centre of a great city on a peaceful morning.

(“Transcript”, CNN)

September 11 was perhaps a golden opportunity for the mightiest nation in the world to stand back and reconsider its foreign policies that have caused incommensurable bloodshed and destruction around the globe, to extend its hand in solidarity with human suffering everywhere, to resolve to break the vicious cycle of violence and counter-violence. As Ward Churchill put it rather bluntly and provocatively, 9/11 was a signal for “Americans, stripped of their presumed immunity from incurring any real consequences for their behavior,” to understand and “act upon a formulation as uncomplicated as ‘stop killing our kids, if you want your own to be safe.’” 9/11 could have triggered a point of identification with suffering, what Levinas terms an awareness of “the face as the extreme precariousness of the other[,] peace as awareness to the precariousness of the other” (167). The experience of a “dislocation of First World safety” could have engendered insight into the “radically inequitable ways that corporeal vulnerability is distributed globally” (Butler, Precarious 30). As Butler muses, “[F]rom where might a principle emerge by which we vow to protect others from the kinds of violence we have suffered, if not from an apprehension of a common human vulernability?” (30) If the goal is having some space in which to live one’s own life, then it is desirable that the account of specific injustices dissolve into a more general understanding that human beings everywhere do terrible things to one another (Sontag, Regarding 90).

However, 9/11 merely paved the way for more war-mongering by the USA as it became a rallying cry for an uncontained national trauma to mutate into an ominous self-righteous rage as the USA embarked on a ‘War on Terror’, asserted its hegemony on the global stage yet again, declared the existence of an ‘axis of evil’ and set out to combat terror throughout the world in a highly questionable global military operation that sowed further violence and destruction in Afghanistan, Iraq, Pakistan etc. By January 2002, US military tent cities had sprung up in 13 new bases around Afghanistan and in proximity of Iraq. From Bulgaria to Uzbekistan and Kuwait to Turkey, some 60,000 US troops were living in these forward bases (Ahmad 81). Though Bush diplomatically revoked his reference to the ‘war on terrorism’ as a modern-day ‘crusade’ (with its medieval echoes of Islam-Christianity conflict) and the codename for the mission was changed from the divinity-assuming ‘Operation Infinite Justice’ to ‘Operation Enduring Freedom’, the western world became convinced that a true clash of civilizations was taking place between Christianity and Islam, and that the only solution was to fight Islamic fundamentalism with the powerful military might at its disposal. For its part, the Islamic world saw itself as being misunderstood, arguing, in turn, that it was time for the West to wake up to the realities of those who shared different cultural beliefs if it truly wanted to avoid further conflict in the future. The United States thus “missed an opportunity to redefine itself as part of a global community” when, instead of looking at 9/11 as a means of bridging various traumata to sharpen an understanding of universal humanity, it heightened nationalist discourse and military aggression, extended surveillance mechanisms, suspended constitutional rights, and developed forms of explicit and implicit censorship (Butler, Precarious xi).

Hardly a month after 9/11, Afghanistan was invaded and occupied by the international coalition against terror spearheaded by the USA, and a country already in ruins as a result of the combined forces of history, warring tribalism, Soviet invasion and Taliban barbarism, was pounded into even finer rubble. America’s own role in propagating fundamentalmism in Afghanistan through its late Cold War policy of rendering massive support to Saudi exponents of radical Islam like Osama bin Laden
and Gulbuddin Hekmatyar, who were engaged in the fight against the Soviet occupation of Afghanistan (Operation Cyclone, 1979-89), has been conveniently glossed over. The then American President Ronald Reagan had even gone so far as to welcome them into the White House, likening the CIA-backed Wahhabi zealots fighting the Soviets in Afghanistan to the Founding Fathers of the American Constitution. But the role of the USA in the rise of al-Qaeda has been largely overlooked or suppressed in post-9/11 discourse. One of the worst humanitarian crises in the history of mankind unfolded in Afghanistan in the winter of 2001 as Pakistan caved in to pressure from the US to cut off what was the beleaguered country’s lifeline: Pakistan’s supply of food, fuel and other aid to Afghanistan’s civilian population via road. Arundhati Roy has passed withering judgment on this horrifying American brutality: “Witness the infinite justice of the new century. Civilians starving to death while they’re waiting to be killed”.

The most damning indictment of the ‘War on Terror’, however, originates from the US decision to invade Iraq in 2003, allegedly because it possessed an enormous stock of weapons of mass destruction (WMD). United Nations inspectors had failed to find any such weapons of mass destruction in Iraq but the US-led coalition attacked Iraq, violating the UNO’s recommendation to the contrary. Aijaz Ahmad has brilliantly traced the ambivalent relationship between the United States and Iraq in his book *Iraq, Afghanistan and the Imperialism of Our Time*. The United States had aided the rise of Saddam Hussein’s Ba’ath party in Iraq as an alternative to the then very powerful Iraqi communist party and to Nasserism on the pan-Arab scale. However, the Ba’athist predilection for an Arab nationalism, its policy of economic nationalism regarding Iraq’s rich oil reserves that contribute the largest share toward the oil resources of the world, and its implacable hostility toward Israel became major sources of friction between the US and Saddam Hussein’s regime. Among the three major oil-producing countries of the world, Iraq has been the only one defiant to American hegemony, the others being Saudi Arabia and Kuwait. US-Iraq relations ameliorated when, instigated and supported by the USA, Iraq invaded Khomeini’s Iran, a common enemy, during which time it was supplied with the capacity to manufacture chemical and biological weapons by the USA and UK. But the Iraqi decision to invade Kuwait in 1991, partly in the light of the historic Iraqi territorial claim that Kuwait was a part of the country that had been separated from it forcibly by British colonialism, and partly to obtain resources to rebuild the Iraqi economy that lay in shambles after the war with Iran, backfired as the US supported Kuwait, contrary to Iraq’s expectations. Ahmad explains,

