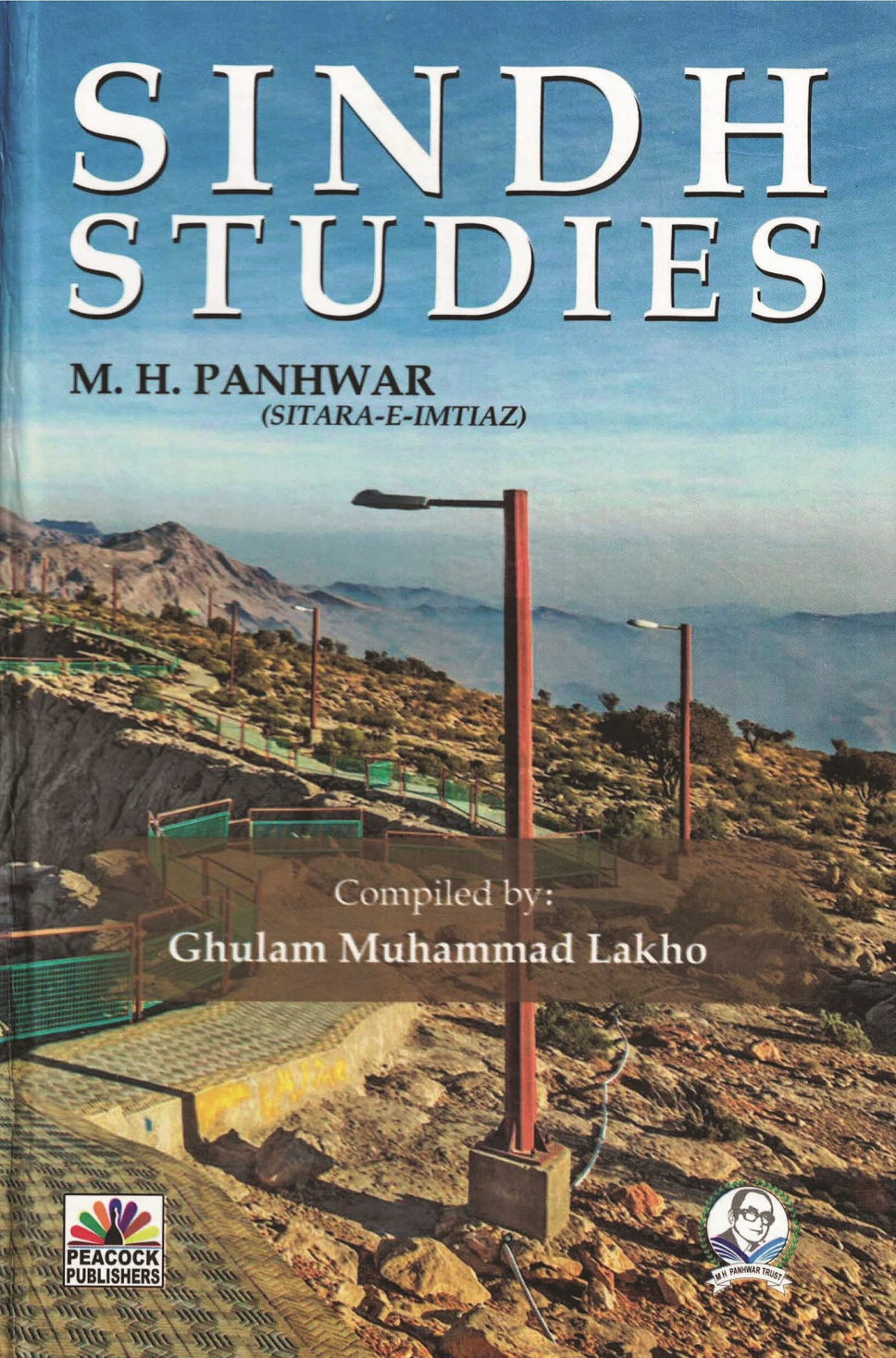
SINDH STUDIES

M. H. PANHWAR
(SITARA-E-IMTIAZ)



Compiled by:
Ghulam Muhammad Lakho

PEACOCK PUBLISHERS

M.H. PANHWAR TRUST

SINDH STUDIES

M. H. PANHWAR
(SITARA-E-IMTIAZ)

SINDH STUDIES

M. H. PANHWAR
(SITARA-E-IMTIAZ)

Compiled by

Ghulam Muhammad Lakho

M.H. Panhwar Trust
&
Peacock Publishers Sindh

Book No. 109

SINDH STUDIES

M. H. Panhwar
(SITARA-E-IMTIAZ)

Compiled by
Ghulam Muhammad Lakho

Edition: 2018

Print Run: 1000 Copies

Layout: Sayed Afaq Shah

Title: Zulfiqar Haider

ISBN # 978-969-9543-93-7

Price: Rs. 500/=

Printer
H & R Printers

Collaboration
M.H. Panhwar Trust

Publisher
Peacock Publishers Sindh

Available at
Peacock Book House
Flat No. 404, Rafique Center
Abdullah Haroon Road, Saddar Karachi.
Ph # 021 35680607 – 021 35682020
Cell # 0341 2570527

CONTENTS

PREFACE

A long list of indigenous scholars can be cited who were prolific authors on Sindh. However, the two scholars can be singled out because on the one hand their entire contribution was in English language and on the other hand they both raised awareness at local and international level about injustices being meted out to Sindh and its people in every sphere of life in body politic of the country in the contemporary period. The first of the two was late Professor Syed Ghulam Mustafa Shah, whom we seem to have forgotten, died in 1999 and wrote exclusively in the English language. The second scholar Muhammad Hussain Panhwar's name and fame alongwith his scholarly work, is still fresh and alive in our memories due to his illustrious son Mr. Sani Hussain Panhwar, who is fully aware of invaluable services of his father and has been carrying forward great mission of his great father, with zeal and passion despite the fact that he has been living in the USA for the last four decades. He is always on the vanguard for compilation and publication of his late father's labour of love.

Late M. H. Panhwar was a multi-dimensional personality. Hence, his research work had many

directions. Late Panhwar Sahib's scores of books have been published and few books have not seen the light of day so far. He wrote numerous research papers and articles on Sindh. Such material is scattered in a number of magazines and Journals published in the country and abroad over the span of the five decades. If the scattered knowledge is completely traced, compiled and published many new volumes can be readied on Sindh. According to my knowledge, Late Panhwar Sahib wrote comprehensive research articles mostly for "Sindh Quarterly" Journal. The number of articles published in "Sindh Quarterly" exceeds forty. Initially, it has been decided to collect, compile, and publish in book shape all articles of the celebrated scholar published in Journal "Sindh Quarterly". Most of the said material is part of the book *"Ancient Sindh"*. In the present book, twelve articles from "Sindh Quarterly" have been separately compiled under the title of *"Sindh Studies"*. When the matter was composed, it was emailed to Mr. Sani Hussain Panhwar. Not only did Mr. Sani Panhwar revise the material but also found it fit to include four other articles in the book. The said articles can be easily accessed on website www.panhwar.com, which is run by Mr. Sani Hussain Panhwar. This book contains articles on various topics *i.e.*, environment, dams, economics, horticulture, agriculture, and education. Most of the said topics fall within the category of social sciences. The articles included in the book provide rich information about Sindh. No one except,

a learned scholar like late Muhammad Hussain Panhwar, could have accomplished such genuine research and adopted modern modus operandi for carrying out the said research. Late M. H. Panhwar was undoubtedly an extraordinary genius and a hard worker, hence his every write-up is reliable in terms of knowledge and research.

Environmental sciences remained the main topic of his interest during the last two decades of the twentieth century. Resultantly, he started writing articles on climatic changes and its impact on Sindh in future. Today, when Panhwar Sahib is not among us, his observations and predictions are rapidly unfolding before our eyes. When the present book is under publication, it has been announced by the Government at official level that the thirteen Sindh districts are drought-hit due to climatic changes.

Nowadays, a campaign for building new dams in the country is underway at the highest level in Pakistan. Since the creation of Pakistan and due to Indus Water Treaty and also because of non-implementation of the terms and conditions of the treaty in letter and spirit, Sindh has been deprived of its rightful share from Indus river and its tributaries. Under the said treaty, Tarbela and Mangla Dams were built. Due to the construction of the two mega Dams and many other small Dams on river Indus and its tributaries during the last five decades; Agriculture, forests, environment, and eco-system have suffered irreparable damage in Sindh.

Moreover, the situation is set to compound further in foreseeable future. Against this background, Indus delta is the worst victim. Despite counterproductive impacts of dams, powers that be are determined to create new mega water reservoirs. The first article in this book is paramount on this topic. Alas! someone heed unto the voice of Sindh and comprehend the ground realities and sanity might prevail.

In the end, the present book would not have been in our hands today if Mr. Sani Hussain Panhwar had not taken a keen interest in this venture. It is solely due to his patronage that an informative volume on Sindh has seen the light of day. The interest of Dr. Aftab Abro was also a critical factor in the preparation and publication of the book. The cooperation between M. H. Panhwar Trust and Peacock publishers is praiseworthy and productive. To sum up, the cooperation between the two entities is set to expand further in imminent future for good.

15 December 2018

Ghulam Muhammad Lakho
Jamshoro

THE LARGE DAMS - THEIR DISADVANTAGES AND OBJECTIONS TO THEIR CONSTRUCTION BY AID GIVING AGENCIES

Most dams were constructed in the last century for power generation in temperate zone countries and both power and in irrigation in various arid countries. Small dams were constructed at end of 19th century in Europe and Northern America, where demand for power by the industries had become almost unquenchable. Early dams up to 1950 were small because earth moving machinery like bulldozers, scrappers, drag-lines, front-end-loaders, dumpers, pile and sheet hammers, heavy cranes and large concrete mixtures were unavailable and were waiting for portable diesel engines to empower them. These developments started in the first quarter of the last century and an early peak of this technology had already reached in late 30s but the World War-II delayed its development. Only a few large dams belong to the pre-wars era of 1910-1950. There were further improvements in construction and earthmoving machinery immediately in the post World War-II period. This saw a boom in construction of the dams the world over. The industrial countries were not only

interested in selling their equipments but also their technologies through their contractors and consultants to the developing countries and almost every highly developed country contributed funds for the construction of dams. Very large finances were advanced which mostly returned to developed countries through their sale of equipment, fee of consultants and contractors.

One factor was ignored: the effect of large dams on environment. The early scene of deterioration of environment was noted in increase of salinity, in the Aral Lake in USSR. The river discharges into this lake were reduced as their waters were diverted by a series of dams and barrages (which are in a way small dam). The Aral Lake's environmental deterioration did much damage, nullifying the gains which accrued in the form of more land being brought under cultivation in the Central Asian desert lands. These projects were started in 1920s and had continued up to 1980s, irrigating some 80 million acres of land, but soon it was realized that irrigation had caused water logging due to rise of water table and salinity of the soil, due to salt brought on to the surface by capillary action. To overcome the problem, drainage works were introduced and surface salts found their way back to the Aral lake, which became saline, fish disappeared, many thousand people were dislocated, towns and ports deserted and trade and tourism dwindled. This is just one example, which reflects on all dams, barrages and irrigation schemes, which

make intensive use of water resources and land contributing to an increase in the population on lands irrigated by dams on the one hand and in setting in motion migration of population from different areas on the other. No care was taken of biodiversity and almost all floras from the large tracts to be irrigated were removed and so were the fauna depending upon them. New methods of cultivation, opening up the area, metal led and earthen roads and interception of natural drainage, leads to erosion by wind and water. The concentration of the agriculture was on a few species and the greed to get most out of land and water resources, led to the method used, which were unsuitable in the long run and uneconomical. They needed more and more inputs to get yields form exhausted soils, which ultimately led to unproductiveness. This applies to all the dams and barrages.

Today there are 800,000 dams world wise, out of which 45,000 are large dams with heights of more than 50 feet or having reservoir volumes of more than 100 million cubic feet. They are the most damaging. All dams get filled with boulders, gravels, sand and silt. Most of them have life expectancy not more than 40 years and some even half of this. A dam like Tarbela having capacity of 7.3 million acre-feet will accumulate 20 billion tons of silt in what is called live or drainable capacity and probably 50% more in pond area in its lifetime and then it is to be abandoned. A dam cannot be left on its own to breach its walls and discharge silt. If blasted and allowed to discharge silt

by water coming from up-streams, this silt would accumulate at the bed of the river downstream, raise its level, possibly change its course or breach barrages enroot to the sea. The dams have therefore to be breached in a controlled manner to discharge its silt down streams in the river, over a period of 10-12 years and at a substantial control and cost and yet it is not sure, what would be the impact because some of the boulders can reach the bed of the river when velocity of water is high and when velocity becomes low, boulders will trap silt and sand and raise the level of river bed, with undesirable consequences.

Rate of Commissioning New Dams decade wise in Last Century:

Large dams are categorized as more than 50 feet high and 100 million cubic feet live storage. Such dams were a few before 1950 as heavy equipment to construct them was waiting to be developed. World War-II (1939-1945) had further slowed their development. Europe has a few large dams but a large number of small dams. Large number of small power dams in Europe has helped in regulating water supplies to the rivers, which are also used for boat traffic to handle goods at very low prices.

Number of new large dams constructed reached its peak by 70% and has slowed down since then to less than 40% as shown in the graph.

Current Distribution of Large Dams in the World

S. No	Country	Discharge
1	China.	45%
2	USA.	14%
3	India.	9%
4	Japan.	6%
5	Spain.	3%
6	South Korea.	2%
7	Canada.	2%
8	Turkey.	1%
9	Brazil.	1%
10	France.	1%
11	Others.	16%

However though large dams still persist, but all aid giving agencies have cut down funding of them. In 1994 World Bank loaned $1,438 million for their construction and 5 years later in 1999 it was reduced to $591 millions.

World commission on Dams has discouraged construction of new dams mainly on account of high cost, displacement of people and environmental effects on the riparian.

Environmental Effects of Tarbela in Sindh:

The totalrive rain area between the Flood Protective Embankments from Kashmore to the sea is about 23.7 hundred thousand acres of which 7 hundred thousand acres from the river channels and the rest 16.5 hundred thousand acres were agriculture and forest lands. Forest land was less than 5 hundred thousand acres making 11.5 hundred thousand acres

as agriculture land. This land along with forest land was flooded each year up to 1973 before commissioning of Tarbela. During, the inundation season and on receding of the flood waters in October, bumper crops of oil seed, vegetables, melon, cucumber species, wheat, oats, etc., were raised in winter and harvest completed by April. In May and June, the land was fallow and again flooded from July to October. Forest besides wood as timber and fuel, also provided grazing ground for hundreds of thousands of cows, buffaloes, sheep and goat. River provided enormous quantity of fish. At the delta were the mangroves spread over 600,000 acres. The employment opportunities in riverain area attracted people from adjoining lands. Today the forests have disappeared, mangroves have shrunk to 45,000 acres, fishing in the riverain area has dwindled to less than 10%. Indus dolphin has almost disappeared, land fauna like deer no more exists, and many wild mammals have disappeared. Presently the area is dry almost 10 months of the year leading to wind erosion followed by water erosion when it comes and the process decrease fertility of soil. The agriculture in the riverain area including forest land was supporting one person per acre and some 16 hundred thousand people have been displaced and have migrated.

In the last 60 miles of the river channel, sea tides reach every day and saline sea water has seeped into adjoining lands, turning ground water saline and also increasing salinity of the soil. People in Shah Bunder, Jati, Karo Chan and Ghora Bari Talukas have migrated.

A town like Keti Bunder having population of 25,000 in 1973 has only 5,000 souls left. The animal husbandry and agriculture in these Talukas has deteriorated causing unemployment, poverty, desensitization and migration in environment unknown to people.

Lack of water discharging to the sea has increased salinity of sea water along the cost. Prawns, lobsters, crabs and palla or hilsa fish which spend some time in brackish water have reduced considerably. Mangroves also had supported large population on fodder, timber and fruit from them. This population has also migrated away from the area.

Salinity of Sea Water Near the Coast has Increased:

When the river was in full spate in early 20th century, the land advanced into the sea at the rate of one mile of century. It is enough to say that at the time of Alexander's conquest of Sindh in 325 BC, the coastal line was near Gharo, Gujjo, Pir Patho, Ubhan Shah and possibly Talhar. It has advanced for more than 30 miles into the sea. As river water is no longer flowing to the sea, reverse action is taking place. Sea tides are eroding the coast, creeks' mouth is widening and coastal bays are narrowing. It is anticipated that within 500 years the sea would be where it was 2,325 years ago.

This is an end of an era, which started during Holocene. The mighty Indus is in chains of the man strong enough not to let it flow freely which in turn has caused irreparable loss to the man.

(www.panhwar.com)

CLIMATIC CHANGES IN SINDH

During Geological, Pleistocene, pre-historical and historical times

1. **Cretaceous period (137-67 m. years ago):** It had warm moist climate and it helped in spreading of Gileyaequator, to high altitudes. The Indian peninsula not yet hitting Himalayas, Asia and causing disc of was separated by more than 700-800 Km. wide sea. This reduced temperature in the tropics by 3°C and correspondence increase in high altitudes temperatures was also 3°C.
2. **Paleoqene or Paleocene period (67-60 m. years ago):** It marked the beginning of gradual cooling of earth's surface. Humid forests extended to 47 degree N, against 20°N of the present.

Cold resistant tropical forests now extend to 32° N, whereas during this period they occupied most of the Europe.

Savannas which now are situated 8°to18°N, existed between 35°and 52°N, The coal field in Raulkot series belong to this period.

3. **Eocene period (60-37 m. years ago):** During this period climate was still warm and wet. Savannas with spare tree growth developed in Saharan,

Arabian, Irani Balochi and Rajasthan deserts, Sindh was part of these Savannas as & Sahra and Rajasthan deserts joined together in Sindh.

4. **Oligocene (37-26 m. years ago):** During this period there was progressive fall in temperature Savannas stretched across whole of Sahara and Rajasthan desert and also to Eastern Deccan.
5. **Neogene i.e., Oligocene to Pliocene**: during this period, earth surface temperatures further dropped by 8°C.
6. **Miocene (26-12m. years ago):** During this period anthropoid apes (pongids), orange-out-dangs, gorillas, chimpanzees and hominies appeared in ever-green forests. Remains of 15 apes have been found from Siwaliks.
7. **Pliocene (12-4 m. years ago):** High pressure developed at 30° North and South altitudes. Monsoon circulation developed. Permanent deserts developed in the tropical and subtropical zones. To the north of these were steppest and to the south savannas.
8. **Eopleistocenc (4-1 m. years ago):** In the upper Eopleistocene (4-1.5m. 9 years ago), ancestors of hominids left forests in search of food in Savannas and tried to walk erect. Man also appeared then. Australopithecus who had separated from other homonids then, became extinct some time probably in second part of Eopliestocene (2-1.5 m. years ago).

Ramapithecus having brain of 600 cms, could not

be classified as man, because of a low skull volume, (700-800 cms) being dividing line between man and ape and also because he did not use any weapons but used his hands and teeth.

Ramapithecus disappeared prior to ground 1.0 million years ago. Man is not more than 1 million years old.

9. **Piliestonce (1.0.8 m. years ago to 10,000 (years):** The lower pliesloceno (1-0.4 m. years ago) is characterized by further drop in temperature and reduction in aridity in the tropics and during 800-600 thousand years ago man developed shell or Abberivillian culture of Archanthropus i.e. the following:

Pithecanthropus	in Java
Sinathropus	in China
Atlanthropus	Mauritania
Zeidielburg Pithecanthropus	Western Europe
Old wan Pithecanthropus	in East Africa in

The volume of their brain was over 2000 cms 2 being twice that of ramapithecus, Australopithecus and Pre-zinjanthropus.

10. **600-400 thousand years ago:** There was further drop in temperature. The average temperature in the plains of Northern Europe was 5°- 6°C lower than it is today and glaciations started. In the tropics and sub tropics it was wet.
11. **End of (Likhvin) glaciation:** At this time developed the paleoanthropus or Neanderthal man using improved tools, hunting and food gathering. His brain cavity was1450cms.

12. **Middle Pleistocene (400-120) thousand years ago**: Fire and clothing from skin were protecting man against cold.
13. **220-120 thousand years ago or danieper Glaciations (Rise, Illinois):** Existence of a 100 m thick glacier on Khirthar range between Dad and Gaj river is possible.
14. **Upper Pleistocene or late Paleolithic, 120-100 thousand years ago**: Inter glacial period lasted from 120-70 thousand years.

Neanderthals developed division of work according to sex, age and domestication of animals. Permanently wet warm climate produced rich flora and fauna and the evolution of material-culture was slow.

15. **70-10 thousand years ago or Wisconsin glaciations**: The man reached maximum stage of development 15,000 years ago. He developed tribal system.

The cultural changes in man were as under:

Neanderthal man	70,000-40 years ago
Aurignacian or Cro-Magnon man	40,000-25,000 years ago
Solutrean man	25,000-15,000 years ago
Development and Presence of modern man	42,000 years ago in Southern Africa
	39,000 years ago in Kalimantan Island
	38,000 years ago in Poland
	35,000 years ago in France
	36,000 years ago in Australia
	15,000 years ago in South Africa

Average span of life of man was not more than 40 years. Palaeolith is characterized by mud huts, surface dwelling of animal bone and wood and cloths sewn from animal skins.

Ice cap receded and melted by 10,000 years ago.

16. **Holocene 10,000 years ago to present day):** Early Holocene or Mesolithic (12,000-7,000 years ago) is characterized by:
    - Primitive community system ended.
    - Material family (material chate) ceased.
    - Parental family started.
    - Slave owning society began to take shape.
    - Pottery production arose.
    - Cooking of food became systematic.
    - Cattle herding developed.
    - Agricultural production introduced and developed.
    - First cultivators were women, who used simple stick to make furrows to cultivate cereals.
    - Men did hunting and tending cattle.

    b) Neolithic (7000-4500 years ago).

    c) Bronze Age 6000-4000 years ago.

    d) Woven fabrics 4000 B.C. in summer in Mesopotamia.

17. **Climate changes in Middles Holcene:** Tundras were limited to North Siberia etc.

18. **Middle Ages 1500 years ago to 1600 A. D:** This is characterized by:
    - Simple machines using power of

- Man
- Animal
- Water
- Wind

19. **Modern times 1600-to date. In Sindh and 1380-1850 in Europe:** It is characterized by:
    - Harnessing of power from fuels.
    - Capitalistic power rise and colonization.
20. **1200-1300 A.D.:** 2° or 3°C displacement of latitude due to physio-gcographical processes from earth's mean, also causes climatic changes.
21. **Little Ice Age1500-1700A.D:** In17th Century a drop of 1 to 2°C in average temperature brought about "Little Ice Age."
22. **Climatic patterns of past 500 years and causes of it:** Taking climate of 45 years average from 1900 to 1945 and again climate of past 500 years, it was cooler before 1900 A.D. and also cooler from 1945 to 1990. The results are:

Between 1800 A.D. and 1940 A.D. difference is 0.6°C rise and between 1945 to 1990 it is a fall of 0.3°C.

23. **Causes of climatic change:** Mean global temperature 18,000years ago was 6°C cooler and British Isles were under ice. It was the height of last glaciations.

In deserts and poles, earth receives less radiation than it returns, but at equator it receives more than it returns.

No part of weather system, can be dissociated from the other. Earth orbit around sun varies between

90,000-100,000 year. It is sometimes almost circular and at other time elliptical.

When it is elliptical, solar radiation varies 30% during the course of the year.

Today it is at 70° till on it oscillation around the sun.

Greater the tilt more is difference between summer and winter temperatures. Last maximum was 10,000 years ago.

Earth wobbles around its axis, cycle takes 21,000 years.

Sun also rotates and cycle varies from 90 to 27 years.

Sun spot cycle of 11 to more accurately 22 years is most famous.

Sun spots having 22 years cycle vary and cause variation in the solar radiation thereby climate on the earth. Between 1645-1715 A.D., radiation could have been 1.4% lower than at present and thereby there was difference of 1 to 2°C. Radiation increased around 1916 A.D. Differences between rotation of planets, including earth, has disturbances on sun, at a rhythm of about 1,700 years. Pull of earth and sun creates tides. Exceptional high tides occur at 1800 year interval patterns, and set a process in train, which takes long time to correct. The Little Ice Age may have been triggered by tidal maximum in high altitudes in 1433, which caused south ward drift in the polar ice and it on set" The Little Ice Age."

24. Climatic changes in the historical times: Four

climatic Epochs since 12,000 to 10,000 B.C.

These changes were world-wide and in Sindh they are represented by the following:

i) Warm times 5000-3000B.C.
ii) 2900-300 B.C., colder.
iii) 3090 B.C.-1430 A.D., warm.
iv) 1430-1850 cold.
v) 1850-1940 warm.

These are further explained as:

a) Warmest time culminating, 000-3,000 B.C. Between, 5,000-3,000 B.C., sea level rose rapidly as former great ice sheets kept melting after ice age. Sea kept rising further up to 2000 B.C. when it may have been 3 meters higher than today. Between 5,000000 B.C. temperatures were higher in Europe by 2-3°C than the present. The same was the case with Antarctic. Temperature in Sindh may have been higher by about 1 to 2°C.

b) Colder climatic epoch of Iron Age culminating or reaching its maximum 900 B.C. After 900 B.C. colder period started and even up to 300 B.C., it was cold.

c) Rise of Indus civilization 2300-1700 B.C., was quick and decline was caused by drought after 2000 B.C.

d) In the Southern Hemisphere 5000-3000 B.C., was a cold period as per available data.

e) Around 100 B.C., Italy witnessed warmer times than Centuries preceding it.

f) Dust storms are recorded in the 7th century A.D.

which may have affected Brahman rule.

g) Rangmahal culture occupied the Indus region in the 4th century A.D., showing better rainfall. The construction of stupas from 5th to 7th century in Sindh also show prosperity due to climatic change.

h) Warmest of Early Middle Age was 1,000-1,200 A.D. Temperature started rising and optimum was reached around 1,000-1,200 A.D. Some investigators are of the opinion, that temperatures were quite favorable in Sindh, even after 800 A.D. in the northern America. The above optimum shows, the rise of Habaris and the Soomra of Sindh. The above optimum was also wetter period in America. 900-1,120 A.D., were a warm, though variable times. The deserts are reported to have expanded around 1,000 A.D. But statement is not fully verified for Sindh.

i) India witnessed a number of famine years in the 14th century.

j) Little Ice Age 1430-1850 A.D., in Europe and 1,500-1,700 A.D. in Sindh. England in late 16th century had its maximum effect in Sindh from 1,600-1,700 A.D. Cooling had probably began around 1130A.D, and 1380A.D., its impact was perceivable in central Asia and India.

k) Warning since 1850 in Europe brought new prosperity in Sindh it caused rise of around 1700 A.D, and their decline due to high in Himalyas and thereby hydrological changes in the course of

the Indus from 1755-1758 A.D.

25. **Little Ice Age (according to John Gribbin):** It started around 1430 A.D., and ended in 1850 A.D.

During the period Arctic pack ice expanded considerably and temperatures across North Atlantic above 50°C, but there were frequent low temperatures i.e., there was year to year variability of temperature. In Sudan, Ethiopia and Egypt the Nile fed from equatorial belt had low levels showing lack of reduced rains. In the Southern Hemisphere this pattern is not reflected. Earlier epoches were in the whole globe, While the Little Ice Age, was an Equator -ward shift in northern Hemisphere and a Synchronous (but smaller) pole ward, shift in Southern Hemisphere. In the Little Ice Age temperatures on mountains in low latitudes were l-2° C cooler than today. In the warm epochs they were 2 to 3°C higher than today.

The warming of 1800-1945 A.D. probably presence a temporary fluctuation from Little Ice Age conditions to which we may shortly return. Arctic expansion around 1,900 B.C., caused a retreat of northern forests from regions which had been suitable for them around 1,900 B.C. These changes may have adversely affected civilizations like the Indus in the South. Between 1550-1850 temperatures in the northern hemisphere fell to their lowest since ice age and glaciers advanced. Many areas such as Greenland and N. Norway had to be abandoned. Of these late 16th and 17th century were coolest.

Temperature differences with present conditions were 2.0-0.5°C. Temperatures in antiquity were lower. They have been high during past 8,000 years. For England there is difference of 12°C in winter temperatures and 8°C in summer temperatures between now and 8,000 years ago.

26. **Effect of Little Ice Age on crops in Sindh:** Rice will grow but not ripen. Short season rice cultivars will grow and mature.

Only millet a short season crop will grow.

Sorghum too can grow but if planted on late rains in August, it will not ripen. Dates may not ripen at all or may not have developed flavour. Many fruit crops like mango will be harvested late by 4-6 weeks and will become biannual. After 1,650 A.D. many summers were hot but not regular year after year. Growing season changed by 15-20% between warmest and coldest times of the millennium. Some winter crops will have advantage of long winter and high yield, but there would be less irrigation water. Oats a short season crop will give place to wheat. Wheat yield will be higher. Chick peas will be replaced by beans due to long season. Winter vegetables will grow better and have higher yield and better quality. Some types of citrus will have better quality due to long winter. From 1940 A.D. to 1985 A.D. there has been drop of 0.4°C in Northern Hemisphere has reduced the growing season which in England has about 10 days. The recent agricultural troubles in the world are a consequence of it. Sugdasi

Rice disappeared due to steam bore from 1957-1962A.D. due to these changes.

27. **Rain fall patterns in the Central Sindh:** 10300-8600 B.C. 6" or less area was deserted.

8,200 B.C. 32° Beginning of domestication of animals at Mehragah.

28. **Warming of earth between 4000-8000 years ago:** What caused the high level of mean temperature to be maintained during the Altihermal. The possible cause could be the total output from sun or distribution of sun-light between the Northern and the Southern Hemispheres as the earth elliptical orbit around the sun changed. It is even possible that CO_2 content in atmosphere increased but there is no evidence for it.

29. **Influence of 1°C rise in temperature:** 1 °C increase in temperature also means 10 day increase in growing season in middle and high altitudes and possibly 20 days in Sindh. There is an evidence of hot and wetter period from 8,000 to 4,000 years ago in the whole of south India, Sindh, Rajasthan, Western Iran from Quetta to the Caspian Sea, Central Arabia (not coastal and south) Turkey, Lebanon, Syria, Iraq, Israel, Egypt, Ethiopia, Eastern Africa, Mozambique, Libya, Tunis, Algeria (not Morocco), the whole of Sahara Mexico Alaska, the whole, Europe (Central and Southern Europe), Korea China, Western Australia and the New Zealand. Climate has been a factor and a controlling one, which has

determined, where and when people should hunt, where should they live, what they should wear and where they should practice their agriculture. About 4500 years ago all houses in the Indus cities were either built of bricks or in brick with stone foundations as the country was set. It was also warm, so thick Brick walls in mud plaster, insulated the interior against outside heat. Windows were scanty for the same reason. There were no verandas to the south like those of today's rural Sindh, as there were no southern winds. The summer trade winds had not yet developed, as low pressure depression had not developed in northern Sindh and there were no ventilators as cold northern winds had to be stopped from entering the houses from that side. By 1500A.D, houses were constructed in Sindh with verandah to the south to protect the main rooms against sun and also to take advantage of southern winds during summer. The houses usually had no opening or ventilators to the south or west to protect against northern cold winter winds. The wind catcher of southern Sindh used until very recently below Manjhad, caught south-western winds in summer. There was absence of wind catchers in Karachi where west open houses were preferred as this city had alternate sea and land breeze each day, making wind catchers less useful.

(Sindh Quarterly, No. 03, 1994)

IS THE CLIMATE OF SINDH SUITABLE FOR RAISING CITRUS FRUITS?

The Problem and Urgency:

The wiping out the150,000 acres of banana by BTV (Banana Bunchy Top Virus) and HR (Heart Rot) in 1989-91 and removal of roses from 100,000 acres in Sindh due to collapse of export market in 1989, has created an urgent need for introduction of replacement crops. The farmer wants to know what are the new crops, their economics, agronomical requirements, diseases, pests, markets and pay off periods. Since no one in the country expected the urgency, replacement crops were neither studied nor planned. The answer therefore is as confusing as the problem of replacement.

I had been doing these studies since 1981. The prices of mango had started coming down, since that year and in the terms of real value, the mango prices of 1990 were about 40% of 1981 prices. Banana was doing better than mango, as prices in 1990 were about 50% of 1979 prices. Knowing that price recovery may not come, due to glut created by vast area under Sindhri mango plantations in Sindh, I studied citrus and many other alternative crops in details and raised them on a small scale to understand agronomy and

economics. Sindh had developed considerable citrus industry with the opening of Sukkur Barrage in 1932, but it had suddenly collapsed in the late fifties. The causes of this failure have never been studied and a hasty conclusion was drawn that Sindh's climate is not suitable for citrus. I have studied these causes and found that they had nothing to do with the weather of Sindh.

Agro climate of Sindh:

Agro-climatology is no longer given due importance as the British had given to it, before Independence. Before 1947, Mukhtiarkar of every Taluka, was reporting telegraphically the daily data about maximum and minimum temperatures and fall to the Meteorological Department as well as to the Director Agriculture in Sindh. The latter compiled them month wise and published in the Sindh Government Gazette once a year along with average since 1904. The last such data for 41 years (1904-1945) were published in 1946. Then we got independent of this drudgery. The Indian Meteorological Department also published annual climatic data and also separate rainfall volumes. These go back to years 1891 and 1897 and cover some 11 stations of Sindh. Since 1904, data was available for all 65 Talukas of Sindh. The daily maximum and minimum temperatures and rainfall for Karachi, Hyderabad, Padidan, Rohri and Jacobabad along with major Indian cities, were published by all English and Sindhi Newspapers.

These formed a basis of understanding agro-climatology.

Another source of data is offices of Executive Engineers Department of Irrigation. In the recent years WAPDA collects and compiles data. Pakistan Meteorological Department has 22,000 employees. Data has been collected but is not compiled to give annual, monthly and daily averages for past years. All Agricultural Research Farms in Sindh also collect daily climatic data, but they are not compiled. I started collecting data from various agencies and have prepared monthly summaries for some 18 stations. In addition to these I have also worked out Heat Indices and Chill Units for all these 18 places. The results are astonishing. The accumulated Chill Units (hours below 7.2°C) for Sindh are the highest in Larkana (550 C.U.). The coldest belt of Sindh, is Larkana, northern Dadu and western parts of Naushero and Khairpur districts. After Ghorabari and Karachi, the Hyderabad town is the least cold (150 Chill Units) in winter. Tando Jam accumulates twice as much chill as Hyderabad, only eleven miles from the former.

In terms of heat accumulated or Heat Index (temperatures over 1.30°C in summer months), Jacobabad is the warmest (4469 Heat Index), and Mirpur Sakro the least warm (777 Heat Index). Karachi and Ghorbari are hotter than Mirpur Sakro.

Suitability of Sindh and the Punjab for Citrus:

The above data alone will determine whether citrus or any other fruit or vegetable crop can be raised in Sindh. After thorough examination of climatic requirements of citrus, I have concluded that:

- Both Sindh and the Punjab are suitable for some or other varieties of Citrus.
- None of the two Provinces is suitable for all varieties of Citrus.
- The Punjab is suitable for one group of citrus and Sindh of the other.
- Sindh's has climatic advantages over the Punjab for some varieties of citrus and the Punjab has advantages over Sindh for other varieties.
- Sindh is not at all warm for a certain varieties of Citrus, for example; grapefruits, pummel, limes and a few varieties of naval.
- Oranges and a few types of mandarins. All these types of fruits need a high heat accumulation for good growth and yield and Sindh's weather can supply the required amount of heat.
- Rate of development of plants is closely co-related with heat Index. This means that years to first fruiting of some varieties of citrus will be less in Sindh.
- Fruit development also depends on accumulation of Heat Indices. It means due to heat of Sindh, fruit will develop and mature earlier.
- The years for growth and reaching maturation for maximum yield will also be less in Sindh.

- The distinction between early and late cultivars tends to disappear in warm areas and therefore Sindh cannot benefit much by raising late season cultivars.
- Maturation time for fruit is also reduced in warm areas i.e., from 8 months to 6 months for early cultivars and 11 months to 7 months for late cultivars. Thus Sindh will have an advantage of early harvest by at least 2 months.
- In case of nurseries, the plants reach buddable stage in cold area of Sindh 12 to15 months and in warm area only 9 months are sufficient.
- In case of early harvest of some fruits for example limes and grape fruits (in August and September in Sindh), there is at least one vegetative flush in October. This helps in making trees bear regularly and not reducing the flowering and yield in the next year. Thus trees bear more fruit over the years.

Climate of India, Florida, California, Arizona & Australia comparison with Sindh:

- The Suitability of Sindh for citrus can also be verified from heat indices of other citrus growing areas of the India, and the World.
- Patna an important citrus area on 25°-30' N (like Tando Jam and Mirpurkha) in Bihar has heat Index 3928.
- Dibrugarh another citrus area in Asam India on 27° N like Larkana and Khairpur, has Heat Index

of 5019.

- Allahabad India has 5700 Heat Index and provides more heat than Sindh and yet it is a citrus centre.
- In India famous Nagpur Santra grows around Nagpur having maximum temperature of 46°C (like Dadu and Moro) and minimum coming down to 7°C.
- Mosambi grows in Khandesh and Poona (Pune) areas of Mahrashtra, having temperature range of 3°-46°C and is the principle sweet orange growing area. Acid lime is next important crops of this area.
- Sweet oranges are successfully raised in Deccan Plateau of India up to temperatures of 46°C. Citrus is raised up to temperature of 52°C in Northern Rajasthan and Western U.P.
- Imperial Valley California has Heat Index of 3377 and most of grape fruit of California is grown there. St Leo (Florid) on 28°N, the Citrus centre of the state has Heat Index of 3468.
- Sindh's dry winter (humidity as low as 25-35%) can help in initiation of flowering buds. The incidence of fungal growth, scab and other pests will be reduced.
- I have visited Allis Spring in Northern Territory in the centre of Australian Desert. It is as warm as any place in Sindh and here they raise grape fruits, oranges (Washington naval and Valencia) lemons, and Kumquats. Some varieties of

mandarins are also raised. The Agriculture Extension Service of Northern Territory, Australia promotes these crops (Ref: *"Citrus growing in Allis Spring District"*, Incidental Pamphlet No. 5, Northern Territory of Australia Dep't. of Primary Industry 1989).

- The average highest temperatures of Indio (Calif), and Citrus Research Station in Yuma and Tempe (Arizona) respectively are 41.6, 41.4 and 40.2°C and these temperatures are comparable to those of Larkana, Mehar and Nawabshah respectively.
- Dr. W. Renther Prof. Emeritus and editor of Citrus Industry Vol. I, II, II, IV and V wrote to me in 1987 "In Coachella and Yuma Valleys of U.S., various Eurek strains of lemon are grown fairly successfully on a commercial scale, as are oranges. In case of lemons only one bloom is produced in these hot desert areas and fruits ripen in September to December period". These are the views of World's top specialist of Citrus fruits. My own trials with citrus during the past 26 years have proved to me that Sindh can raise grape fruit, oranges, limes and lemons successfully.
- Growth temperature for citrus are within 13-40° C, though best growth occurs between29-35°C.
- Heat indices of some of fruits in USA are calculated as under:

Grape fruit	5,617-6,781
Washington Naval	2,706-3,462

Valencia oranges	2,672

- Various stations of Sindh have heat indices between 4000-4500, except Karachi, Mirpur Sakro and Ghora Bari which have less than 4000 Heat Indices. Only Jacobabad has an average 4700 Heat Index. The Heat Indices of Sindh are between heat indices of Patna and Dibrugarh (India). The 3770 to 4000 Heat Indicted of Sakro, Karachi and Ghorbari are within acceptable range.
- Besides the Heat Indices and Chill Units also play role. The Citrus needs average monthly mean temperatures over 13°C and below 38°C during the growing months. Larkana the coldest place in Sindh in number of Chill Units, has average temperature 13.3°C in January and Jacobabad the warmest place has average of 38°C for June. It is true that high heat of the day hours may create partial dormancy in the hottest month in Sindh, but effect is only temporary and I have observed profuse, flush in citrus in Tando Jam area at the end of June, after high heat of May. Bears lime, which flowers each month and fruits all year around, has no flower flush in May in Tando Jam but end June flower flush is extremely profuse compensating for non-flushing in May.
- One of redeeming factors of warm weather of Sindh is some 12-150°C difference in day and night temperatures except in deserts. Throughout

the World, no other vastly irrigated areas have this advantage and in those areas with low day and night temperature differences in warm months, there is a serious problem of:

- o High rates of respiration and transpiration at night.
- o Pigmentation of fruit does not take place and on the contrary coloured fruit may re-green.

- The most recent findings on growth temperature of citrus are that; at temperature so over 40°C (104°F) to 54.4 °C (I30°F) and under 13.2 to O°C, the metabolic activity is very low in the plant and no active growth is present, but no damages are also observed (Citrus growing in Florida by Larry K. Jackson, University of Florida 1991).
- Larger Fruit size is associated with high temperatures and specially the spring temperatures (Wardowski Wildfred F., Nag Steven and Grierson William "Fresh Citrus Fruits", 1986). High spring temperatures of Sindh can increase fruit size. Total soluble solids and low sugar/ acid ratio are also associated with high solar radiation. These special advantages of high temperatures during the fruit set and its early growth were for the first time brought out by these authors.
- It is true that there is limited scorching of lemons and oranges directly exposed to sun, under those temperatures, but not of these unexposed or within the tree canopy.

Grape Fruit:

Grape fruit was being raised in Sindh, since opening of Sukkur Barrage. It is harvested mostly in September, but as grape fruit can be stored on the tree, until March next year, harvest was spread over many months. One effect of storing fruit on the tree was, low yield in the subsequent year. It would be interesting to mention that citrus was successfully raised at Dokri, Dadu, Tharu Shah, and Padidan, all of which river warm places of Sindh, having the average maximum mean for the month of June at 4 1.6°C. Citrus can easily stand temperature of 50°C (122°F). Highest temperatures for Jacobabad and Padidan are 48.5° and 48° C respectively. Citrus cast and a few degrees below O°C. Temperature in Sindh does not fall below O°C. Grape fruit was also raised at Sakrand and Mirpurkhas comparatively less warm places. While grape fruit was harvested in Dokri, Dadu and Tharu Shah having 4400, HI (Heat Index) in September, in Imperial Valley (California) having 3300 Heat Index, it was harvested late in December-January period, a delay of 3-4 months. In the Central California (Bakersfield to Fresno) harvest took place still later, as these areas have less Heat Indices. The late harvest invariably affected yield of another young crop stand for next season on the tree.

Oranges:

Navel Oranges need heat but less than grape fruit. It can be grown in Sindh as it needs high heat

accumulation, as compared to other oranges.

Limes and lemon:

Limes need heat and limes are successfully grown in Sindh. The Sindh's lemon is actually a lime. Limes need high amount of heat but not lemons. This crop gives more return than mango or banana.

Mandarins:

Sindh had its own mandarin the Narangi or Nargi from Portuguese "Naranj." It had a very interesting historical significance in introduction in Sindh. By 1817 the British had gained paramountcy over the whole of South and East India and Rajastha. Cutch, Bahawalpur was also made the British protectorates. Mir Karam Ali Khan Talpur, being afraid of the British designs, sought the Portuguese assistance from Goa and allowed them to establish church on the Liari River on about 600 acre area. The Portuguese monks introduced this citrus mandarin, on their property and from here it spread to Sindh. Narangi also gave Sindhi language this word, for orange colour. This mandarin was an easy peeler and its segments automatically separated after peeling. Like original Naranj of Spain (Sour Orange), Narangi of Sindh was not sour. It may have been a mutant.

Pummelos:

Pummelos need high heat and cannot stand frosts. Pummelos do better on slightly saline water as

well as saline soils. They also can stand water logging. Pummelos fruit has keeping quality of 4 months, during which it improves in flavour. The southern Sindh below Nawabshah is free of frosts and is ideal for this fruit. Pummelo is largest in citrus family reaching a size of 8 to14 inches diameter. It is easy peeler and its segments can easily be separated. Even juice sacks can be separated from segments. It has great export potential in South East Asia, where its supply is in great demand, all the year around. In Pakistan citron is wrongly considered as pumelo, which has sweet juice and is not acidic like citron.

Citrus Industry of Sindh 1935-1960:

The Citrus Industry of Sindh flourished from 1935 to 1960 and then quickly disappeared. The causes of decline were many, except the commonly believed enemy, the weather. My own investigations based on local inquiries are:

- Plants were raised from seedlings and unbudded seedlings besides producing inferior fruit, are prone to many viral and fungi diseases, causing sudden decline and death.
- In flood irrigation, root-rot is common problem, unless small three feet diameter and six inches high mounds are made around trunk of each plant so that roots are soaked rather than wetted by water.
- No chemical fertilizers existed and farm yard manure was the only fertilizer used. Applied

over many years on the same crop, it created disbalance between N, P and K at time plant needed the most and also between micro-nutrients. For example in its growth cycles at times plant needs only nitrogen and other times Phosphorus and Potash and all these are not available in manure, in required proportions.

- No plant protection chemicals were available and even if some chemical were available, sprayers were not available. The whole job of plant protection was left to harmful insects and their natural predators.
- There was gradual rise of water table in Larkana, Dadu, Khairpur and Naushero Feroz districts and also Nawab Shah District which took the final toll. Water logging caused Root Rot and death of trees.
- Use of micronutrients to control some disease was known but sprayers were not available. Hand operated knapsack sprayers or barrel sprayers became available in mid fifties, but these kitchen-garden devices had no place or capability to spray large trees.
- Instead of proper weed control, the only method resorted was inter cultivation by spade or hoe, killing top roots many times a year and year after year, causing decline in production and tree vigour.
- Economic life of citrus trees is 30 years. Plants lived almost 0-30 years, before they were

removed in early sixties.

Thus we caused an early and premature death of citrus industry of Sindh. The lime industry has lived until recently and we have witnessed with our own eyes, its final death caused by water logging in Dadu and Naushero Feroz (also Nawab Shah) districts.

Conclusion:

- Sindh has wider daily temperature fluctuations; so Citrus fruit produced will generally be brighter in colour and having better flavour and sweetness.
- Cool climate of lower Sindh can allow virtually continuous harvest of lemons.
- Grape fruit will develop highest quality in the heat of the whole Sindh.
- Red blush grape fruits will develop red skin blush, only under high heat of Sindh.
- • It is possible to raise citrus even under shade of date trees in Sindh as heat and light are sufficiently intense, allow citrus to be raised an interior crop.
- Fruit of most varieties of citrus will be larger in size in the Sindh's heat and light, with exception of "Washington" navel and Satsuma mandarin. The latter is not recommended for Sindh.
- The citrus is most tender to frost. The order of their sensitivity to frost is; limes, lemons, grape fruits, pummels and tangles. All these can safely be raised in Sindh, where frosts are a rare

occurrence. In the hottest part of California, the Imperial and Coachila valleys, grape fruits of high quality, Valencia oranges many varieties of mandarins, lemons and tangles are raised. Since sometimes it gets too cold in winter, citrus in these areas of California loses its colour. In Sindh the winter temperatures do not reach such extremes and these crops have very bright future.

There are a few musts in successful citrus growing. Citrus gives yield of 20 to 25 tons/acre in California, Florida, South Africa and Australia. With us yield is only 3-5tons.

The Yield Losses Occur Due to the Following Causes

Weed competition.	25-30%
Improper nitrogen fertilization (too much or too little).	10-25%
Wind injury.	30-35%
Scales.	10-15%
Melanose.	20-23%
Rust.	4-5%
Total losses about:	75%

Further loss due to rejection of fruit from farm to the consumer is 5%.

Having understood these factors, the new citrus farmer of Sindh will be ready to raise following citrus varieties:

- Grape fruit (all varieties).

- Oranges (Naval and Vlencia).
- Limes (some varieties).
- Pummelos (all varieties).
- Mandarins (some varieties).
- Tangelo (all varieties).

If improved agronomical practices are introduced and proper cultivars in each varieties are selected, progressive and educated farmers, who besides farming also keep themselves technically up to date, can expect a yield of at least 15-20 tons/acre. As farmer, I am aiming about 20-25 tons/acre.

(Sindh Quarterly, No. 02, 1992)

TRAGEDY OF PAKISTAN AGRICUL TURE CEREAL CULTURE VERSUS HORTICULTURE

The examination of human population of Pakistan and statistics of edible agricultural and animal products for past 35 years reveals a shocking story.

During the past 35 years our achievements and short-falls in brief are:

We have increased rice and wheat production on per capita basis, but there is decrease in production of following important items of food:

i) Vegetables.
ii) Fruits.
iii) Vegetable proteins (various pulses or dals).
iv) Vegetable oils.
v) Milk and milk products.
vi) Animal proteins (meat and fish).
vii) Animal fats.
viii) Tree nuts.

This clearly shows that quality of food has deteriorated over past 35 years, although nobody is starving, as at least flour and rice are plentiful and are available in more quantity than they were in 1951, on the per capita basis.

The Surgeon General to the Viceroy of India,

carried out experiments on rats from around 1875 onwards. Rats were used for experimentation for the first time in the world. Such experiments had not been done even in the then, World's richest country, leading in technology, i.e., England. Viceroy had provided funds. England would have shuddered at the idea of this extravagancy. It however turned out to be a revelation to the whole scientific World, once results were published. Henceforth all kinds of experiments for future application of drugs on humans were started on rats.

This doctor divided a group of rats originating from the same progeny, in three groups, and generation after generation fed them, the kinds of food, people in British India's different parts were normally taking from day to day. Since rats mature and reproduce in a few weeks, a number of generations of them can be reproduced in a full year. The experiments were continued for some years to re -confirm the findings. This doctor had divided mice in three equal groups and called these groups:-

- Madrasi.
- Sikh.
- Upper Class Pathans.

a) The Madrasi group of rats were given same food as was being taken by people of South India's Madras area i.e., rice, spices, pulses, vegetables and occasionally small quantity of fish or meat or fruit, but they were not allowed to starve on any day.

b) The Pathan group of rats were given hypothetical

food, the Upper Class Pathans would take i.e., meat, fruits, salads, vegetables, milk, butter and bread of wheat flour.

c) Sikh group of mice, were given food, which was mixture of Madrasi and Pathan group.

Records were kept generation after generation of the rats. Results were astonishing:

- The Madrasi group of mice became dwarfed. Not only that they were thin and lean physically but besides they were quarrelsome, noisy, agitative, unrestive and kept fighting each other. Their life also was comparatively short.
- The Pathan group of rats had become taller, larger in size and weight and were quiet, cooperative, playful and did not fight among themselves. They seemed to be content and happy. Their average life was longer than Madrasi group.
- Sikh group was in between the two but not noisy or quarrel some, like the first group.

It is obvious now what we are going to face generation after generation due to inferior food we are providing to our poor population, specially the farmer and farm labour decade after decade and generation after generation.

It is also known that average height of men and women in America has increased by some 5 to 7 inches since 1800 A.D. due to better food.

Since early fifties when there became food shortage, there has been a continuous effort to grow more cereals i.e., wheat and rice. In latter part of

sixties insistence was on maize in northern areas. Fruit and vegetables were forgotten as luxury items. With opening of new barrages, previous pasture lands were turned in to grain producing areas, making no provision for alternate pasture or grasslands for animals feed.

Smuggling of beef animals from India across the long border was accepted as normal additional source of meat.

Nepalese are Buddhists and won't eat honey, as bee has stored it as its winter food, but they collect honey and sell it to Indian-Hindus and think that it is not they but the latter who are going to commit sin. Hindus in India, do not eat beef, but they tactfully allow beef animals to be smuggled across the long border, to Pakistan so that Maleechas (a word for Muslims) eat it and become sinners. Thus production of beef animals was neglected in Pakistan.

The climate of the whole of Pakistan is such that any type of fruits, nuts and vegetables, grown anywhere in the world can be grown very economically at some other place here, be it tropical, sub-tropical, temperate, evergreen or deciduous bush or tree. Cheap labour and almost as free supply of water from the Indus and its tributaries, could have helped in producing the fruits, nuts, vegetables and spices at probably the cheapest rates in the world and export them abroad. As against this we planned more and more on cereals. Aid, loan or grants awarding agencies too were ready to assist for cereals and not for fruits, nuts and vegetables. The Western Europe, Israel,

South Africa, Newzealand and many states of U.S.A., planned more and more for fruits, nuts and vegetables. New entrants to this type of horticulture were Mexico and Brazil, both of which are now on the verge of shifting from developing stage to developed stage.

It is obvious that shortage of quality food is already affecting not only our physical and mental, but also spiritual health. In the past 35 years we have seen utter disregard for moral values or heritage left by the British Administration and have turned into agitators, selfish and the exploiters of the faith and faithful. The rural areas are the worst affected, as its population, even in the depression days of thirties was getting better food then, than now. Any farmer of Sindh and the Punjab was able to get a glass or more of milk every day, butter or yogurt for breakfast, skimmed butter milk or Lasi any time during the day. Pulses were available in the house in plenty. Fish or meat was usually taken three to four times a week. Today all these have disappeared from rural areas. The substitute is Chora-Chai (rejected tea leaves) boiled long enough to make sure that all nicotine, a poisonous oily alkaloid in it, is extracted fully from leaves and dissolved in tea water to make the person addict. The farmer takes bread or rice with his cup of tea, in which one or two tea spoons of sugar and one table-spoon of milk is added. This is the only source of his milk for, this is his drink for breakfast, lunch and dinner. He gets pulses once a day. Meat is served only on festivals like, Eid or marriage. He works twice as many hours as he did fifty years ago, but his

purchasing power is curtailed as he gets less than half as much for his produce, as he did then. Fifty years ago inputs formed a nominal percentage of his gross income but today these are substantial. May be the moral degeneration in the country is cause of the lack of quality foods.

The past 35 years have been the time of ill-planning ill-advice, from our own experts or outsiders and there seems to be no end to it.

Meat and pulses contain amino-acids. Meat has 22 amino-acids which are essential for human body and must be taken in proper proportion with each meal. No pulse provides all 22 amino-acids. Each provides only a few amino-acids. A combination of different pulses can provide this requirement. Vegetarians invariably eat a number of pulses with each meal to provide all amino-acids.

Fourteen mineral elements calcium, sodium, zinc, iodine, copper, phosphorus, sulpher, florine, manganese, iron, magnesium, cobalt and chlorine are essential nutritional constituents for human body. No food has all of them but some fruits, vegetables and milk each have some of them. A combination of vegetables, fruits, meat and milk products can provide all of these elements. This is why the policy of past 35 years of concentrating all efforts on raising cereals is un-wise.

The doctors and nutritionists working on the food ingredients all over the world have concluded that deficiencies of proteins in the food because not only an early death but the person's having dietary

deficiencies, will suffer from following physical and mental disorders.

i) Insomnia (treatable with changed nutrition).
ii) Anxiety (treatable with control of blood sugar)
iii) Early wrinkling of face (irreversible).
iv) Bleeding tendencies.
v) Headaches (most headaches treatable with vitamin C or fruits and vegetables containing vitamin C)
vi) Low immunity.
vii) Cold and cough.
viii) Cancer (anti cancer diet includes dark green vegetable, cruciferous vegetables, fruit, whole grain, cereals and milk).
ix) Arthritis.
x) Diabetes.
xi) Protein-Calorie Malnutrition disease.
xii) Kwashiorkor.
xiii) Edemia.
xiv) Liver trouble.
xv) Cataract.
xvi) Skin diseases
xvii) Early senility.
xviii) Low or high cholesterol level.
xix) Hypoglycemic fits.

Besides these, malnutrition causes bleeding gums, mental sluggishness, irritability, easy bruising of flesh, slow healing of injuries, poor skin conditions and tone, kidney and bladder stones, loss of sexual potency, stooped stature in youth and rheumatism. In the worst cases it can cause leprosy, dysentery, leukemia,

atherosclerosis, heart diseases and influenza.

It is also suspected that the present high incidence of cancer maybe due to wrong and untimely use of fruits and vegetables, of insecticides and pesticides; some of which are known to cause cancer.

Ill-advice on agriculture policy has thus caused the country to suffer not only economically but physically and mentally.

Had we concentrated on fruit, nut and vegetable production, we would have earned 10 times as much from each acre of land and this money could have pushed us up from developing country to a developed country and we would not have taken loans and debits.

All what is said above is not 'Third Worldism'. The proper planning should have been to increase area under horticultural crops and reduce that under grains over years. There has never been a wheat shortage in the world as there are areas, which are highly suitable and economical for raising grains under rain-fed conditions in the temperate and cold zones of Northern Hemisphere and where man-hours spent on raising an acre of wheat are nominal. By exporting horticultural crops of one acre, we could have bought wheat produced on 10 or more acres. South Africa and Israel have been in the fore-front in switching over to horticultural crops. They lie in the same latitudes as some areas of Sindh and the Punjab. If they can do it, why can we not'?

(Sindh Quarterly, No.01, 1988)

STRANGULATION OF AGRICULTURE AND INCREASING RURAL POVERTY IN SINDH AND LOWER PUNJAB

Farmers in general but Sindhi farmers and Lower Punjab in particular are being systematically reduced and asphyxiated to penury and death by the manipulation of the world prices by the Eight Developed Industrial Nations, and by the hypocrisy and selfishness of the agricultural policies of the Government of Pakistan entirely based on the interests of industry. The entire Rural Poverty in Lower Punjab and in Sindh has been artificially created. The responsibility squarely lies on the Federal Government and its price control policy.

At the time of independence in 1947, agriculture was the dominating sector, contributing 53% of Gross Domestic Product (GDP). In 1987, 40 years after formation of Pakistan, it contributed only 26% of GDP, still providing employment to more than 50% of country's total labour force. Agriculture and agro-based exports account for 80% of country's total export earnings. Almost 70% of country's population is confined to rural areas. The following figures speak for themselves:

- If more than 50% contribute 75% of GDP, it in

itself shows that the ratio of rural to urban income is 26/50 : 74/50 or 1 : 2.8 or say 1 :3.

- This ratio is also confirmed by the wage rates. The farm labour gets Rs.600-700 per month with no other benefits, whereas a city worker gets Minimum of Rs.1100 plus medical benefit (Rs.400-500), plus leave fare allowance, totaling to Rs.1800-2000. The wage ratio of rural to urban labourer therefore comes to 600-700:1800-2000 i.e. 1:2.85 to 1:3.

The National Agriculture Commission 1988 is forced to admit the following facts:

- Even though the importance of agriculture has long been recognized it has never been regarded as leading sector (p.xix).
- Agriculture sector has shown great propensity to modernize, despite serious policy and institutional constraints (caused by Government) (p.xxi).
- Most government and institutional effort has been directed towards major crops (wheat, rice and cotton) and there has been neglect of majority of so called minor crops. "Minor" has unfortunately been confused with unimportance. (The minor crops are categorized as fruits, vegetables, nuts and industrial crops, which pay the highest returns per acre and some of them, even pay 10 times as much, as wheat and rice on the same acreage).
- In the early years 1947-1960 the agriculture

sector was discriminated against and initial development efforts were directed entirely towards industry (p.2).

- During first plan period (1955-60) some attention was finally directed towards agrarian economy, although it was not enough (p.3).
- 1970-77 were lean years and main thrust of annual development programmes and efforts were directed towards institutional frame work and structure of agriculture (land reforms, agricultural loans from banks and etc).
- 1977-1986 were years of revival (p.7).

The Commission has suppressed the fact that 1977- 1986 were worst years for agriculture. The present writer has verified prices of wheat, year after year since 1950, covering a period of 40 years and converted the prices to the farmer for 40 kgs of wheat to 1950 prices. The following are the conclusions.

Prices came down from 100% in 1950 to 41% in 1963-64, when Ayub Government found that people were no longer interested in growing wheat in spite of mobilizing Deputy Commissioners and putting agricultural extension officers under their command, the price of wheat was increased from about 47% to 60.2% of 1950 value.

- The prices again fell down to 50.2% in 1967-68, when fearing rural unrest (cities were already agitating), they were increased to 72% of 1950 value, during the last year of Ayub's regime.
- They came down to 53% of 1950 value, in 1972-

73, when Mr. Bhutto's Government in 1973-74 raised them to 65% of 1950 value and in the next year (1974-75) to 106.5% of 1950 value.

- There was urban agitation against Bhutto's Government and they raised a bogy of "Mahangai" or dearness, which threatened the government and which no longer dared to raise prices during next 2 years of their rule.
- The prices as prevalent at the end of Bhutto's regime were 88.7% of 1950 prices.
- Since then the prices have fallen down and in 1988-89 they were 42.39% of 1950 prices. This is what the Agricultural Commission has conivingly suppressed calling it "Revival Period".
- By raising price of wheat from Rs.85 to Rs.97 by Benazir's Government the prices stood at 45.18% of 1950 prices.
- Incidentally international prices of wheat were Rs.220.00 per 40 kgs in the year 1989-90. The Benazir's Government was internally so weak, that they could not raise the prices.
- The same was the fate of prices of rice from 1950 to1990.

The chart enclosed gives prices of wheat from 1950-1990 and gives price comparison with 1950 prices in terms of percentages. The prices of fruits, vegetables and industrial crops adjust according to the prices of wheat, as people would fill their bellies

with wheat and rice if fruits and vegetables were costly.

The government also controls the price of meat, fish, chicken, milk, butter and etc., thereby seeing to it that urban population gets these items at reasonably low rates, so as not to resort to agitation.

In the workshop sponsored by Planning Department, Government of Sindh on August 30-31, 1990, with participation of Haris, Haris representatives, and specialists, I had expressed my views as under:

1. As against the international prices of wheat to the tune of approx: Rs.220.00 per 40 kg, the farmer was being given Rs.97.00 per 40 kg.
2. Farmers provide mutton and beef at the prices one fourth of those in the international market.
3. Vegetables and fruits also being procured from farmers at one sixth of the prices for the same commodities in the international market.
4. Farm Labour gets Rs.600.00 to Rs.650.00 per month compared to Rs.1800.00 to Rs.2000.00 earned by the city labour.
5. Minimum wages fixed by the government are Rs.1100.00 per month for the labour class plus bonus, insurance, medical and other facilities.
6. Land owners with medium sized holdings i.e. 50 to 200 are getting more produce than those with less than 50 acres and more than 200 acres, Land owners with less than 50 acres do not

normally have the resources of capital for the inputs, whereas those with more than 200 acres cannot manage effectively.

7. Imbalance/disparity in agricultural price structure is the root cause of rural poverty and problems pertaining to law and order.
8. Over the past ten years ineffectiveness of the programme has resulted in an increase in the area under water logging and salinity in Sindh by about 39%, whereas through the same program it has reduced by about 49% in the Punjab, with the blessings of WAPDA.

Consequences of Price Control:

Consequences of low prices of agricultural commodities are:

- Low margins of profit to the farming community.
- Low capacity to develop the land further.
- Lack of interest in spending on inputs like, water management, ground water development, irrigation techniques for saving water, applying optimum fertilizer, procuring better seeds, optimum use of plant protection measures, capital cost on structures for efficient farming, precision land leveling, introducing new crops etc.
- Lack on inputs further reduces ability to spend on input, and low levels of yields are maintained. The yields of all agricultural commodities including fruits, vegetables, and grasses are 1/3rd of those in advanced countries.

- Low salaries to farm labour.
- Low ability of farmer to improve his lot, as well as that of his family.
- He cannot support his family and has to economies on food intake, wear cheap clothes, moved bare-footed.
- The low standards of food further cause diseases in the family and high mortality as well as low life expectancy.
- The farm family is not able to earn required calories of food. For rural Sindh the present average is 1600 kilo calories for females and 2000 kilo calories for males falling short by 20%, which is acquired by browsing of wild plant-food like berries, young leaves of peas and beans, stolen vegetables and sugar cane and doing extra jobs at home or outside for some one.
- The food of most of rural labour force, tenant farmers and small owner cultivators has been reduced to cereals taken with tea or occasionally with peas and beans.
- Animal protein is taken hardly once a month.
- Milk is produced for sale, and poor of above classes hardly take it.
- The research of past 20 years has shown that if at least 1/2 Kg milk is not taken by children under 14 years, they become mentally retarded and stupid, and this is common occurrence in Sindh of today i.e., new population from poor

class is low in I.Q. and is mentally retarded.

Why prices are controlled?

- Prices are controlled to provide cheap labour to the industry. The industry exports manufactured goods at international prices, and over and above that, they earn bonus. Thus the industry makes high margin of profits, and they keep expanding and putting up new industries from the profits. The city labour can fight for the wages, but they are provided cheap grains, vegetables, meat, milk and fruit. They are also provided free medical assistance, the bill being about Rs.500 per month per worker's family.
- Leave salary, gratuity and leave fare assistance takes him to his home village on vacation or provides extra moneyfor family if he stays in the town he works in. He raises no voice, and if he does, wages are increased slightly and industrialist is allowed to make profits.
- As against this 100% of land owners are bankrupt and almost all of them take loans from banks for raising crops annually.
- Loans for industry are allowed against urban property and are allowed at 75% of value of properly. Loans against land are paid on unit basis. A land of 40 units is sold at Rs.40,000-50,000 per acre but the land owner can get only Rs.3,000 for development from banks i.e., 10% or less of value.

Comparison of Prices of Wheat From 1975 to 1994 in Terms of Real Money Considering the Inflation

Years	*Percentage of 1975 price*
1975	100.00
1976	94.52
1977	88.66
1978	82.70
1979	75.73
1980	83.16
1981	85.24
1982	79.33
1983	72.74
1984	64.39
1985	70.63
1986	62.73
1987	56.55
1988	55.79
1989	47.18
1990	49.37
1991	45.00
1992	42.65
1993	40.94
1994	49.58

This is in general philosophy of price control of agricultural commodities.

Editor's Note:

From September 1990 the deluge began, every Tom Dick and Harry was a ruler. With the generals in command the Nation had fallen. Unstable Pakistan

started slipping again and kept its course with full acceleration, Jatoi and Nawaz Sharif, what an angle of steep declination. Martial Law and Military intelligence and their stupidity had dragged us to political, moral and economic chaos. There was no life in the dead embers to be fanned into fire and glow. From Giants and Stalwarts we had come to midgets and pygmies of MQM. It is poor Pakistan which is paying the price with dishonor, poverty and uncertainty. It is the farmer who is carrying the economic burden, while the city and industrial labourer gets Rs.2200.00 per month the farm worker and Hari gets Rs.600 per month. Radom taxation and controls and unstable and uncertain decision are killing the farmer. Is Pakistan getting ready for agrarian discontent and rural; revolt? Let us beware of the nemesis.

(Sindh *Quarterly*, No.03, 1991)

THE BANANA EPIDEMIC IN SINDH IMPORTED DISEASE OR DELIBERATE SABOTAGE?

An epidemic in banana appeared in Sindh and in less than two years the banana is wiped out. Farmers do not know where to go. Below is an analysis by the author.

Banana Varieties in Sindh:

Sindh has two varieties of banana.

(a) Cavendish Dwarf (Basrai)
(b) Cavendish Giant (William Hybrid)

(a) Cavendish Dwarf or Basrai

- Cavendish Dwarf is primarily winter banana (September to March with peak in November in Hyderabad and North Hyderabad).
- It is badly damaged by even ordinary winters of 7°C (45°F) and worse damage occurs if temperatures fall below 5°C (41°F).
- It also suffers from choking due to short distance from throat to first hand of fruit.
- Cigar end rot is another problem with this banana.
- Bunch tapers from top to bottom i.e., upper

hands are larger and lower ones shorter.

- Mean number of edible hands varies from 10-13 and mean number of edible fingers is about 152.
- Its parent plant fruits after producing 40 leaves. The first ratoon crop also comes after 40 leaves but, the second and other subsequent ratoons come after producing 46 leaves. This means delay in 3rd fruiting and beyond.
- The first crop usually is heaviest in weight per bunch followed by the second heavy crop of bunches. After this, weight of bunch is low and can remain the same, if enough fertilization is done.
- Chocking of bunches is very common, after start of winter (i.e., November).
- Bunches thrown in December and January usually choke.

(b) William Hybrid banana

It is mutation of Cavedish from Fiji and fruits earlier than Basrai by about two or three months and occasionally four or five months. The reason being that it keeps growing in winters, whereas Basrai stops throwing new leaves from November to February. It also throws flowers after producing 30-43 leaves with average of 37, depending on availability of nutrients i.e., fertilizers.

- It has much bigger size bunch, with average of 40 Kgs, as against 27-30 Kgs for Basrai.
- It has longer neck or distance between throat and

the first bunch and therefore, choking is not a problem as is with Basrai.

- This type of banana is popular in Australia, Israel and South ,Africa.
- It has better flavour and more sugar content than Basrai.
- Since it grows all the year around and as it has no bunch choking problems, it can fruit year around.
- Earlier fruiting cycle and large bunch, give it a yield, 50% more than Basrai.
- The suckers can be regulated to fruit in any month of the year, specially summer months, when prices are high.
- It does not suffer from sunburn and cigar-end-rot like Basrai.
- Its bunch is cylindrical i.e., all fingers are similar in size and shape.
- It is taller than Basrai, but has withstood winds of Sindh without propping up.

The New Banana Disease:

Unfortunately a new disease (virus according to this author) spread by aphids, has wiped out the plantations of both of the above two varieties. Economy of Southern Sindh below Nawabshah has depended on banana since 1960. The thirty year boom has been brought to an end by the above disease. We have to diagnose the disease, find remedy or replace variety.

Spread of the Disease:

The present banana disease (Bunch top) appeared in the coastal areas of Sindh some 2½ years ago in fall 1988. Unconfirmed reports of banana disease in India were in vogue since 1987. It was reported in Gujarat India in early 1988 and hit Sindh within a year. It is not certain if the disease in India is the same as in Sindh.

It is not a simple disease of local phenomenon. It could have come from India or could move from here to India and South-East Asia. It is very serious epidemic and can affect the world banana plantations sooner or later.

The early reports in Pakistan were that it was Panama disease, which had devasted large area in the Central America. This diagnosis was not acceptable to me as both Basrai and William varieties of Sindh are immune to this disease. Since the problem had started in coastal area of Sindh, I could not get the first hand information. Disease just travelled too fast and at a rate of 1 mile a week. In June, 1990 it was reported in Hosri adjacent to Hyderabad about 80 miles north-east of coast where it appeared first. Two months later in mid August I found a few diseased plants on my farm 14 miles east of Hyderabad. In November, 1990 it had reached Sekhat about 22 miles north of Hyderabad. Areas north of Sekhat were free in winter 1990 but they would be devasted upto Nawabshah before mid summer of 1991. With this will come to end, the thirty year story of banana boom in Sindh

and cheap availability of it in Pakistan, Afghanistan and Iran. The disease came to Sindh so fast, that no scientist had time to be aware of it.

I had an American visitor Dr. Ostmark in January, 1989. He was working as Director of Tropical Fruit research in Honduras and as a banana disease specialist, had been quoted by the world famous specialist, Dr. Stover in his recent (1987) book on bananas. We had not heard of any banana disease in Sindh. I also showed him a number of other farms, growing Basrai. He declared the banana in Pakistan was remarkably disease free and this was a new home for new varieties. When disease finally reached my farm I had a number of trunks removed from roots, dissected and examined the symptoms showed the following sequence:

- Bunch choking at throat (unusual for William Hybrid).
- Pseudo stems undamaged in the initial stage after choking of bunch
- Start of real stem decay.
- Start of pseudo-stem decay, when real stem decay was advanced.
- Root system decay along with pseudo-stem decay.
- The whole plant in advance stage of decay and attacked by various types of insects.
- Suckers showing no signs of disease at this stage.
- Complete decay of real-stem followed suckers showing abnormal growth of new leaves.
- The suckers showing gradual decline and never

producing any flowers.

- Disease appearing comparatively dormant in Basrai in winter, but not in William Hybrid.

Conclusions after investigation:

The examination of dissection and subsequent analysis made me reach the conclusions that:

- It is not Panama disease.
- It is viral disease.
- It is carried by aphids which are small insects and are blown from field to field by summer winds blowing from south west to north east.
- Disease spreads mostly in summer and is carried by south- western winds towards northeast.
- Infected leaves have pale green to yellow leaf margins and they have shape like "W".
- Winter winds blow from north to south and must be spreading the disease from north to south in areas already infected and therefore goes unnoticed.
- Aphids carry the virus in the blood stream, multiply and Carry disease from plant to plant.
- Decay of plant material releases aphid population, which then moves from one plant to the other.
- Nematodes are mostly present in the soil as plant root predators and reduce yields, but do not kill the plant altogether. They only decrease vigour and therefore yield of plant. Vigorous plants are not attacked by nematodes.

- Young plantations have more vigour and therefore will not get effected by viral disease in the early phase of disease.
- Diseased plant should not be replanted with bananas for a few years.
- Diseased plant material should be removed from field and destroyed by spraying with kerosene, killing aphids and other disease carriers.
- Suckers from diseased plants will transmit disease.
- New banana varieties resistant to viral disease suitable for Sindh environments need to be investigated and introduced.

I have been working on introducing new fruit varieties for Sindh and have introduced peaches, plums, apples, jojoba, jatropha, grapes in Hyderabad area, and feel that we could bring new banana Cultivars suiting environments Sindh. They should be free from major banana diseases.

New varieties of bananas should be free from symptoms of bunchy top and Panama disease. This requirement is very difficult to meet.

- Gros Michel a variety of the Central America is highly susceptible to Panama disease, though it is resistant to Freckle. It has two types like Cavendish group, the tall 20 feet height, and dwarf 10-15 feet fall.
- Cavendish variety already known in Sindh is susceptible to Freckle but not to Panama disease. Its dwarf varieties (Basrai and others) are

susceptible to finger rot and choke-throat. The William is susceptible to Freckle and nematodes, where as dwarf (Basrai) is less susceptible to nemotodes. Both have been susceptible to Bunchy top virus.

Valery (of Taiwan or North banana):

It is 10-15 ft tall with 25-45 Kg. weight. It can stand cool weather but is susceptible to wind damage. Its yield is too low and about half of the present varieties.

Hamuka (Bungulan Moule Criston):

25' tall, 20-45 Kg bunch. It has poor keeping quality and is susceptible to wind damage. Its yield is also low and almost at par with Valery.

These problems with major varieties leave a very small scope for selection & the search cannot be limited to picking sucker of new variety off the rack.

Let us therefore have a look at the leading varieties:

Production per acre of various types of banana elsewhere and scaling them to possible yields in Sindh as compared to William Hybrid.

Types	Yield Per Acre
William Hybrid	8 - 12 tons
Basrai	6 - 9 tons
Bluefields	4 - 5 tons
Chinese	7 - 8 tons
Brazilian	3 - 4 tons

Diseases of Banana:

The yield per acre discussed above in general for new varieties is discouraging to Sindh conditions and farmers will not grow them unless prices are increased, a yet another improbability.

It is essential to know a bit about banana diseases. They may give some insight into what new type to introduce.

a) Panama disease or Panama Wilt:

It is wild disease, caused by soil borne fungus (Fusgrium Oxysporum Cubenesis). It has done untold damage to Gros Michel variety. Bluefield bananas are specially susceptible. Plant often dies before bunch is fully mature the disease carrying organisms is Spread through infected rhizomes, banana trash, machetes, soil and irrigation water.

There is no chemical control and the only practical method is replace Gros Michel with Cavendish group.

b) Singatoka:

It is caused by Mycosphaerella muslcola.

It results into low productivity by reducing photosynthetic area, due to destroying of leaf tissue, but it does not kill the plantations altogether.

c) Bunchy top:

Bunchy top is viral disease discussed above.

Spread of virus is by aphids, which are blown by wind. Once a plant is affected aphids move from that plant to other and pass the disease on to others.

Aphids travel long distances, when blown by winds.

- Once started it is difficult to control
- Bunch top has more upright, ribs, and dark green to brown broken lines, running parallel to clean leaf viens.
- Broken lines look like dash and dot.

Control:

Control of banana aphids can be achieved by systemic insecticides like: Roger R, demeto-s-methly (metasistox), But regular monthly sprayers over the whole of Southern Sindh are too un-practical unless aerial spray is resorted to.

Destroying all infected plants and spray with kerosene oil

d) Moko

It is caused by the strain of bacterium Pseudo monassalano ceamm.

e) Nemotodes

They are found to be less damaging, specially if plantation has vigour, brought about by improved health, rich soil and nutrients.

f) Banana skipper

It curls banana leaves, but it has a predator and can be biologically controlled.

g) Black leaf streak

It attacks leaves by yellowing them and producing leaf lesions.

It can be controlled by combination of oil and fungicides. Clean culture can also eliminate it.

h) Prickle

It is a fungal disease and produces black or dark brown spots on leaves and fruits.

It is common on Chinese, William and Brazilian varieties of Cavendish.

It can easily be controlled by sprays of Cuprarit, Zineb or mancozeb.

Cu is avoided, as it leaves green colour on the surface of fruit.

i) Black leaf streak. (Mycosphaerella fijiensis).

Reddish brown speeks on leaf surface parallel to the leaf vein. Control is by oil sprays and cuprarit, Zineb and mancozeb, every 6 weeks during rainy season.

j) Cigar-end (Hendersonula troloides)

It is caused by a fungus and is controlled by cupravid, zineb and mancozeb.

k) Nematodes of various types

- Burrowing (Radolpholus similes)
- Root Knot (Meloidogyne)
- Spiral. (Helicolyenchus multicintus)
- Lesion (P[illegible]lenchus)

These are controlled by chemicals, like Nemacur and others.

The other methods of control are:

- Rhizome dipinwater122°-126°F for15-20 minutes.

- Use of fallowed lands for new plantations.

l) Black Sigataka (Produced by Fungris)

- It reduces foliage which reduces fruit produces on affected stools.
- It reduces yield.

Control is very difficult except replacement of variety.

Insects
Thrips
Banana Skipper.
Aphids.
Bettles.
Bealy bugs.
Weevil.

Where do we go from here?

- Either we find their disease and its control
- Or replace present varieties by other varieties, but producing same yield and fruit of similar merit.
- Replace banana by new fruit crops.

Highlights:

Pakistan's cheapest fruit banana, has 1000 k. calories per kg of edible portion of ripe fruit and 3400 kilo calories per kg of dried flour as compared to 3400 k. calories sugar, 800 for mango, 240 for papaya, 500 for orange, 1420 for dates, and 1140 for chicku. Thus banana has been food, fruit and sugar of common and rich population, of not only Pakistan but also countries

to which it is exported from Pakistan, *i.e.*, Afghanistan, Iran and Persian Gulf countries, since past 30 years. This cheap fruit of common man in these Third World countries is now threatened with extinction by a virus. About 80% plantations are affected. Balance 20% will be affected by the middle of this year.

Production of bananas has already reduced to 50%. By end of 1991 it is going to come down to 25% and less in 1992.

Banana is going to turn into a Pakistani fruit which anthropologist will call, "The fruit that once was". This is only five years away.[1]

Virus came like a swift storm. It travelled like sea wave with front of 80 miles, travelled one mile a week and wiped away banana plantations at rate of eighty square mile a week, covering more than 100 miles length from Sakro and Ghorabari to Sekhat and Mirpurkhas in two years.

In next six months it is going to wipe out banana from Nawabshah district. It is a calamity un-heard of in Sindh's history of agriculture.

Each plantation is affected from about 50-100% depending on time of arrival. At this rate the virus

1. The banana disease (Bunchy top) started in India in 1987 and by the fall of 1988 it spread into Sindh from the coastal area and affected the area from Sakro, Ghorabari to Sekhat. At the time of writing this article in 1991→ there was no cure of the virus, but soon after the prevention and cure was proposed by the author and for his services, in the field of agriculture research he was awarded *Sitara-e-Imtiaz* from the government of Pakistan.

should wipe out total plantations by end of 1993 or latest 1994.

Even during the worst crisis of Afghanistan War, a minimum 50 truck loads (500 tons) of banana were carried to Jalalabad and Kabul every day. Sometimes it was more.

Banana also went to Iran via Zahidan and also by boat loads to Iran and Persian Gulf Emirates.

Banana business kept Fruit *Mandis* and plantations busy virtually like bees. It developed teams of specialized contracting Services for cutting leaves, removal of trash, inter-cultivation to overcome weeds, fertilizer in-puts, harvest crew, loading crew, trucking services, middle-men on the farms as contractors and sub- contractors, middlemen in the *mandis*, ripping rooms, packers and sellers down to Street vendors. They existed even in small villages and towns in whole Pakistan.

The export trade was equally complex. The traders had contacts in various foreign *mandis*. Profits of ordinary ill-dressed, ill- educated middle-men each year ran into multi millions of rupees and so the losses too, if borders of Afghanistan and Iran were closed down once in a while during past 12 years.

The farmer has mastered the technique of raising crop by use of petty contractors. Some smart farmers hardly use one labourer for 10 to 20 acres. Rest of job was done by petty contractors.

Contractors paid 20% only of contract value of the first crop in advance. The rest he paid while he

earned. Many contractors settled permanently on the contracted farms. They were Punjabis, Muhajirs, Pathans, Balochis and Sindhis. The Subcontracts were seasonal and engaged when needed. The labour working for Sub contractors worked 4-5 hours a day and got more wages than urban labour but he was employed only 50% of his time, living on credit advanced by shop keepers and village hotels.

Hotel business developed even in small villages. They entertained the clientage by radio, tape records, and television. Video-movies were shown on payment of Rs. 2.00 per head. Money brought worldly goods as well as vices. Tea drinking and tobacco smoking increased. Even rural worker smoked factory made cigarettes. Charas became common in rural areas.

Paid labour got awareness. He voted as per his own choice and convictions. He broke lose the chains of permanent slavery to Zamindars. The changed loyalties brought him some freedom, though he was always afraid of being harassed by the police.

All this is going to be a story of the past, within next two years.

Present author does not have immediate solution to the postponement of banana demise in Sindh. Although I can see some possibilities but solutions are too complex, too technical and government organizations in general are not geared, either to quick decisions or quick results. There is no time for long term experimentations with new varieties, with which Sindh fiddled for some

20 years before introducing Basrai in Sindh in 1950s. Our Mirpurkhas, horticulturists, Rizvi, Jagirdar, Rajpar and Pirzada had preparation predecessors for some 10 years. We cannot wait for 20 years. We better forget about it then. We have to introduce new varieties and soon enough. Dr. Stover was invited to have a look into the disease. His arrival on February 15, 1991, was postponed due to Gulf War then and now due to stopping or curtailment of US-AID. When he comes he will only talk about the present disease. His terms of reference do not go beyond. More funds will be needed for recommendation of varieties. The recommendation cannot be specific. It will be long list of varieties and final recommendation will be biblical *i.e*: "Seek and Ye shall find". In the mean time patient will be dead for years, only to rise by reincarnation after many years if at all.

During the past 10 years, the prices of banana during the peak season at the farm gate have varied between Rs. 30 to 70 per 40 kgs. This about 20% or less of prices of a reasonable quality of mangoes. The banana thus is cheapest fruit of the country.

The farmer gets only 10% of retailed prices of bananas for raising it. If the contractor raises the crop and sells it in the *Mandi*, the alone he gets 20%. The balance 80% goes to various other Categories of middle men from the *mandi*-agent to the street vender. This is how banana economy has benefited population of the country.

(Sindh Quarterly, No. 04, 1991)

PINEAPPLE AND OIL PALM IN THATTA DISTRICT

Suitable Area in Sindh:

Sindh has a small area in Thatta and Badin districts bounded by Sakro, Ghorabari, Jati and Bulri, having a semi tropical micro-climate, suitable for a large number of crops like: oil palm, avocado, macadamize, cashev., pineapple, many anona species including custard apple, carambola, tahiti lime, solo papaya and etc.

Since this was the leading banana area of 1960's and 70's and banana can no longer be grown there due to Banana Bunchy Top Virus disease. It is proposed to introduce pineapple as the first major replacement crop in this area. The likeness of the two crops, the vanquished and proposed replacement is that both are raised from suckers, and both are frost sensitive and both need skills for control of fruit season and quality. The riverain area south of Thatta would be the best for this crop as it is well drained, non-saline, and rich in nutrients and well connected with roads. Flood damage cannot be ruled out and area will definitely get flooded during super floods about 5 to 7 times each century, but being a crop of a few years short rotation the probability of loss will be

greatly reduced.

Pineapple originated in Parana-Paraguay river drainage area. Major producing areas of the World are: Brazil, Malaysia. Hawaii, Philippines, Kenya, Mexico, Taiwan, Australia, Ivory Coast, South Africa, Martinique, Guinea, Puerto Rico, West Indies and Cuba. Israel and Spain have introduced it, in the past fifty years.

Cultivars:

The most popular cultivar is Cayenne but other cultivars have also been selected to fit in local micro-climates or local industrial uses. Queen is a popular cultivar of Queensland (Australia) and has also been tried in South Africa and Spain. Red Spanish is popular in West Indies, Cuba, Puerto Rico. Although Cayenne is standard cultivar but is cold sensitive. A large number of the other cultivars too exist. Queen has prickly skin and in mild winters, it becomes very sweet. Smooth Cayenne is tropical but has also been grown in subtropics. Climate of above area is such that both varieties are worth a trial to start with.

Environments:

Optimum temperature range for pineapple growth is 65°-95°F (18.33-35°C). Certain varieties can grow even in sub-tropics like: Mediterranean climate of Spain, but in such climates most varieties will have low acid and high sugar i.e., flavour will be affected, if temperatures fall much below 25°C. Prolonged cold

retards its growth, causes fruit to become more acid and harvest is delayed by 30-Crop is mainly adopted to well drained and deep acidic soils (pH" below7.0) and does well in pH of 5.6 to 6.0, but, most varieties can be grown under pH 6.0 to 7.0. Some varieties can also be raised on soils having pH of 7.5 as in the above area, provided that iron deficiency is controlled by spray of ferrous chelates.

Water drought can adversely affect the crop yield and crop has to be limited to perennially irrigated areas.

In sunny areas, there is the danger of damage to fruit by sun scald, during the later stages of fruit development as much as danger of heart rots in colder areas. Protection against solar insulation is provided by creating partial shade, by binding its upper leaves over the fruit or covering it.

Chemical composition:

Edible pulp forms 60% of total weight of fruit and it has chemical composition as under:

Water	85%
Protein	0.4%
Sugar	14%
Fat	0.1%
Fibre	0.5%

The other ingredients are: Vitamin A, Vitamin B, ascorbic acid, iron, phosphorus and bromelain, a protein digesting enzyme.

Uses of Fruit and Plant:

Edible pulp is used for dessert purposes. Fruits are harvested when fully ripe for best flavour, but ripe fruits have shelf · life of only 4-5 days. For shipping half ripe fruit may be transported at 7-10°C and can have shelf life of 8-12 days from date of harvest.

- In most commercially important countries major part of harvested fruit is canned.
- Flesh of fully mature fruit can be quickly frozen.
- It is used in salads, along with other fruits.
- Leaves after retting, yield 2-3% strong white silky fibre, 38-50 cms (14-20 inches) in length and it is used for making fine fabric called pina cloth. Fibre is also used for cordage.
- For fibre production special cultivars are raised and young fruitlets formed after flowering are removed. Textile fibre cannot be raised economically from plants raised for fruit. Cultivars raised for fibre require less care and inputs and are quite economical visa-vis the capital inputs on plants for fruit, provided that there is abundant and cheap supply of labour.
- Young immature fruits are used as an abortifacient.
- Major use is canning but also used as fresh dessert fruit in subtropics. In the above area of Sindh it will have good flavour (low acid to sugar ratio) and can be used as fresh fruit. In the tropical weather, it becomes too acidic and is used for canning.
- Pineapple juice is produced by special process

involving milling, paddling in screw expellers and under goes process of pre-treating, centrifuging, pasteurizing and sterilizing.

Propagation:

- The following material is used for propagation.
- Suckers, which arise from buds in the leaf axil above the fruit on the main crop and below the fruit on the ratoons.
- Shoots or leafy branches arising from buds in leaf axel. Each plant produces up to 3 shoots and reaches 12-16 inches height, before they are transplanted.
- Slips, which vary up to 10 per plant and these suitable for planting, when their weight is about 300-450grams.
- Hapas or shoots produced at the base of peduncle.

Flower Induction:

In order to get economic fruit supply year around, flowering/fruiting is induced. Within 6 weeks by spraying with chemicals. Fruit size can also be regulated chemically. Ripping time varies with climate, but is also controlled by chemicals and this supply of fruit can be regulated year around.

Planting density:

Planting density of 15,000-18,000 per acre is common in a double row with distance of three feet between each double row. Double rows are about 2 feet apart and within the row plants are 10- 12" apart.

Yields:

Yield of 25 tons/acre is very common in Hawaii and some farmers are getting yield of 40-50 tons/acre. Fumigation for nematode control increases yield and improves quality of fruit.

Fertilizing:

Like banana, pineapple is heavy potassium feeder and needs twice as much potash as nitrogen. It also needs phosphate as well as micronutrient. It responds quite well with foliar feeding and farm yard manures.

Life of plantation:

With care, plantation can be prolonged for 25-30 years.

Two ratoons are normally possible with any health plantation. One ratoon and one crop take 4 years from date of planting. Two ratoons will take five years, but one main crop and one ratoon is normal as second ratoon gives poor yields, unless careful control over cultural practices is exercised, to keep plantation healthy and nematodes under control by organic mulching.

Since rate of production of propagules in the leading variety Cayenne, is about 2 per year, it will take 30 years to produce material for one hectare by starting with a single plant, and therefore special techniques are required. To overcome this problem, South Africa has evolved a new technique of mass production of suckers from stems and also has

developed tissue culture for propagation.

The ratoon decline is caused by nematodes and worms and crop rotation is essential for proper control. Nematode control is very costly requiring fumigation at rate of 180-2500 Kg/hectare and injecting of this material at least at one point in every square feet.

Economics:

- It needs high levels of capital input and support of bank is essential.
- Harvesting of spiny varieties is slow, painful and costly and so is post harvest handling.
- It needs an intensive support of Agricultural Extension in the first years, till farmers have mastered cultural techniques.
- Pineapple can be grown as inter-crop, if the other crop is a tree crop. In Thatta district it could reduce sun burn in summer and give some protection in winter in addition to extra income.

Oil Palm:

Oil palm needs tropical and semi-tropical climates. For the maximum growth it needs average daily temperatures between 20° and 35°C during any month of year. The optimum growing temperatures are 25°C to 35°C. At 15°C its growth stops, but the tree is not damaged and same is case with temperatures over 40°C. It also needs long hours of sun-shine. The area bounded by Sujawal, Ghorabari, Jati and Bulri is semi-tropical having maximum May mean temperature

of about 36°C and its January mean temperature is 18° C. This is closest to growing condition needed by oil palm. This area can grow palm oil as perennial plant on its perennial supplies of water. Soils of this area are slightly saline and some areas are water logged, but oil palm can withstand water logging, slight salinity and occasional flooding.

It originated in West Africa and grows in Sierra Leone, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroons, Zaire, Congo, Angola, Uganda, Tanzania and Malagasy. It was taken to Western Hemisphere by Negro slaves in the 17th and 18th centuries and established in Brazil and other Latin American countries. It was taken to South-East-Asia by Arab merchants around 1000A.D. And now is well established in South-East-Asian countries, doing much better than the home countries.

Besides oil from the nuts, leaf fronds are used for basketry and leaves are used for thatching. Woody bethels (leaf stems), are used for fencing and trunks as timber. Sap of tree is also used as drink like that of data tree.

It has three major cultivars of which Tenera is preferable for climate of Sindh and is high yielder. Breeding of Tenera has produced trees giving 50% more yield.

Trees can be planted at 21 to 25 feet distance in square or triangular pattern, giving about70-120 plants per acre. High density will ensure higher yields of oil per acre in spite of tendency smaller size nuts unless fertilizer programme is geared to high

production.

It fruits in the third year and maximum yield is achieved in the 8th year after planting. Yield comes down after 30 years, when replanting becomes necessary, but it is advisable to plant new trees at the centre of every square and when these trees become 5 years old, the old trees may be removed. Each inflorescence can yield 10-90 kgs, of fruit bunches and there can be a number of inflorescence in each tree each year. There are cultivars of Tenera, which produce 100-140 kgs, of nuts per inflorescence. Yields of 2,000 kgs of oil per acre are achieved from 40-50 trees per acre and dependence on rain water for irrigation in Africa. Yields are much higher in South-East Asia. High density planting and better cultural practices can yield 4,000 to 5,000 kgs, of oil in Thatta district.

Of all edible oil plants, oil palm gives maximum edible oil per acre, than any other plant or crop. Oil comes from Mesocarp as well as kernel and both types are edible. The kernel residues after extraction of oil, are rich in nutrition and are used as animal feed, but can even be processed as human food. Oil has property of not getting rancid like other oils.

For a good yield it needs heavy fertilizer feeding specially of Potash, but equally important is soil moisture and therefore it should not be grown in non-perennial areas.

Its water and fertilizer requirements are similar to those of banana and pineapple and therefore pineapple can be grown as inter- crop, only on lands

which are not water logged and perennial supply of water is available.

Growing oil palm in riverain area is not advisable, as there is probability of a super-floods, six to seven times in a century and these would destroy plantations totally. On the other hand only pineapple as a crop, suits riverain area, due to better and well drained soils and life of plantations limited to 4 to 5years.

Harvesting of nuts is a labour intensive task. Banana farmers of the area are already familiar with peak labour demand for inter-cultivation, sucker pruning, leaf and pseudo-stem removal and harvesting of crop. They can easily regulate supply of labour. Palm oil will need similar labour supply and management. Fresh produce Journal February 15, 1991, reported an interesting innovation of a Thai farmer to overcome the labour problem in harvesting coconuts. He trained around I000 monkeys to select and pick his extensive crop. Each of the macaque monkeys is capable of harvesting1000 Coconuts per day, we are led to believe. The most interesting aspect of this outlandish situation is that the monkeys undergo a two month training course, during which they must learn how to recognize ripe nuts, and then pull them off and send them to the ground.

(Sindh Quarterly, No. 01, 1994)

THE ECONOMIC PLIGHT OF SINDH UNDER PAKISTAN

Introduction:

The province of Sindh lies in the Southern part of Pakistan and extends from 23°-35° to 28°-30' N and from 66°-42' to 71°-10' E, with an area of approximately 143000 sq. kms, of which about 55 million hactres are irrigated from the Indus River. Population of Sindh as of today is about 20 millions of which 60 % or 12 millions are Sindhis. Mostly Muslims by religion and only 2% of these Sindhis are Hindus, Christians and Parsees. The Sindhi Muslims as well as a large majority of Hindus are mostly rural people and only a small percentage of them live in towns, where they have migrated in search of jobs and other opportunities during the past 42 years.

Feudalist Remnants of Sindhi Society:

The concentration of Sindhi Muslims in the rural areas was an outcome of a feudalistic society developed on the irrigated agriculture of the arid Sindh, since around 3500B.C. In a typical society of this kind a feudal chief provided water from the Indus for irrigation, maintained canals, cleared silt from canals deposited annually, made equitable

distribution of water among the farmers, kept law and order, punished the law breakers by imposing penalties and controlled almost the day to day life of the village community. A canal would have one or a number of feudals, who owned the total land irrigated from the canal and each of them virtually was a despot, enjoying the powers of a civilian governor, military chief, imparter of justice, collector of land revenue as fifty percent share of agricultural produce, punished the criminals by penalties, which he exacted as a police chief and also settled the day today affairs. He was a petty king and was responsible only to the local king or bigger chief or higher despot. The power thus was concentrated in the hand of a large number of these Chieftains, later on called landlords by the British conquerors.

Attempt of the past Sindhi Societies to develop self sufficient economics:

Economy of Sindh was self-sufficient in a way that rural areas produced grains, fruits, vegetables, meat, fibre of all types including wool, mohair, cotton, and coarse jute, animal butter the main source of edible oil, vegetable oils raised for use of it in lanterns for producing light, or as feed for cattle, and timber and fuel wood of the various types. There also were animal husbandry and fisheries, industries as vast as agriculture.

There was little need to import, except metals and luxury items occasionally used by kings and their

advisors, feudals and their families, but the common man probably had never used any imported goods with exception of steel for knives, scissors and plough shares. Needles were probably the most common imported item of goods in the house of rich and poor. It was self supporting and self-sufficient economy. Sindh's exports consisted mostly of cotton goods, textiles, rice, pulses, meat and milk animals, indigo, hides and skins, all produced in the rural areas. Rural areas thus were important and proud of themselves and the country.

Since the rural areas provided assured food, lot of leisure, security against famine, easy life, music, poetry and sports for entertainments were a common feature. Sindhi Muslims concentrated in the rural areas where means of production existed. Beside the above advantage the centre of the power was also the rural areas. The local chieftains, though despots, were important pillars of the government machinery. By all standards of the Western Society they were decadent but as there was plenty of land as well as water and lack of labour, the chieftains had to retain local population to the rural areas by being cruel and kind and suppressing any acts not within norms of the society, that is thefts, adulteries, kidnapping and eloping of women, encroachment to property, of others and etc., which ensured security. They simultaneously kept themselves in luxury at cost of the farmers from whom they exacted large share of produce and sometimes even by cheating.

Self sufficient economy causes immobility of Sindhi Society:

The pace thus prevailing kept the Sindhi Muslims within the rural areas. They did not like to migrate to cities. As against the Muslims, the trading class of Sindhi Hindus traded with outside world and were the highest mobile society not only in the Sindh but also in India until 1947.

Sindh's economic pattern, the cause of backwardness of rural areas:

For the Sindhi Muslims from rural areas, to get their children educated in towns and cities, it meant the parents acquiring sufficient funds to pay for the cost of boarding school in town, in addition to lodging and tuition fees. for a person from a town expenses of lodging and boarding of children were to be borne in the house anyway, so to educate a town boy, it meant paying for tuition fees, which accounted for only small percentage of the other costs. The agriculture economy did not pay enough to bear such costs and therefore rural areas remained back ward in education.

By 1920 it had been already realized that rural areas of Sindh were backward not only on account of lack of educational facilities (except only the primary level schools in big size village), but the backwardness was also due to system of irrigation, which provided water only in the inundation season i.e., from June to September and not the year around. Even this supply

of water due to fluctuations in the discharge of the river Indus, was undependable as in two out of five years, crops failed due to lack of water, either at the planting or the harvesting season and in another two years it was just the average crop due to average supply of water and only in one year out of five it was a good crop, being above the average. This was considered a cause of poor economy leading to poverty of not only the small farmers and tenant farmers but even big land-owners. They could not send their children even to a village school, leaving aside a city school. The villager argued that if this small boy could graze a few animals in waste government lands, free of cost, it returned him something better than schooling. This has caused backwardness in the rural Sindh to this day.

Concentration of Sindhi Hindus in large towns:

In a situations above and lack of communication, trade was a minor occupation left to Hindu merchants, who carried out their business under the active protection of the local chiefs. The trading centres, or the towns were small settlements, of 1000 to 2000 persons and were scattered all over the province. Trading as existed in Sindh then, needed no special education, other than what father taught to the son on the job and the alphabets of traders thus evolved differed from each other so much that here were 40 alphabets of these traders, as the British saw at the time of their conquest of Sindh in 1843 A.D. The

total population of Sindh then was about 1.4 million people, with about 25% Hindus, mostly traders, and the rest being Muslims, were mainly farmers, owning the land or tenants of feudal-chiefs. The towns were very small with exception of major trading centres like Karachi, with 20,000 people, Hyderabad, the then capital of Sindh, having about equal number of people, Rohri and Sukkur ports on the Indus river a total of 10,000 people, Shikarpur on a trade route between Sindh and the Central Asia on the Sindh border about 10,000 people, and rest of the towns had population varying between 1000 to 3000 people. The number of such towns nearly 100. Towns were mainly inhabited by Hindu shop-keepers and traders and accounted for about 10% population, the balance 90% population lived in the rural areas and this included Hindu shop-keepers of the villages. The population of Sindh was happy and content as they had never seen famines, except a couple of times since 1600 A.D. Even before this Sindh faced famine only during the time of foreign conquests, which upset the irrigation system or lead to burning of crops.

Modern education by the British, the cause of disparity:

The British conquerors of Sindh brought new opportunities, the most important of which was government jobs, from office attendants, guards and office clerks, to petty and senior officers. To educate the people for these jobs they started schools, colleges

and technical institutes in the province, all of which were started in the big towns and gradually moved to small towns. It was not possible to start English medium schools in the rural areas, as the population in each village was so small that adequate number of students could not be collected to start a school. The towns could justify and provide sufficient students for English school and large cities for colleges. Since the towns were populated mostly by Hindus, they took to English education, got Government jobs, which brought salaries many times as a farmer could earn under the agricultural economy. Thus started disparity between the towns and the villages, which increased year after year and has continued to this day.

Economic depression of the Post World War-I causes loss of ownership of land to Sindhi Muslims:

The end of the World War-I brought an economic depression and it became difficult for the rural people to pay taxes and purchase day to day needs, other than grain which they themselves produced. Thus 1917-1942, all agricultural land-owners incurred heavy debts by mortgaging their lands with urban traders. As the economic depression continued more and more people mortgaged their lands and as debts could not be repaid the civil courts allowed the lands to be transferred to money lenders, who by 1947 owned 40% of agricultural land of the Sindh.

Land Alienation Bill:

The Sindh Provincial Legislative Assembly came into being in 1937 under the British reforms called "India Act of 1935". Being fully aware of the economic position that had caused mortgages and transfers of the land to the money lenders, the Legislative Assembly passed a bill called "Land Alienation Bill" recommending returns of these lands to owners, who had thus lost them between 1917 to 1947, free of compensation, on the plea that money lenders had made many times more money than loaned, from the land and repayment was not justified. Money lenders were Hindus, but Hindu members too had supported the bill.

Sukkur barrage brings prosperity to rural Sindh:

By 1932 Sukkur barrage proposed since 1869 and constructed between 1922 and 1932, was commissioned. It provided assured and perennial water to the lands in the central areas of Sindh. The boom that barrage brought in the rural areas could be visualized in the rush of the rural students, to the towns and cities for high school and college education since 1934. The rush can further be observed from establishment of Sindh Agricultural College in 1940, Sindh Muslim College in 1943, Dow Medical College in 1945 and a number of high schools and colleges sprang up in Sindh, to accommodate a large number of students from rural Sindh. Sindh University was established in 1947. The Government of Sindh created

scholarships for high school and college education and also for higher education abroad. In 1945 Sindh Assembly, the elected provincial body, passed a resolution making it obligatory for the government to recruit 76% of their employees in all Government jobs from Muslims and this really meant the candidates from the rural areas.

However for Sindh this foreseeable opportunity was only short lived. The independence of Indian sub -continent in two independent States India and Pakistan caused a new situation at least adverse to the economic interest of the rural Sindh is as discussed here after.

Land alienation bill nullified and migration of Sindhi Muslims checked by evacuee property laws.

The Independence caused Hindu Muslim riots in some Provinces of India.

There was mass migration of Muslims from some provinces in India to Pakistan and Hindus from Pakistan to India.

The first action of Government of Pakistan, to accommodate a large number of immigrants, was to settle the immigrants (Mohajirs) in place of outgoing or evacuee Hindus, on the laters property.

The Land Alienation bill for restoring land to Sindhi Muslims was not allowed to become operative as Land Alienation Act by Government of Pakistan and thereby, 40% land transferred due to mortgages in possession of outgoing Hindus in the rural areas of Sindh, was allotted to the immigrants from India.

The immovable property vacated by outgoing Hindus in large cities consisting commercial establishment, industries, shops and residential houses which had come up during the British rule of 104 years was allotted to go to the immigrants.

Inspite of protests by Government of Sindh and the Sindhis, none of the evacuee property, except residential housings actually under occupation of Sindhis, but costing less than dollars 2000, was allotted or sold to Sindhis. This included 40% agricultural land transferred to money lenders as aforesaid. Thus Sindh's participation in Pakistan movement was rewarded by a kickback economically.

Separation of Karachi from Sindh causes a death blow to progress of Sindhi Muslims:

In 1948 Karachi the capital of Province of Sindh was separated from it and converted into capital of Pakistan. Most of the Sindh Government buildings and housings were handed over to newly formed government of Pakistan.

All schools and colleges in Karachi were also taken over by Government of Pakistan. These colleges had a quota fixed for Sindhi Muslims (rural percentage people), in terms of percentage of seats, although a number of seats for Sindhis was retained by Government of Pakistan by numbers, but the percentage kept decreasing as the total number of seats in the colleges kept increasing. This affected the college and university education of Sindhis, as there were no

Engineering and Medical College in Sindh outside Karachi. Though colleges were established gradually during ensuing years in Sindh but they have remained ill staffed and ill equipped even to this day.

Province of Sindh abolished:

In 1955 under the dictatorial pressures of the Governor General of Pakistan, the four provinces of present Pakistan namely; Sindh, Punjab, Baluchistan and North Western Frontier were merged into a single province called West Pakistan with Governor's head quarters and secretariat at Lahore, until then the capital of Punjab. The name Sindh was abolished from official correspondence and it was not legal to call it by that name. Since the Punjab had total population of 56% of the West Pakistan, it was quite obvious that the Punjab would dominate the West Pakistan Government and this was the aim of the merger, now an open secret with documentary evidence. The Pakistan Armed forces also consisted of people mostly from the Punjab. The dominance of the Punjab within the West Pakistan Province was the aim and objective was achieved by different Methods here after discussed.

Budgeting system of One Unit Government:

The 1962 constitution gave powers to the secretaries of the departments to re-appropriate the budget. The Punjab took full advantage of this. In most of departments local Sindhis were transferred

from Sindh and Punjabi officers put in, as the regional heads. These officials created difficulties in spending in Sindh and by April 1, each year, surrendered substantial amount of funds. The secretaries re-appropriated them and used them in the Punjab year after year.

Sindh Punjab Water Dispute:

Sindh lies at tail of the river Indus the other share holder up to 1947 was the Punjab. To protect its water right, Sindh had taken up the question of distribution of water between Sindh and Punjab with Government of India, since 1900 and in 1945 an agreement was reached and signed by the Chief Engineers of the two provinces under which Sindh had share of 75% to water of the river Indus and the Punjab 94% share on the five tributary rivers of Indus passing through the Punjab. If the Punjab was to construct any water storage dams on the Indus, Sindh had share of 75% to its water. The Independence had caused division of Punjab in two parts, here after named as: the East Punjab and the West Punjab, as part of India and Pakistan respectively. East Punjab diverted some waters from the five tributaries of the Indus, and West Punjab also started diverting waters, in spite of 1945 agreement.

The area under cultivation in the Punjab in 1849 A.D. at the time of its conquest by the British was 750,000 acres. The area under cultivation in Sindh, one hundred year prior to this in 1749 A.D. was 2.2

million acres. Today the area under irrigated canal command in the Punjab is 28.0 million acres and in Sindh 13.3 million.

In Sindh intensity of cultivation is 80% where as in the Punjab intensity of the cultivation varies between 150 to 200 % in different areas. This means a land-owner, having 100 acres in the two seasons of the year i.e., summer and winter, where as in Punjab, he is able to put 100 acres under crops in winter and 50 to 100 acres in summer. In Sindh therefore 100 acres mean 80 cultivated acres.

Thus the effective cultivated area in Sindh is only 10.5 million acres out of 13.3 million acres and in the Punjab it is much more than 42 million acres, out of 28.0 million acres. This disparity has been caused by abundance of water in the Punjab and shortage in Sindh.

The above figures also show that by use of extra river water, area under cultivation had gone up by 4.77 times in Sindh, where as in the West Punjab it is increased by 60 times since 1849. This also means that apparently the Punjab has exploited 60 times more water than Sindh, since the British conquest of the Punjab, but true picture is still different. These figures do not include figures of East Punjab which will increase these figures by 40% or more, i.e. the whole Punjab (East and West) has increased area under cultivation about 5 times that of Sindh and all this at the cost of diversion of water from the Indus, to which Sindh had a share of 75% and has been denied.

Punjab's execution of irrigation projects during one unit:

In 1960 the World Bank acted as an unofficial mediator between India-Pakistan on water dispute and some solutions were found, to improve irrigation water supply, combat water logging and salinity and also improve agriculture. The "Consortium" of developed countries agreed to contribute to the cost. A number of projects were envisaged and "One Unit government" completed the Punjab projects quickly enough before 1970 but Sindh projects were not executed barring a small insignificant one.

Sindh's conditions to the merger in "One Unit" not honoured:

When various provinces of West Pakistan were merged to form a single province called West Pakistan Province or "One Unit" in 1955, Sindh had put 11 conditions, to accept the merger and of these, three important conditions were:

- All government lands in Sindh comprising of 2.7 million acres, in the command of two new barrages at Kotri and Guddu under construction in 1955 will be distributed among the Sindhis.
- Irrigation water to be distributed between the Punjab and Sindh will be maintained according to "The 1945, Sindh-Punjab Water Agreement"
- All government jobs in Sindh will go to Sindhis (All people settled in Sindh in this case) and only Sindhi officers will be posted in Sindh.

After formation of West Pakistan Province or "One Unit" none of the above three were honoured by the "One Unit" Government, leaving aside the other conditions.

The above 11 conditions were meant to protect the economic and cultural rights of Sindhis and the very basis of economic well-being of this nationality were destroyed systematically. Since 1955 all attempts have been made to settle outsiders in Sindh and today Sindhi population in Sindh is only 60% and Sindhis are threatened to be turned into minority.

Besides these three setbacks, there was a systematic attempt to keep Sindh and Sindhis backward by all possible means in the various spheres, like; education, agriculture, fisheries, animal husbandry, rural and town water supply, power, communications, rural development, introduction of new crops suiting climate of Sindh, soil and water conservation and etc.

1959 Land reform as means of crippling the power of Sindhi, to purchase agricultural land, distribution of Sindh's lands to non-Sindhis and arrangements for the rehabilitation them.

In 1959 the first "Pakistan Land Reform" under Martial Law was enforced, limiting the higher ceilings of land holdings to 500 acres and surrender of lands above that ceiling this limit of ceiling had served only one major purpose of the military regime in Sindh. It crippled the powers of big land owners, to purchase any more land, as almost all of them had to surrender

some land. They were also afraid that future had more of such reforms in store for them and therefore it became the dead and for them to purchase any more land at that time or subsequently.

Soon after the declaration of "Land Reform", the West Pakistan Government in 1960, declared policy for sale of government land in Kotri barrage areas of Sindh. Similar policy was to follow for Guddu barrage two years later. Quotas of land were fixed for various categories of allottees from different areas of the whole country. Such categories were:

In service and retired personnel of army, navy, air force, civil servants (having meritius awards) most of whom were from the Punjab, Mangla dam displaced persons from Punjab, NWFP tribal areas, flood affected people of East Pakistan, rain-fed and other districts of Punjab, mechanized cultivation (Those who wanted to start mechanized agriculture and could show that they had tractor but without documentary proof, to the project director irrespective of domicile from any part of Pakistan) and etc.

No quota was fixed for landless farmers of Sindh. A very large number of villages not shown on the 100 years old Survey and Settlement Departments maps, un -registered graveyards and mosques too were not excluded from the agriculture land being allotted. They were bulldozed and villagers thrown out. Most of 1.6 million acres of Government land in Kotri barrage and 1.1 million acres in Guddu barrage was this way allotted to non-Sindhis mostly from the Punjab, on

installment basis at extremely low price fixed by Government of Pakistan. The price fixed was Rs.350 per acre, in Kotri barrage Rs.550 in Guddu barrage.

Complete arrangements were made to receive the allottees of these lands, transport them to site was organized, taqavi (development) loans granted for purchase of bullocks, seeds and fertilizers. For allottees of armed forces, official transport was provided and camps built as temporary housing. The best perennial lands on the "Lined Channel" of Kotri barrage was allotted to the armed forces.

Besides above concessions, the allottees had to pay 10% of the rates fixed as first installment and balance had to be paid in 10 annual installments with a grace period of 3 years. The grace period was provided for the first time in the history of land allotment in the Sub-continent.

A small part of land in areas near Karachi or Sukkur was sold by open auction. Motive involved here was to sell lands to the urban people of Karachi and Sukkur and invariably Punjabi businessmen and industrialists to form a base for cash crops near these urban settlements. Some Sindhi participated in open auction but the urban bidders purchased them at rates about 3 to 4 times rates fixed by the Government.

The big landholders or local chiefs of Sindh could not purchase the land in auction because of ceiling on holdings under land reform and small land holders and landless farmers had no means to purchase a land in open auction. Land reform had not

excluded a 100 year old rule of mahaga rights, which under land reform as modified, meant that a piece of government land could be allotted at the government rate to a person having less than 16 acres of land, to make it a total of 16 acres, the government land was adjoining his land or within the same Deh (block of about 3000 acre). If Mohaga right had been extended only to same Taluka or county, Sindhis would have acquired more than 50% of government land, as there were large Number of small land-holders.

Another major concession to allottees of land was:

Spending of some Rs.150 millions from 1961 to 1970 for leveling of government land in Kotri and Guddu Barrages with help of about 500 bulldozers. This amount was to be recovered in 20 years in equal annual installments, but was never recovered. Such concessions were unheard of in 104 years rule of Sindh by the British.

This is in brief the history of allotment of 2.7 million acres of land under command of Guddu and Kotri bar- rages constructed from revenues paid by the farmers of Sindh, since inception of Sukkur barrage in 1932. All this was achieved by imposing Land Reforms under Martial Law of 1958, the only purpose of which was usurping Sindh's land and water and also recruitment of non-Sindhis in government as well as organizing immigration from other areas to upset balance of population in Sindh.

To this may be added that the best lands in both

barrages (Kotri and Guddu) went to armed forces and retired government employees. Almost 100% perennial land of Kotri barrage in the Gaja and the Lined channel commands of Kotri barrage went to the armed forces and same was the case of Ubavro and Ghotki Talukas lands, the best of lands in Guddu barrage, which were no perennial but having fresh ground water underneath. This ground water has been developed at government cost under name "Ghotki Fresh Ground Water Project" and area has been made perennial.

Pakistan Army and land grabbing:

Traditionally Pakistan army consisted of Punjabis. They hardly recruited anybody from Sindh. There was a Mutiny against the British rule in 1857. The whole of present northern India was under revolt lead by the British Army comprising of locals. The Punjab Army helped British to suppress the revolt and the British decided to recruit armed forces only from the loyalist groups i.e., Punjabis, Gorkhas, (Nepalese), Marhattas (from Maharashtra) and other minor groups. At the time of independence Punjabis formed more than 80% army and all coming mostly from only three districts of Punjab. The British had won their loyalty by allotment of lands on retirement, recruitment to civilian government jobs on retirement and etc.

The Pakistan Army expects same concessions and three Martial Laws since 1958 have more than proved that main motivation is concessions for armed forces

and in case of Pakistan for Punjabi armed forces.

Since Sindh had 2.7 million acres of government land awaiting disposal, the army found easy solution to grab it under cover of Martial Law.

Dismemberment of One Unit and burden of un-executed projects:

By 1969, the "One Unit" set up was declared a failure as people of small provinces raised serious objections to its working and original four provinces were restored by the order of Chief Martial Law administrator and President. During the 15 years of "One Unit", the irrigation, water logging and salinity projects of Punjab were executed from "The West Pakistan Government" funds or common funds of all four provinces but after dissolution of "One Unit" the Sindh projects became financial responsibility of Sindh Government and lack of funds have hither to delayed many of these projects. The irrigation, water logging and salinity projects of Sindh should have been responsibility of federal Government as they were delayed by a Government dominated by the Punjab.

Agriculture:

No other government department is so centralized as Agriculture Department. The agriculture research is con- trolled by PARC or Pakistan Agricultural Research Council, a federal Government autonomous rganization. Its boss spends 80% of the funds meant for whole agriculture sector of Pakistan in the Punjab.

Cotton is controlled by Central Cotton Committee, which has starved Sindh of funds for cotton research with the result that production of cotton in Sindh, which was highest in the country, is reduced due to lack of adequate varieties and research. The Punjab, which was behind Sindh in cotton yield, is now leading.

There is no concentration on introducing new fruits nuts and industrial crops and also there are plans to provide infrastructures for export of fruit and vegetables. The concentration of various agencies of Federal Government is diverted to making the Punjab as the leading producer and exporter of fruits and vegetables. Sindh had most suitable climate for raising a large number of tropical, semi-tropical and sub-tropical fruit crops but Sindh is being deprived of funds for research and trained man power. PARC is spending most of its funds for the development in the Punjab.

Sindh has less qualified researchers i.e., Ph.Ds from abroad in various fields of research. In the past 30 years, only one or two persons from the Sindh Agriculture Department have been sent abroad for education up to Ph.D. PARC had sent 400 persons for training abroad. Out of these only 2 or 3 were from Sindh and 380 from the Punjab. This clearly shows how Sindhis are being hit badly in agricultural economy. The result is that research in Agriculture in Sindh has been dwindling. New policies for agriculture were planned by National Commission on Agriculture for years 1988 to 2000 i.e. 12 years. This

report essentially was meant to kill agriculture in Sindh and boost it in the Punjab. It probably may not be executed by the present government.

Rice export policy adverse to interests of Sindh:

Pakistan produces rice of which Basmati of the Punjab is of high quality and Sindh produces comparatively inferior quality rice due to its climatic conditions. Sindh also produces local rice varieties of good quality, but rice Export Corporation" a Federal Government body is opposing export of the quality varieties of Sindh. However, even the inferior varieties of rice of Sindh fetch good prices in international market because of markets for coarse varieties in Africa, South East Asia and some developing countries. Basmati a superior variety of Punjab finds its market in USA and Europe. Under the Pakistan National Commissions report it was planned to increase rice cultivation in the Punjab by paying the farmer higher prices as an incentive and stop export of Sindh rice. The objective simply is that the farmers of Punjab should benefit and farmers of Sindh should be hit hard. Basmati fetches double the price of Sindh's coarse rice, but its yield per acre is half that of Sindh rice. The country thus gains nothing and on the contrary more area has to be put under quality rice to produce same tonnage and almost twice water is needed.

Proposals to crush sugar-cane industry in Sindh:

Sindh has most suitable climate for sugar-cane. It has expanded in the rest years. Farmers are getting reasonable returns. The Federal bureaucrats do not like it. It is proposed in National Agricultural Commission to import sugar at subsidized rates to compete with local sugar, so that the rates of sugar do not rise. Farmers even now are paid lower rates than internal rates for cane. Sugar cane disappeared from the Punjab and North West-Frontier provinces because of low production on account of adverse climatic conditions. In order to hit farmers of Sindh, this proposal is put forth.

Soil and water conservation:

Since mid-sixties the "One Unit" government launched soil and water conservation programmes, which was really meant to diverting rain water from streams leading to the Indus and use it in fields so developed in the Punjab. More than 700 bulldozers were employed. No such programme was under taken for Sindh, although 60 % of land in Sindh is un-irrigated and is rain-fed.

Price of agricultural commodity fixed to the disadvantages of rural population:

The British fixed prices of agricultural commodities to give farmer "fair deal", as per recommendations of "The Royal Commission on Agriculture 1928". These price policies continued until

1950. Since then the price fixation has been arbitrary, always to the disadvantage of the farmer and to the advantage of urban population. Staple food in Pakistan is wheat. If prices of wheat are fixed at a low ceiling, other agricultural commodities adjust their prices automatically proportionate to the wheat prices. Today farmer gets about 45% of what he got for his wheat, in 1950. The table below shows year-wise prices of 40 kgs wheat adjusted to the 1950 level of prices in Pak currency and U.S. dollar, after accounting for depreciation of U.S. dollar and Pak rupee. The prices fixed in 1974-75 were of same level as 1950 and this was the secret of "Bhutto's magic over masses". Low prices of wheat have curtailed purchasing power of rural Sindhis, to maintain decent livelihood, almost 100% farmers are in debit. The rural economy has been shattered.

Real prices of 40 kgs of wheat from 1950 to 1988, in terms of purchasing power of rupees and U.S. dollars converted to 1950 values.

Year	Price of Wheat in terms of Pak. Rupee of 1950	Price of Wheat in terms of US Dollars of 1950
1950-51	6.44	1.95
1951-52	5.3	1.6
1952-53	4.71	1.44
1953-54	4.39	1.33
1954-55	4.12	1.25
1955-56	3.89	1.18
1956-57	3.59	1.09
1957-58	3.26	0.89
1958-59	3.26	1.05

Year	Price of Wheat in terms of Pak. Rupee of 1950	Price of Wheat in terms of US Dollars of 1950
1959-60	3.26	0.89
1960-61	3.04	0.92
1961-62	2.82	0.85
1962-63	2.64	0.8
1963-64	3.88	1.18
1964-65	3.64	1.03
1965-66	3.43	1.04
1966-67	3.23	0.98
1967-68	4.67	1.42
1968-69	4.47	1.35
1969-70	4.11	1.25
1970-71	3.73	1.13
1971-72	3.41	1.03
1972-73	4.22	1.28
1973-74	5.15	1.56
1974-75	6.86	2.08
1975-76	6.11	1.85
1976-77	5.71	1.73
1977-78	5.44	1.65
1978-79	5.12	1.55
1979-80	5.71	1.73
1980-81	5.21	1.58
1981-82	4.72	1.43
1982-83	4.22	1.28
1983-84	3.77	1.14
1984-85	3.98	1.24
1985-86	3.58	1.08
1986-87	3.27	0.99
1987-88	3.24	0.93

Note: Since 1952 farmers got the highest prices for wheat in 1974/75 and prices have been falling since then being 44.7% of those in 1987-88.

Fresh water fisheries of Sindh:

Sindh was producing 75% of inland fisheries in 1960. Since then, due to diversion of waters of the river in the Punjab, and shortage of water in Sindh, natural lakes and depressions, the fisheries of Sindh have started dwindling.

Since 1973 i.e., filling of Tarbella Dam, water in the riverine areas of Sindh decreased and fisheries were affected. In 80's for some years there was no water flowing in the river between Sukkur and Kotri barrages resulting into large scale destruction of fish colonies, which inhibit 200 miles long stretch of the river Indus. Since 1973 water down stream of Kotri barrage flows for an average of 56 days a year, with the result that fisheries between Kotri barrage and the sea in a distance of about 125 miles Perish each year. The riverine Indus channel fisheries occupied about 0.6 million acres.

The Manchar Lake some 80-90 square miles in area, a great source of fisheries, nowadays dries almost each year and some 200 species of fish which existed in this lake since the past 10,000 years or more have disappeared. Lake now rarely gets filled to its full capacity and dries each year.

It is estimated that dwindling of fisheries has put more than 1.0 million people out of employment.

Coastal or brackish water fisheries of Sindh:

Sindh coast used to get the fresh river water each year and coastal waters were diluted, which became breeding grounds for sea shrimps, lobsters, fresh

water shrimps, hilsa or palla and other brackish water fishes. Due to diversion of water from the Indus in the Punjab River discharges some water only for 56 days a year and the coastal waters are not diluted and therefore breeding grounds for these fisheries are destroyed and the catch per boat or per unit has reduced to 10% of what it was 20 years ago. Catch now decreases year after year.

Forests:

The riverine area in Sindh forms 1.8 million or 18 lac acres, out of this 1/3 or 0.6 million acres were under forest, 0.6 million acres were under agriculture crops raised on preserved moisture and the balance 0.6 million acres were various channels of the river Indus. Due to diversion of water in the Punjab, the 0.6 million acres under forest have either disappeared or deteriorated to the limit of being abandoned. 0.6 Million acres under cultivation, on preserved moisture do not get annual floods and therefore cannot be put under crops. Unfortunately water in about 50% of the riverine area is brackish even within the flood protective embankments and this water cannot be utilized by means of tube wells for cultivating this land. The balance 0.6 million acres of river channels was under fisheries but river channels now are dry during most of the year and therefore fish cannot be raised.

At the delta of the Indus, there were one million acres under mangroves. These were sustained on brackish water formed by mixing of river water with

sea water and brought back by tidal action. Most of the mangroves contained trees 60 feet tall and were source of timber, fuel, fruit and also fodder for cattle. Mangroves are now dying out very fast. The total forest area now lost is 1.6 million acres, which is about 12% of area under crops in Sindh.

The leaves shed by mangroves were natural food for shrimps, lobsters and cretaceans. Death of mangroves has reduced the catch of fisheries per unit.

The forests in general were employing about one person per acre in terms of fuel, timber, fruit, cattle feed and fisheries catch. This has put 1.6 million people of rural Sindh out of employment, during the past 10 years. Same is effect of loss of fisheries each acre of which employed one Sindhi.

The 0.6 million acres of agricultural land in the riverine area going out of cultivation has displaced 0.6 persons from those areas.

Autonomous and Semi-autonomous Government Organization and employment of Sindhis:

Since 1959, the early days of the first Martial Law in Pakistan, the Federal Government have been setting up of autonomous organizations for increasing the efficiency and execution of various projects expeditiously. The number of autonomous bodies has kept increasing since then and under General Zia's dictatorship, not only their number swelled but these bodies were also expanded. These organizations employ a large number of personnel. Although they are supposed to recruit 21% of their employees from

Sindh, of whom again 60% have to be from rural Sindh, the actual number of Sindhis employed is sometimes negligible and at other times it hardly 1-2%. A large scale unemployment in Sindh is caused by this indiscriminate recruitment employing the people from the Punjab in excess of their quota and neglecting the rural Sindh.

There are a large number of autonomous bodies with headquarter in the Punjab i.e., in Lahore or Islamabad and some times, the regional offices are located in Karachi or elsewhere in Sindh. These bodies have their regional chiefs usually from the Punjab; they invariably recruit subordinates mostly from the Punjab. No provincial quota is being maintained in spite of constitutional provision. The same applies to industries taken over by the government, fertilizer and chemical companies like National Cement and other federal autonomous organizations.

Federalization of higher education and learning:

Higher education is totally centralized through University Grants Commission of the federal Government. They provide funds for various needs of universities, import equipment and distribute it, organize training facilities, start new departments, create "Centres of Excellence" and funding is manipulated to reduce share of Sindh. There are less foreign trained Ph.D's in Sindh as compared to the Punjab, where even the junior most employees like demonstrators and lecturers in the Punjab are Ph.Ds.

This has effected Educational standards of Sindh. There are specific purpose colleges and institutes like "Fine Arts College" etc., which exists only in the Punjab.

Secondary and intermediate education:

Before 1985, the Punjab had been able to send 250 Head Masters of their High Schools abroad, for training and education in the universities some of them to M.S. and others to Ph.D. levels. Not a single high school teacher from Sindh had this privilege. This has improved the Punjab's standards tremendously, and this would affect developments in the Punjab in future. The foreign training is within preview of the Federal Government dominated by people from the Punjab and is denied to other provinces.

Railways, Post and Telegraph Departments:

Since railways headquarters are at Lahore and most of senior officers are recruited from the Punjab and even most of subordinates are sent to Sindh from the Punjab under orders of headquarters bosses. The Sindh quota is limited to the railway level crossing operators and some clerical jobs at the rural station. The same is true about Posts and Telegraph and Telephone Departments.

Meteorological Dep :rtment:

This departme it employs 23,000 person of whom quota of Sindh is about 5000. Again of these 5000 persons, 3000 have to be from the rural Sindh but department hardly employs 20 persons from rural areas and these too are in the lowest ranks.

Other Federal Government Departments:

Almost same is the case of all Federal Government Departments and many of them, against 13.2% employment for rural Sindh, hardly employ 1 or 2%, and sometimes even less.

1958 Martial Law hits the economy of Sindh:

Then Martial Law came in Pakistan in 1958 and military regimes continued to dominate Pakistan for next 13 years. Next Martial Law came in 1977 for 11 years. The consequences of Martial Law, Military regime and Government of West Pakistan were shattering of the economy of rural Sindhis to the irreparable degree. There were demonstrations against Martial Law in Sindh 1983 and 1986. On each occasions army killed 1000 peaceful peasants.

Electric Power:

The per capita consumption of electric power is low in the whole country, but again in terms of the provincial consumption the per capita consumption of power is the highest in the Punjab and lowest in Sindh, where large numbers of villages have remained unelectrified. When it comes to equitable distribution of power, it is argued that the power in Punjab is meant for private tube wells.

1973 Constitution, taxes and budgeting for Sindh:

In 1973 Pakistan adopted a new constitution under which the Federal Government is collecting most of taxes and after meeting the Federal requirements, the rest of funds are distributed among

the provinces in proportion to their population.

The Federal Government is collecting more than 60% of their revenue from Sindh, but only 22% is returned to the Provincial Government of Sindh in proportion to Sindh's population in Pakistan.

This has resulted into Sindh's spending less and less on development projects and consequently getting backwards as each rises.

The Frontier and Baluchistan provinces get additional funds for "Special Development Projects" and their annual Development Budget is as much as that of Sindh, even though Sindhi population is multifold and requirements for development funds are too high. Sindh has no funds for financing development projects, whereas the Punjab has no projects to consume the funds allocated. The main reason for this is that the Punjab, built its irrigation works, roads in 60s at the cost of other provinces in the name of shortage of water, water logging and salinity control projects. They brought electric power to the rural areas in the name of tube wells and developed the Province. When the turn of Sindh came for its development, funds were distributed on population basis. In this Sindh has been kept backward since1955.

Reduced Provincial Autonomy:

The British had ruled India under Parliamentary Acts amended from time to time. Under these Acts or constitutions there were Federal Government and a number of Provincial Governments. There also were

Federal and Provincial subjects. There invariably was some amount of provincial autonomy i.e., there were subjects which were exclusively provincial. There also were concurrent subjects handled by both the provincial and federal Governments but concurrent subjects were considered interference of Federal Government in the provincial affairs and interference was avoided by seeking provincial government's concurrence before hand or cooperation. Under 1973 constitution all provincial subjects are also concurrent sub-jects and the federal Government specially under dictatorship of General Zia interfered too much in provincial matters by executing the projects themselves. Since Federal government is dominated by officers, from the Punjab, the funds were diverted to the Punjab at the cost of other provinces.

Looking back to the history of provincial autonomy, changes have been taking place since 1935, amount of provincial autonomy is being reduced with highest to lowest autonomy in the following order, under the various constitutions (Considering the fact that the British also ruled the country constitutionally): 1935, 1954, 1956, 1962 and 1973. The list of concurrent subject was always there, but the 1973 constitution reduced provincial government to virtually a department of Federal Government.

(Sindh Quarterly, No. 02, 1990)

THE INSTITUTE OF SINDHOLOGY OF THE UNIVERSITY OF SINDH

The Sindhi Adabi Board was constituted as an autonomous body by the Government of Sindh in early fifties. In seven years from 1955-62,the Board published a large number of books on Sindh, covering history, geography, culture, folk-lore Arabic and Persian texts, Prose and Poetry in Sindhi, Urdu, English, Persian and Arabic.

The autonomy of the Board ended in 1962 under orders of Government of Pakistan and a new Chairman and members were nominated. This dismayed many Sindhi scholars and others interested in promoting not only Sindhi literature, but also culture and past heritage of Sindh.

Sindh University still was autonomous and many of Sindh's well wishers wanted Sindh University to establish an organization, which would work on the lines of such Institutes as Indology and Iranology, and collect and preserve all kinds of material covering every aspect of Sindh's life and culture.

Hussamuddin Rashdi, Syed Ghulam Mustafa Shah, Hanif Siddiqi and Dr.A.M. Sheikh made such a proposal to Dr.Siddiqi, the Vice Chancellor University of Sindh in 1963 and thus Sindhology came into

being, with Hanif Siddiqi as the honorary director and Dr.G.A.Allana as Assistant Director by the orders of Dr. Raziuddin Siddiqi.

In 1969 Syed Ghulam Mustafa Shah nominated a Board for guiding the Director in its various functions. Since the exact functions and powers of Board we not defined in later years it became a body only for endorsing the actions of the Director and almost redundant.

In the opinion of present writer the Research Work on Sindhology can in brief be categorized in the following groups, irrespective of its original charter.

1. Collection of Published material:

Collection of raw material (non-fictional) on Sindh, in the form of published books in any language and making it available for research to students, teachers, and scholars and other interested. The same is its function of other categories 2-17 discussed below:

2. Collection of raw material on Sindh (non fictional) in form of manuscripts in any language:

3. Collection of religious and professional materials, Sanads, treaties, engagements etc.:

Collection of raw material on Sindh, written in the form of religious and professional texts, covering the religious hitherto practiced in Sindh, occupations, or professions like medicine, agriculture, engineering

and etc. The official Sanads, letters, and records is another material of importance.

4. Collection of fictional literature, poetry:

Collection of literature (fictional and poetry) on Sindh.

5. Collection of oral literature on Sindh:

Written or oral music, poetry, phraseology, including presently unprintable oral material.

6. Photographing archaeological Material:

Photographing of ancient settlements and objects of interest found from these cities.

7. Photographing of professionals, tools and the professionals:

Photographing various implements, tools and aids used in various occupations. Photographs of people working on different aspects and phases of various trades.

8. Collection of objects of art:

Collection of objects of art decoration used in housing ornaments, clothing, jewelry and geometrical pattern in buildings and study of decorating patterns the objective or thought behind them and interpreting of these patterns as borrowings from ancient linguring cultures or new innovations.

9. Epigraphical Collection:

Epigraphical collection i.e. inscriptions and numismatical material on Sindh.

10. Collection of Painting:

Collection of painting, modern or ancient, or photographing them.

11. Collection of material on fauna, flora and Geographical samples:

Collecting information on flora and fauna of Sindh from literature and otherwise and also geological samples.

12. Preparation of bibliographies:

Preparing bibliographies and source material on Sindh.

13. Preparation of biographies:

Collection of biographical sketches, of people of Sindh or those who have worked in Sindh, during the past and present and also collection of biographies of rulers, administrators, soofis, poets, writers, reformers and others, in the form of National Biographical Dictionaries, Chronologically.

14. Material on day to day life on Sindh:

Collecting material on the day to day life i.e., way of living of people in the past and present, their dwellings, furniture and fixtures , photographing of classic Sindhi or classic borrowed furniture, including collection of its working drawings and plans, housing materials and methods in building them.

15. Human and animal food and methods of preparation:

Collection of information on human and animal

food, in the past and present, methods of collection, sources of supply and methods of preparation.

16. Publications:

Publishing books and articles on above subjects, in the form of journals, bulletins, books etc.

17. Museum and exhibition:

Organizing exhibitions of above materials and other similar function.

Achievements:

Having said all above, we have to look into its achievements in the past 25 years. I have seen that some work has been done in all the above fields, although little in some, more in others and negligible in the third. The reasons are simple. This type of work is highly specialized, and there is no limit either to the knowledge at scope. Sindhology as it is constituted, works under its Director and is one man show. His being responsible to Vice Chancellor of the University is purely to financial and administrative control, but technically he is the boss.

Attempts to have a board to govern it have failed, as the board was redundant without any powers. A few, Sub- committees were formed, which worked as endorsing signatories to the action, already taken by the Director. Since the Board was arbitrarily constituted by a Vice-Chancellor for a fixed period, the succeeding Vice Chancellor not considering it binding did not reconstitute the Board. Even during

the period it worked, some members were not notified at all, the others did not get agenda, or minutes and thus members got disinterested.

What needed to be done were permanent committees for various factions and each committee having scope to enlarge or add in each of the above fields members from reputed provincial, inter-provincial organization or international specialists. A small office of one secretary could have corresponded on behalf of these committees. Since there is no dearth of material in all these fields, a system to collect materials, could have been built in a few years and the rest would have followed with certainly.

I can put my comments on activities 1 to 17 to the Sindhology as under:

1. Published Material:

Some 70,000 volumes of printed material is reported to have been collected. This is an enormous material, but we really do not know what it is, what is collected, what is not collected and what need to be collected, as in 25 years no library cards were made and maintained. I have a humble library on Sindh. I have a complete catalogue, as well as catalogue cards. It has also been put on computer. With the help of catalogue cards, indexes, it is easy to work on any aspect of Sindh.

2. Manuscripts:

Some work in this field is on collection of manuscripts done we cannot say how much, as the

list of acquisition has not been printed. Recent collection by Dr. Dur Muhammad Pathan, from the living scholars of unprinted and printed material is commendable.

3. Religious and professional manuscripts:

Some material has been collected, but enormous material at Pir Jhando, Lowari Pir, and many other places, needs photographing or being brought on microfilm or microfisch. Some of these may be photo-copied, as there is every danger of material at these places getting lost forever. The books on Unani system of medicine were difficult to get in the past. The prescriptions in them were considered as highly professional secrets. Now that the Hakims have virtually lost their practice among masses, and their concentration is limited to many incurable and complex functions of human body, these books have lost their utility. It is high time to collect all possible written material from these sources, before it is destroyed.

4. Collection of Literature (fiction and poetry):

There are more than 3000 Sindhi books in India Office library and 6000 more in the Library of Congress collected from India and Pakistan. Most of them are fiction. Sindhology having been directed by a professor of Sindhi for 21 years, will have a large collection of this material, but whether it is systematic, can be known after catalogue cards are ready. One typist trained by me for an hour was

put on the job to prepare catalogues of my books, completed cards for about 12000 books, of which 6000 on Sindh and 6000 technical in 50-60 working days, at rate 200 to 250 books per day of 8 hours. This included number of page, index, charts, drawings, photographs and maps in each book. Work was completed in 60 working days.

5. Oral literature:

We have no knowledge about its collection. Some individual interviews have been taped but it is the oral literature meant here, but biographical material. Some work on collection of music is definitely in progress, but none has thought of un-printable or un-circulatable books. The world's largest collection of such books is in 'The British Museum and 'Vatican'. Sindhology can have a proud privilege, if they collect this type of material on Sindh or from Sindh or elsewhere.

6. Ancient settlement:

Very limited work is done on photographing of ancient settlements and objects found from them. This can supplement the work of the Department of Archaeology of the Government of Pakistan and the latter can indicate sites known to them, but not photographed. I had located about 100 such sites in Kotri Barrage in early 60's and communicated to Dr.F.A. Khan, who got them surveyed in late 60's.

7. Photographing professionals and their tools:

This is a raw field in which new professional

tools are replacing old tools very fast and urgent action is needed. As for example: bullok-cart is disappearing as Suzuki has killed it. Boats started disappearing with railways, but they have been hit the worst by truck service on roads. Bullock drawn implements have given way to the tractor drawn. Power operated tools are coming up in carpentry and so on. Some work has been done, but it has to be systematic, profession-wise and sequence wise, showing all operations.

8. Objects of arts:

Lot of work has been done in collection of wear of the people i.e., ornaments, dresses, rallies, shawls, ajaraks, topies etc., of symbolic Sindhi culture, but work of collection of geometrical pattern or art in building and art and interpreting its meaning, borrowings and new innovations, has not been touched upon.

In the opinion of present writer the decorative geometrical pattern of art on Jam Nizamuddin's tomb, has been a guide line, as well as inspiration and fountain-head for all decorative art of Arghoon, Tarkhan, Mughal, Kalhora and Talpur periods and patterns on the original stone were either copied in stone or were transferred to tiles in many cases. Patterns on some Ajraks, and the embroidery work are adaptations from Mohenjo Daro trefoils or quatrefoils of the later pre-historical period.

9. Epigraphy:

Inscriptions on many monuments are disappearing, due to the lack of conservation. Photographing of all inscriptions at Thatta, Rohri, Sukkur, Larkana, Mian Nasir, Sehwan, Nasarpur, Hyderabad, Chawkhandi, scatterd 14-15th century graves ancient mosques etc., within the archaeological Departments jurisdiction, or outside, could be photographed and interpreted by Sindhology, as part of the preservation and record. Sindhology has a number of coin collection, but it is well known that Hyderabad Sarafa Bazar is the leading city, in the supply of forged historical coins. It is a highly technical job to distinguish forged from non-forged. I cannot do any justice to it, but one has to be careful as many of coins were purchased from Hyderabad.

10. Painting:

Sindhology has collected some modern paintings but there is collection of more than 1000 paintings on Sindh in U.K. libraries and museums. There is also a private collection. I had listed some of the U.K. paintings numbering about 500 for an article for *Sindh Quarterly*. Systematic photographing of these can be done.

11. Fauna and Flora:

Karachi University has catalogued flora. Forest department and Sindh Wild life Board have photographed many fauna. Sindhology can borrow and duplicate the copies. My wife has collected information on 4500 flora, 45 mammals and 1500

birds of Sindh. We can readily supply this to Sindhology.

12. Bibliographies:

Sindhology's two bibliographies on Sindhi literature, 1947 to 1973 and 1973-1978 are a catalogue of their library acquisition rather than systematic collection. My own 'Source Material on Sindh', was based on rare material. I was able to lay hands on or read up to 1969, when it went to press and came out 8 year later in 1977. All the above three bibliographies thus are out-dated. No attempt has been done to prepare bibliography of printed material from 1853-1947. Either Sindhi Departments of Karachi and Sindh Universities or Sindhology are the organizations who should undertake this work.

13. Biographies:

Some biographical sketches have been written for preservation by Sindhology. What is required to be done is a series of National Biographical Dictionary covering the whole past of Sindh, rather than only the contemporary period.

14. Material on day to day life in Ancient Sindh:

Some material of archaeological interest on life pattern in Sindh has been collected but not properly catalogued, giving site of supply, exact location, shrata, period, age of the object, type and its utility. This needs help of a specialist. Sindhology has not been able to find any one so far. Some photographing of house hold articles of utility has been done by

Sindhology, but less so, of furniture and fixtures of the past. In the early Victorian-Era, Prince Albert organized an exhibition of past 400 years European furniture at Crystal Palace. Since then, Museums world over, started collecting antique pieces of furniture. This is what is to be aimed at, but start can be done with photographs. There are antique pieces of furniture owned by many families, but they are being replaced fast, by modern cheap and fancy versions. It certainly is very late, but quick efforts can help in its preservation on colour photographs. This will fall into 3 or 4 categories. Early Sindhi classical (Talpur furniture), Victorian, Early 20th century and, modern furniture. Some applies to furnishing. Common man's furniture and furnishings have gone through little change. Some furniture of late last century or early 20th century can be seen in some old institutes and offices. Since its collections and housing will require space and funds, to start with, photographs and working drawings can be made for preservation.

15. Human and Animal food:

To know about food of past is difficult without archaeologists, spade, and specially without at least one experimental trench of each of the large number of archaeological sites, but the material already collected from 8000 B.C. to 2000 B.C. by archaeologists can be elaborated and published.

16. Publications:

Journal *Sindhological Studies,* is doing an excellent

job of research on the past of Sindh. Thanks to its honorary editor Mazhar Yousif. But the activities of Institute of Sindhology can be projected and served through only if there are more journals on Sindh, for example:

a. Journal "Source Material on Sindh", for item 1 to 15 above.
b. Journal "Sindhi literature and Literary History". The present Sindhi Adab can be geared to do so.
c. Journal of "Sindh Epigraphy" (archaeology inscriptions, ancient architecture, numismatics and anthropology).
d. Journal of "Sindh Biography".
e. Journal "Sindh Historical".
f. Journal "Sindh Economics".
g. Journal "Ancient Technologies".

These journals will publish series of articles and in a few years, enough new material will be collected for advanced research. These journals cannot be a few -men show. Participation of outside bodies is required for example:

a. **Sindhological Studies**
   Department of archaeology at Karachi, Sindh and Khairpur Universities and Department of Archaeology Government of Pakistan, and also history departments.
b. **Sindhi Literature**
   Karachi, Sindh and Khairpur Universities.
c. **Epigraphy**

Karachi and Khairpur Universities and Archaeological Department.

d. **Biography**
All Universities in Sindh.

e. **History**
All universities in Sindh.

f. **Arts**
Same as (a) and also departments of fine arts at Sindh and Karachi Universities.

g. **Economics**
All Universities and Planning and Finance Department Government of Sindh.

h. **Ancient Technologies**
Two Engineering Universities, engineering college Nawab Shah, Sindh Agriculture University, Agriculture Department of Government of Sindh and Industries Department.

If for each journal, editorial panel, has specialists, from all these institutes, sense of participation will create interest and material can be systematically collected. Six new journals of some 60 pages each issued quarterly, shall not cost more than Rs.300, 000, annually and Sindhology should be willing to bear this cost.

17. Sindhology has to be extremely cautious on publications of books:

Manuscripts received from authors need thorough checking and probably would need writing and some editing. Recent books of Sindhology on history of Sindh, reprints of histories of Sindh, written

more than 50 years ago between 1931 and 1937, without any change was not an advisable policy, as material on Sindh's history collected in past 50 years is 100 times more, than what was known about it, in early thirties. Same applies to other publications of Pithawala, Marriwalla, Crowe, Postans and others. They should have been reprinted with exhaustive notes, pointing out errors, new developments and changes. This function could only be achieved by suitable committees and involvement of specialists on various subjects.

Sindhology has published a number of books, which in general could be categorized as:

i. Bibliographies.
ii. Translations.
iii. Original works.
iv. College text books.
v. Selections of short stories.
vi. Books on linguistics.
vii. History books of other countries.
viii. Travel accounts.
ix. Arts.
x. History of Sindh.

A brief review on these publication is:

a) Bibliographies.

Have been discussed above.

b) Translations.

Should cover the translations of historical, archaeological or other works mentioned in 1 to 17 above and not really translations of poetical work

from Sindhi to Urdu, as this is a low priority Translation of Bu Ali Qalander's Persian works in Sindhi, for general information, can at the best be squeezed into functions of Sindhology:

a) Original works of Sarfraz Kalhora, Lutfullah Qadari and Sayed of Daira are within the scope of Sindhology and are standard works.
b) University or College text books on politics, sociology and economics are outside the scope of work of Sindhology.
c) A book on linguistics is within the scope and is of some standard.
d) Selection of poems and short stories are outside the scope of Sindhology as it is the functions of department of Sindhi.
e) History of Moorish Spain in Sindhi does not justify even a remote link with function of Sindhology.
f) Traveller accounts of McMurdo, Delhoste and Crow were travels taken between 1801 and 1841. Their information on Sindh was distorted due to very short stay and lack of authentic information. These should have been printed with elaborate notes, correcting names and updating other information. The Institute should have taken care of it.
g) Book on Sindh's music, a compilation of 4-5 articles is incomplete and inadequate to give information on Sindh. Thus publications of Sindhology some of them M.A. monographs

range from below average to average and only a few of them like that of Professor Qadri are a real good work.

h) On history of Sindh, 5 out of date booklets of Sindhi Adabi Society printed between 1931-1937 is what Sindhology can claim.

In general the most authentic work of Sindhology as can be presented to the public is the books. Out of some 250 odd publication, barring one dozen, the rest are sub standard and should not have been allowed to see light of the day. The journal Sindhological *Studies* is of course outstanding contribution.

(Sindh Quarterly, No. 04, 1988)

HILL STATION IN THE KHIRTHAR RANGE OF SINDH

Since 1860, the British were trying to have a hill resort at Darhiaro (Taluka Kamber), just 5 miles north of the present Dadu-Larkana District border. The senior British officers who visited Darhiaro with this specific propose were:

Dr. Lalor and Captain MacDonald 1860
Sir, Mereweather, commissioner in Sindh 1872
Mr. Lucus, Commissioner in Sindh 1916

The last wrote even a minute; "In this age, when civil aviation is being introduced, it would be easy to reach this site".

The table below gives comparative data on Darhiaro and Gorakh:

Sr. No.	Information	Gorakh	Darhiaro
1	Height of plateau.	4,300 ft.	5,700 to 6,500 ft.
2	Type of soil.	Stoney gravel and sandy.	Alluvial and light sandy.
3	Area available for settlements & landscaping.	430 acres.	5850 acres in Sindh 650 acres in Baluchistan.
4	Ground water.	No possibility.	Same possibility, but needs drilling to verify.

Sr. No.	Information	Gorakh	Darhiaro
5	Nearest source of surface water.	Gaj gorge about 20 miles north.	Rain runoff water can be collected over the plateau and stored for use, but quantum is not estimated.
6	Quality of nearest source of water.	Contains salts most of the year, except in rainy season.	Free of salts.
7	Height through which water needs to be pumped.	About 4000 ft. and 15-20 miles away.	A few hundred feet at the maximum and within 3 miles distance from remotest place.
8	Reliability of water.	Source of water i.e. the Gaj gorge, some time can dry up for 2 months of May to July. Quantity of water too is limited, except in rainy season.	Stored water can get exhausted but ground water if located can be reliable.
9	Approach road to the site.	Road can get the blocked and washed away. During the rainy season it would be difficult to reach right bank of the Gaj. Bridge on the Gaj gorge will be costly and road running on the left bank will make a long detour.	No such problem will occur, as the Mazarani and the Sita Nais are very small and can be crossed by ordinary cause-ways any time even in rainy season.
10	Danger of floods.	Once in 20 years the Gaj discharges enormous quantities	There is no such fear at Darhiaro or en-route.

Sr. No.	Information	Gorakh	Darhiaro
10	Danger of floods.	of water, to flood the whole Johi, and parts of Dadu, Sehwan and Kairpur Nathan Shah Talukas. This happened in 1956 and 1977. It would cut off the hill resort.	
11	Official peak height.	5700 ft., but this is the height of peak, which is un-approachable and plateau is only 4300 ft. high i.e. as much as Quetta.	6500 ft., but pleateau slop remains between 6500 and 5700 ft. Kute-ji-Qabar 2 miles away is 6800 ft. It slightly less than Muree and Ziarat.

Gorakh got its name projected, as it was considered abode of a Buddhist reformer Gorakh Nath and is reverend by Sufis and Bhagats, Modern Sindhis got name form a poem of shah Latif.

Darhiaro was spotted by the quarter Master General (Predecessor of Survey of India) and the British knew it's potential.

The project has not started as yet but is under investigation. Darhiaro has not been considered as alternate site. Ranking study for different sites needs to be done.

I only wanted to apprise you of the facts, as I had visited both sites years ago.

(Sindh Quarterly, No.02, 1990)

DEVELOPMENT OF SUMMER HILL RESORTS AND TOURISM CENTRES IN THE WESTERN HILLS OF SINDH

Background:

There are 5 hill peaks in the Western Sindh having height between 6500-7200 -feet above sea level. These are:

i)	Darhiaro	6500 ft.
ii)	Kute-ji-Kabar	6877 ft.
iii)	Dublai	6527 ft.
iv)	Mari Thal	7122 ft.
v)	Dad	6718 ft.

Besides a few site on Gaj (3500-4500ft., above sea level) are suitable for development as hill stations. Ranikot the longest fort in the world is another important site. The article below "In search of a Summer Hill Resort" describes the peaks climbed and surveyed by M.H. Panhwar in 1954.

In Search of a Summer Hill-Resort in Sindh

Muhammad Usman Sindhi a student of Ali Akbar Shah's Madresa Mehar belonging to a tribe from Darhiaro visited us at the Mehar High School hostel, informing some of the students that he was leaving for his village below the plateau at Darhiaro a

place some 59 miles west north-west of Mehar. He said that he would climb the hilltop, collect fire wood and set it to fire on the night of the second Friday of June 1941 from 9.00 P.M., to the mid night and it would be his signal which all known to him could watch to make sure that they had reached home alive. On the pre fixed evening we sat out of the town of Mehar into an open field to watch his fire from the distance of some 50 miles as crow flies. No light could be seen even on the clear night as the distance probably was too long. In those days peace prevailed in the province and it could not be doubted that he had reached alive.

Some 13 years later, I read about Darhiaro a place which the British officials in Sindh, time and again intended to convert into a hill station. I collected the details of Dr. Lalor's article. Dr. Lalor accompanied by Captain J.Mc Donald had camped at Darhiaro in 1860 and published details in Bombay Geographical Society's Journal in 1864.The location given by him was 27°-20-N. latitude and 67° - 17-E. longitude. This place was also visited by three Commissioners of Sindh: Sir Mansfield, Sir William Mereweather (1872), and Lucus (1916). From the climatic data given by Dr. Lalor, I concluded that the place would form a very suitable hill station, if water would either be located or transported there.

I also saw a possibility of growing of deciduous fruit crops. I had to verify personally the information given in the Sindh Gazetteers (1876 and 1927) and the

article of Dr. Lalor. I also wanted to visit Kute-ji-Kabar, three miles south of Darhiaro. There were three other peaks more than 6,500 feet high to be investigated, so I arranged two guides from the village Faridabad. I knew that the best time to visit Darhiaro would the last 2 to 3 days of May or the first 2 or 3 days of June, when the temperature would reach the maximum in the plains and so probably also in the hills. I camped at Mehar and in the morning of 3lst May, 1954 set out for Faridabad 16 miles W:N.W., and from here left for Shah Godrio 11 miles further in the same direction reaching there by 6.00 A.M. I was accompanied by supervisors Messrs Umer Khitab and Khameso Khan and two guides. We left Shah Godrio for Unnahar Nai 10 miles further W.N.W., and on reaching it headed for Pianro Lak 16 miles further some 4 miles short of this place we left our jeep and road camels for our destination. The five camel men were also our guides. Pianro Lak is at Height of about 3.500 feet and we reached here at 8 A.M. It took three hours to cover last 6 miles to the hill top. The total distance from Mehar was 59 miles. Luckily, we did not face any problem because we had climbed the first 3,500 feet in two hours before the sun cloud heat up the hills. Rest of the distance was difficult as the hills were steep, stony and passage was serpentine. We had not anticipated to see domesticated animals, grazing on the slopes of the hills, but we came across many domesticated sheep, goats and some cattle. Occasionally there were camels grazing, also there were small three to four camel-caravans, which we

passed while going and returning. The hills and routes were not totally barren as one would think. There was growth of pish almost in every depression where rain water could collect for a few days. There were other bamboos like plants, called by different names namely: Kahu, Lahirio, Rorhi and occasionally in some depressions we found acacia or bubble trees. There were also some species similar to pish. I also found a number of wild species, and on others I collected information locally. On the hill slips Sindhi Jat tribes had a small temporary settlement. They called themselves Balochis but they neither spoke Balochi nor Brohi languages.

They come down from the hills to the plains every winter offering themselves as labourers and also their animals for sale. They dress and speak differently from Brohis who also come to the Sindh plains every winter. In 1860, when Dr. Lalor visited them, these tribes called themselves Chuttas, a sub-cast of Jat. This area had large number of ibex and gad but there has been uncontrolled killing of these animals. Some officials of Larkana have visited Darhiaro for shoots until that time. Some ibex and wild sheep were also spotted during our visit. Lalor had named following species of animals on these hills: ibex, hyaena, black bear, wolf, panther and fix and gad (wild sheep). Among the birds he came across vulture, go shawk, raven, grey pigeon, red legged partridge and quails. He also came across reptiles, snakes and guanas. I made investigations and observations and also gathered considerable

information from the local pupulace on animals which existed in the area in early 50's. These were wolf, jackal, badger, fox, terrier and ass. Hyaena, mongoose, cats of various sizes, leopard or panther, panglin, different species of bats, hedgehog, mice, bats, shrew, ibex, wild sheep, hare, rodients, porcupine and hare. We brought back two porcupines, but they did not reproduced. May be they were farren. We also spotted Gazel or chinkara. Birds are highly seasonal and complete inventory of and accurate information them was difficult.

We did not collect flora. How many of animals have survived to this day cannot be said. There is belief that a human like animal 'Mama' exists in the hills and their females take away human males for sexual purposes. 'Mama' is not other than a small black bear, which occasionally exists in these hills, though none of my informants had seen it that locality. The local people also reported about panthers. A panther was killed in mind 30's by two Balochis with their cubs in the hills adjoining Garhi Khairo in Jacobabad district. Panthers are also reported from other parts of Khirthar hills.

The last 1200 feet of the passage leading to top of the hill was every steep and ascent was also difficult for camels, but is being managed. The height of Darhiaro would probably be 6,500 fect, as compared with 6877 of Kute-ji-Kabar. We reached the top of the hill at 11.00 A.M. The top is a flat heart shaped plateau, with good soil as a top cover a few inches deep. After every rain, it turn lush green, as we were

told. We took a few samples of the soil for examination at the Soil Chemistry Laboratory Sakrand. They categorized it as clay soil with coarse sandy material, mixed with it. There were three or four small temporary settlements at the top of the hill and also Landhi without cover, which probably was roofed during the visits of important officials. At that time, my knowledge of anthropology was limited so I did not look for the details of an early hunters. Planteau could be ascended and descended from three or four points along the periphery. There were small settlements on the top and people reside there in summer. The area of pleaneau measured by us was 1150 acres.

Lalor had taken a more difficult and longer route from Larkana to Hamal village via Wagan and Warah. From Hamal he followed Mazarani nai to Darhiaro. Lalor describes Diana Towers. Such name is unknown locally unless it refers to Mari Thal and Dablai peaks. From the presence of ibex and other animals, I felt that at one stage the hill tops may have been utilized by hunting tribes, where from they could watch their prey. There were pools of water along the route and from the hill top one could see some green growth down below and some of it could not be properly distinguished with ordinary binoculars, I was carrying during this trip. These pools of water were caused by rain water seeping into the rocks which were well fissured and come on out surface suitable points. The pools could not be considered a permanent source of water. I collected

the data of temperature which reached to its maximum at 74°F at 2.30 pm and came down to 71°F at 5.30 pm and at 3.00 it was 65°F. The humidity was low and varied between 25 to 35 percent in 24 hours. The day was clear and winds were blowing from west. This corroborated Dr. Lalor's statement. During three days of our stay we were lucky not to encounter high velocity winds, though moderate winds were blowing all the time. Darhiaro is just on the border of Mediterranean and the Indian monosonic climatic zones. In Mediterranean zone, there is rain fall in winters, while in the Indian monosonic zone of the Punjab and Sindh rain fall mostly in summer. Darhiaro had both. The rain fall in the plains just to the cost of the hills, as recorded at Mehar, Larkana, Khairpur Nathan Shah and Dadu is about 4" annually but the hills have more rain-fall and there is occasional rain-fall in winters too. Frequency of heavy rain falls in hill areas of Sindh as compared to the plains has now been proved statistically. From the local information it was concluded that there is usually some rain fall in every summer and winter. This helps to sustain vegetation on even at high altitudes. This also accounts for the presence of ibex, guds and other wildlife. The winter usually becomes a very severe and nomadic tribes come down the hills to the plains of Larkana and Dadu districts and spend 4 to 5 months there, taking hard jobs like harvesting and threshing of rice and leveling of land, etc. I left Darhiaro at about 4.00 in the morning of 2nd May, 1954 to reach the foot of the hill at about 8.30 and

jeeped down to Mehar, where the temperature was 118°F at 3.00 pm under shade. I concluded the Darhiaro could only be made a hill station if Sukkur and Kotri are connected by a pacca road along the present Larkana Nasirabad, Mehar, Dadu. Kotri road. A pacca road had to be taken to Faridabad and from there to Shah Godrio. The area between Shah Godrio and Darhiaro is prone to flood from the three nais namely:

1. Mazarani.
2. Unnahar.
3. Sita.

A fair road up to the hill foot of 22 miles in length could easily be constructed. In the initial stage a fair weather road has to be constructed between Darhiaro and foot of hills a distance of approximately about 10 miles. It could be graded with dozer. I found it was very difficult to convince the Government to open the place as hill resort, so I determined to start with deciduous research station in the hills. The Director of Agriculture at that time was Dr. A.M. Shaikh, who was informed of my trip to this difficult area before I met him. He had informed Agha Khan Muhammad that "this rash, irresponsible adventurous and careless boy will kill himself and waste time on fruitless search". When I met him he was furious, with whose permission did you go out of your way to the top of the isolated hills in a jeep? This is a sheer madness. How would anybody justify and account for this trip of yours? If you were looking for ground water, you have 20,000sq miles of the Indus plains in Sindh. I

took five years efforts to arrange for you a scholarship, training abroad and recruit you as an Agriculture Engineer in Sindh. We need five more years to replace you after you kill yourself. I interpreted saying "I did not go by jeep on the top of the hills, but rather on the back of a camel". He was more furious."You do not wear solar hat and you would die of sun stroke in the barren hills, where the temperature easily goes up to 170°F in open. I then put Dr. Lalor s two articles (1860 - 1864), and Gazetteers of Hughes (1876) and Smyth (1919) on his table and told him that the British were planning to have a hill station in the hills and in 1919 they were clearly of the opinion that in the absence of proper roads, aviation age coming up then could simplify the problem. I told him that we can have a deciduous research station in the hills and I have found out a possibility of it. He had a great foresight and immediately cooled down and asked, deciduous? I said altitude is 6500 to 7000 feet. Soil is also good. There is some water but not enough. There is no water on the plateau he said but if you can get water, enough for an experimental farm, we can pursue the Government for sanction. From now on no one is to travel to these hills without informing me first and travelling is to be restricted to the months of September, October and March. I do not want my people to die of the pneumonia or sun stroke. I am short of good officers. He talked to Mr. Karimdino Rajpar, the then Horticulturist and also a Jagirdar now the director research. We prepared a scheme for the purchase of a drilling rig for the investigation and

development of Ground water. While funds were being arranged, Mr. M.A. Khuhro became the Chief Minister of Sindh, in the last quarter of 1954. Dr. Shaikh told me to go to him and explain the whole scheme. Mr. Khuhro when in power was always too busy, difficult to talk to and invariably had lack of time.

I knew that anyone could easily meet, talk and convince him and also get the things done, if he approached him just before the sunrise, while he was strolling on the lawn. I saw him at the earliest opportunity and the result was, the scheme for the purchase of power drilling rig was not only sanctioned over a night but due to his personal efforts, the orders were placed for the drilling rig by the Central Government within next 5 to 6 weeks. I was sent abroad to Belgium for training on this machinery. By the time, the rig arrived, West Pakistan provinces had been merged in One Unit and deciduous research station in Sindh was considered unthinkable as Balochistan and N.W.F.P., had more promising areas. I met Mr. Khuhro again in August 1958, when he was Defence Minister and on enquiry told him that we have the drilling rig but the scheme has not been approved due to other priorities of the West Pakistan Government. He was president of the Anti-One-Unit-Front and said that very soon we will manage this. He would take an army airplane, fly over the hills, on his way to Rawalpindi and he would get me an army helicopter to have a look at Darhiaro, Kute-ji-Kabar and other hill peaks so that a plan is

prepared for the future Government of Sindh to utilize. The Greenery is a must for a hill station he said and ground water is to be located and also various alternatives of water supply worked out. In a couple of months there was Martial Law, so the helicopter could not be arranged for the trip. We had to drop the scheme. I talked to then the Horticulturist on many occasions. I told him that we should workout this jointly. The proposal has remained unexplored. During this period I was able to check the area with the help of the aerial photographs and found that though there could be a permanent source of water along the Nai Gaj running 8 - 10 miles in Balochistan but the terrain is very difficult to negotiate. It would probably be easier, cheaper and more reliable if water is pumped from Warah Branch to the foot of the hills to be re-pumped to the top of the hills. As an alternative Hamal Lake could be made a permanent reservoir for the supply of water not only to the hill station but also to the surrounding areas. Hamal can have a capacity of ½ million acres feet, if that water could be obtained from the river sources it would be more economical and attractive. It this is done, water could be utilized for irrigation and cost of water supply to the hill station would reduce considerably. Hamal could also be supplied water from three nais, namely Mazarani, Unnahar and Sita. Of these Mazarani drains are around Darhiaro.

There are in all five peaks in the area, two in Dadu and three in Larkana districts whose height is over 6500 feet. Kute-ji-Kabar is 6877 feet, Mari West

Thal of Mehar 7122 feet, Dabai West of Faridabad 6527 feet. There is another hill 5 miles to the north of Darhiaro, which has a plateau at 6718 feet elevation. Half of the plateau is in Sindh and the other half is in Balochistan. All five peaks are on Sindh Balochistan border but first four are on Sindh side and none of them is easily approachable from Balochistan side, presently three is a pacca road up to Faridabad. This can also solve the communication problem. Plateu of Darhiaro could easily accommodate the landing strip. It is places about two miles long and one and half miles wide. There is another plateau about 20% the area of Darhiaro to its north, separated by a small gorge. It is narrow and long and is suitable for air strip. The two could easily be connected. I was told by the people that the hill to the south at a distance of about five miles was Kute-ji-Kabar. I was never able to visit that Plateau.

Even today I believe that the hills could be developed. In some years to come the Left Bank Outfall drain to carrying 5,000 cusecs of water will flow near Shah Godrio. It would most probably be utilized for fodder crops in Kacho area between Shah Godrio and Pianro Lake. Hamal Lake may too be developed as reservoir. It thus becomes right time to thinking of developing the hill resorts.

(Sindh Quarterly, No. 02, 1995)

MY REMINISCENCES OF G.M. SAYED
PART - I (1935-1970)

My father and maternal uncle had been sacrificial boys of the Khilafat Movement. They were made to leave the primary school by their parents to work for the Khilafat cause. They had been prepared to migrate to Afghanistan, but came to senses only after a cousin of my maternal uncle, having been robbed of his possessions in Afghanistan, returned home to warn others. They then were sent to a Mula Maktab to study Persian and Arabic. They soon found that their school fellows having passed the Vernacular Final Examinations had become primary school teachers, tapadars and abdars and they had been turned to nothing, except to open Maktabs and virtually live beggary. The first thing to rectify the mistake they did was to request the Government to open a primary school in our village and force all children (boys and girls) of the whole village to study, pass examinations and make their careers but yet they had developed strong faith in nationalism and a will to free South Asia from the imperial rule and help other colonial countries to gain independence. These were ideas they imbedded into youngsters. In 1932 a local branch for separation of Sindh from Bombay

Presidency was inaugurated on the Eid-day in our village Ibrahim Kachi and my maternal uncle was elected its Vice-President and my father 'Treasurer'. In me this developed a curiosity to understand Sindh and to satisfy myself, I spent all my pocket money on books and other material I could get on Sindh and visited places difficult to reach, not caring for the dangers involved. I liked to meet those who were considered great men of Sindh and hear them. I heard names of Shaikh Abdul Majeed Sindhi, G.M. Sayed, Ayub Khuhro, Ali Muhammad Rashdi, Sir Shah Nawaz Bhutto and Sir Abdullah Haroon from my relatives that they were working for separation of Sindh from the Bombay Presidency. I would read any material on Sindh 1 could lay hands on as first priority. The first great book on Sindh in Sindhi language called "Al wahid Azad Number" was published in 1936. I developed reverence for many of men whose photographs appeared in it and who were reported to have served Sindh. In May adolescence days, accompanied by my uncle I saw G.M. Sayed at Makhdoom Bilawal's Mosque near Baghban, where he spoke. I understood only a little but my uncle did and he repeated it to people in our village many times and then I understood that it was in connection with transfer of Muslim's lands mortgaged with Hindus, land alienation, cancellation of interest on money borrowed by Muslims, but not paid due to economic depression and etc., opening of schools in every village having population of over 500 and so many

other things, which that time were beyond my full understanding. I did not know that he was present at the Dargah of Makhdoom Bilawal frequently as his great grandfather Sayed Hyder, was one of the Khalifas of Makhdoom Bilawal, the martyr and he believed in no living Murshid, but considered Makhdoom as his Murshid.

While I was studying in the J.A. High School Mehar, he became Minister for Education in 1940. He issued the orders that every student in the Secondary High or Anglo-Vernacular Schools should wear a Khaki shirt and nicker. There was resentment among some of Muslim boys, whose childhood training was that exposing of legs specially upper leg even for men was immodesty. The school forced the uniform by charging Rs. 3.00 per student for two pairs of uniforms. As the day fixed for wearing it approached, one boy composed a poem, the first stanza of which read:

It is not nicker,
It is a punishment,
It is imposed on us,
It is like a bag put around teats of goat,
Lest kid may suck away its milk

The uniform was thoroughly enforced and no student was allowed to enter the school without it. After few weeks of getting used to it another boy composed a poem, which I do not recollect word by word but it meant:

The rich has no chance to exhibit his silken wear,
The poor has no pressure to show his torn rags,
All look equal, all look equal,
Brahman is indistinguishable from a Sudra,
All are equal, all look equal,
Hindu is not indistinguishable from Musliman,
All look equal, all look equal,
Hindus, Muslimans, Sudras look the same,
All look equal, all look equal,
Brahman Bagri, Syed, Sanjogi,
All look equal, all look equal.
Wadera, Wania, Hajam, Hari,
All look equal, all look equal,
Lohana, Lohar, Mochi, Manghrhar,
All look equal, all look equal.

The school uniform gradually fizzled away, after G.M. Sayed's resignation from the ministry, as the next minister for education Pir Illahi Bakash in spite of being enlightened did not visualize the importance of social status and physical activeness of the dress. G.M. Sayed had also ordered promotion of music. The school started music classes and a teacher for drama and theatre was assigned, but Muslim students did not catch up with the importance of it. This was realized only when radio and television stations were set up in Pakistan and talent among Sindh was found totally lacking.

I saw G.M. Sayed again when I was student in D.J. Sindh and N.E.D. Colleges. I recollect having gone to a friend Dr. Noor Hussain Ansari in the Civil

Hospital and he told me to get in to his car quickly and he rushed to residence of G.M. Sayed, who had gone unconscious on hearing of attack on Quaid-e-Azam by some Khaksar. He feared that unconsciousness may have been due to heart-attack and his life may be in danger. We saw G.M. Sayed quite in senses and he questioned Dr. Ansari (an ex-Khaksar), "You were a Khaksar and can you say who that Khaksar could be?" Some 20 years later, I heard a rumour that the said Khaksar was Ghulam Nabi Soomro of Hyderabad, a student in King George Vth Agriculture College Sakrand but he was saved by Dr. A. M. Shaikh the Principal by showing him presence in the College. I told this to G.M. Sayed and he said." I cannot imagine that a Sindhi could be so fanatic. I had differences with Jinnah, but even today I cannot think of attempt on his life.

Subsequent to this incident I took my class and roommate Muhammad Shafi (who regularly changed his sir-names as Ansari and Junejo) to G.M. Sayed and the former became virtually latter's disciple. Subsequently G.M. Sayed was thrown-out from Muslim League and yet we saw him with same reverence though at least for a year less frequently. He started his newspaper 'Quarbani' which was extremely popular among the Muslim students in spite of his being anti-Muslim League. It had a substantial amount of truth in many articles. In 1946 provincial assembly election were held after Sir Francis Maudie, the Governor of Sindh had dissolved

the Sindh Assembly. Quaid-e-Azam was in Karachi and he addressed a crowd of people at Eid Ghah Maidan. If I recollect it right, the spoke a few short sentences:

Quaid: "How many are you?"
The crowed: "One lac people"
Quaid: "How many is G.M, Sayed?"
The crowed:"One".
Quaid: "Then go and defeat him."

Some of the students on hearing Quaid-e-Azam responded and left for Sann but there were others who deliberately avoided as they thought that he was victimised as his stand against the corrupt ministers had some substance.

Quid-e-Azam, speech of 11-08-1947:

On August 11th, Quaid-e-Azam issued the famous statement that, we cease to Hindu, Muslim, Sikhs and etc., and we now are Pakistanis. There was a student's strike for removal of Dr. Siddiqui Principal Sindh Madarsa College and Sindhi students of all colleges had joined the strike. It was at this time that students saw G.M. Sayed more frequently. In February 1948 I and Muhammad Shafi met G.M. Sayed. Shafi was General Secretary and I was Vice President of Sindh Muslim students Federation. G.M. Sayed said that Hindu and Sikh students are leaving. Their organizations no longer exist. You have to absorb all those who stay behind and also include Parsis and Christians. He suggested that we call a

meeting of the Working Committee of the Provincial Muslim Federation and drop the word Muslim. This will serve two purposes; firstly that its President, Ali Akber Shah would either have to resign from Muslim League to continue the Presidentship of a secular organisation or give up the Presidentship, but most important purpose it will serve, will be that in future Muslim, Hindu, Sikh, Parsi, Christian and Untouchable students of Sindh, will have the chance of serving Sindh from a single platform. Considering it a sensible and realistic idea, we waited to call the meeting of the Working Committee and deliberately fixing the day, when Ali Akbar Shah was away in the interior of Sindh and dropped the word Muslim and admitted all religious minorities. Surprisingly all Sindhi students accepted the move unanimously and no parallel student organisation was floated in Sindh by them. Mr. Abdul Hai Palejo in a recent publication has stated that Sindh Muslim Student Federation became tool of government and other reactionary bodies. Truth is that new office bearers took over in 1949/50 but gradually number of Sindhi students in Karachi reduced to insignificance and organisation lost its importance.

Separation of Karachi from Sindh:

Majority of Sindh Muslim Students were hostile to G.M. Sayed, after he was removed from Muslim League. He sent a word through Muhammad Shafi that, 8-10 students should see him and Sheikh Majeed

in a room in Jinnah Courts on ground floor, but no publicity may be given to it, as the participating students may be haunted by intelligence agencies. I think that it was around the first fortnight of December 1947 when he and Shaikh Abdul Majeed Sindhi came and discussed the political situation in Sindh. What he told us, in brief was:

"There are some rumours specially among youngsters and some students that Khan of Kalat wants to declare independence. Balochi tribes of Sindh under the leadership of Mir Ghulam Ali Talpur want to join Baluchistan and they have planned that area west of the Indus of Sindh should go to Khan. Since Mir Ghulam Ali, Mir Bandeh Ali and other Mirs own big holdings in Hyderabad and Tharparkar Districts. They want that area too to get to Baluchistan. The rest of the area may be abandoned or be occupied by some powerful land holders, Hurs, or even India. We have to safeguard the unity of Sindh's geography. Khan of Kalat cannot succeed as Pakistan Army will route him out, but the move itself or suppression of it will affect future of Sindh. In the same way Mirs and Balochis cannot succeed. They will hide in their rat holes. This rumour would die in days or weeks."

"Liaquat Ali Khan cannot get himself elected from any part of Pakistan and therefore he has

invited Muslims from all over India to come and settle in Karachi. Khuhro has banned their entry at Khokhrapar and other borders but Liaquat Ali Khan says that the Central Government will allow entry through Karachi's harbour and airports. They can come to Karachi via Lahore too. There. Will soon be organized riots in Karachi, so that Hindus are looted killed and their houses vacated for immigrants to occupy. Quaid-e-Azam has told Khuhro that Hindus should be safe guarded in Sindh, as that will be an insurance that Muslims of India are also safeguarded, but both of them cannot control mobs. I am in touch with Khan Abdul Ghaffar Khan. He is going to meet Quaid-e-Azam and ask him to allow us to float 'Pakistan Peoples Party or League, with Quaid-e-Azam as its first President. Quaid-e-Azam himself is secular, and his heading a secular organisation will strengthen him, us and the country." "Creation of Pakistan has resulted into conquest of Sindh. We did not support Pakistan to be dominated by out-siders. We supported Pakistan Resolution of 1940 and the Muslim League on the plea that Sindh will be Sovereign State, and none will interfere in our internal working." "At present we have to support Khuhro as Chief Minister of Sindh. He is very strong and Sindhi nationalist, though a big land holder

and supporter of feudalism. We join hands with him to fight on the national front, but later on we will fight him on the socialist front, to gain rights for farmers and labour."

"Pir Illahi Bakhash is hobnobbing with Liaquat Ali Khan through Ghulam Hussain Hidayatullah to replace Khuhro. It will be tragedy for Sindh, because Mamdot, the Punjab Chief Minister is pressing for absorption of three lac immigrants from East Punjab and Khuhro is refusing. Pir Illahi Bakhash can hand over Karachi along with all our institutions and the property evacuated by Sindhi Hindus. Khuhro is asking for full rights on such property, as it is built from money generated by Sindh.

"You will in future be exploited under slogans and pretexts of "Islam, Quaid-e-Azam and Pakistan" Beware what Sasui said: ..... you will hear again and again, thus said "Zarathustra".

In 1950 I was awarded scholarship to go to USA and study earth moving machinery, mechanization of agriculture and installation of tube-wells with tractor and drilling rig manufacturers. Then the Minister Agriculture Agha Ghulam Nabi Pathan called me, to say that I should see Mr. M. A. Khuhro before I leave. Accordingly I went to M.A. Khuhro's house opposite to Patel Park. He told me that we have given you scholarship to study mechanization of