> From the long-term perspective of the US/Israeli nexus, . . . Saddam’s invasion of Kuwait was unforgivable because Kuwait was a secure US client whereas a successful Iraqi occupation of Kuwait—a principality that had often been administered from Baghdad or Basra until the British bestowed upon it a monarchy of its own—would have united a fifth of the world’s known oil resources under a government that was hostile to the Saudi monarchy and saw itself as an adversary of Israel as well as an emerging giant in the region. (85)

This was the realpolitik behind the USA’s singling out of Iraq for the exemplary punishment meted out to it since the Gulf War in the form of devastating air strikes and massive economic blockades that have resulted in the deaths of over half a million Iraqi children. The then American President George Bush Senior, the “‘freedom-loving’ father of the freedom-lover currently filling the
Oval Office, George the 43rd” was unambiguous in his justification of the ruthless Iraqi “holocaust”: “The world must learn that what we say, goes” (Churchill).

In order to legitimise the 2003 Iraq invasion in the eyes of the masses, 9/11 was utilized by vested interests as a cover-up for the long-standing US ambition, motivated by oil politics, to topple Saddam Hussein’s regime in Iraq. The Nobel Prize-winning British playwright Harold Pinter condemned in 2005, the “tapestry of lies” behind the US-led occupation of Iraq and the death and misery it brought upon hundreds of thousands of Iraqi civilians. In his 2005 Nobel acceptance speech, he lashes out:

As every single person here knows, the justification for the invasion of Iraq was that Saddam Hussein possessed a highly dangerous body of weapons of mass destruction, some of which could be fired in 45 minutes, bringing about appalling devastation. We were assured that was true. It was not true. We were told that Iraq had a relationship with Al Quaeda and shared responsibility for the atrocity in New York of September 11th 2001. We were assured that this was true. It was not true. We were told that Iraq threatened the security of the world. We were assured it was true. It was not true. The truth is something entirely different. The truth is to do with how the United States understands its role in the world and how it chooses to embody it.

By giving the orders to invade Iraq in 2003 without any kind of evidence that it possessed weapons of mass destruction, Bush committed the “‘supreme international crime differing only from other war crimes in that it contains within itself the accumulated evil of the whole’ for which Nazi criminals were hanged: the hundreds of thousands of deaths, millions of refugees, destruction of much of the country and the national heritage, and the murderous sectarian conflict that has now spread to the rest of the region” (Chomsky 32). The Iraq War of 2003 that stretched on for almost a decade was a resounding debacle from every angle, despite the ouster and execution of Saddam Hussein. It triggered worldwide protests as, amid mounting civilian and military casualties, the US-led troops failed to find any weapons of mass destruction or unearth evidence to suggest their existence. The impotent fury and despair that the Iraq War engendered are poignantly captured in this post titled “The Rape of Sabrine” by an anonymous young Iraqi woman on the blog Baghdad Burning:

You lost. You lost the day your tanks rolled into Baghdad to the cheers of your imported, American-trained monkeys. You lost every single family whose home your soldiers violated. You lost every sane, red-blooded Iraqi when the Abu Ghraib pictures came out and verified your atrocities behind prison walls as well as the ones we see in our streets. You lost when you brought murderers, looters, gangsters and militia heads to power and hailed them as Iraq’s first democratic government. You lost when a gruesome execution was dubbed your biggest accomplishment. You lost the respect and reputation you once had. You lost more than 3000 troops. That is what you lost, America. I hope the oil, at least, made it worthwhile.

Lauren Carasik has drawn attention to a 2015 study, authored by the Nobel Peace Prize laureate ‘International Physicians for the Prevention of Nuclear War’ and other humanitarian groups,
which talks about the unspeakable humanitarian, political and economic toll of the ‘War on Terror’. The report estimates that at least 1.3 million people have been killed in Iraq, Afghanistan and Pakistan from direct and indirect consequences of the U.S. “war on terrorism.” One million people perished in Iraq alone, a shocking 5 percent of the country’s population. The staggering civilian toll and the hostility it has created erodes the myth that the sprawling “war on terrorism” made the U.S. safer and upheld human rights, all at an acceptable cost. As the authors point out, the report offers a conservative estimate. The death toll could exceed 2 million. Those killed in Yemen, Somalia and elsewhere from U.S. drone strikes were not included in the tally. Besides, the body count does not account for the wounded, the grieving and the disposessed. There are 3 million internally displaced Iraqis and nearly 2.5 million Afghan refugees living in Pakistan. Yet the study barely elicited a whisper in the media. Washington’s preoccupation with the rise of the Islamic State in Iraq and the Levant (ISIL), now known as the Islamic State (IS), and other regional conflicts has largely obscured the humanitarian, economic and political toll of its “war on terrorism.” But ISIL’s resurgence is not unrelated to Washington’s military campaign. “ISIL is a direct outgrowth of al-Qaeda in Iraq that grew out of our invasion,” President Barack Obama told Vice News in March 2015. Until the U.S. comes to grips with the after-effects of its counterterrorism policies and discards what Habermas, in his conversation with Borradori, calls its “barely concealed unilateralism” (27); it will continue to pursue counterproductive strategies that cause incalculable damage to the world’s civilian populations.

Footnotes:
1 However, Chomsky argues that Bush’s reference to the Pearl Harbour attack of 1941 as an attack on American soil is erroneous as the bombing was on two offshore military bases of the US in Hawaii which was a colony during World War II.

References:


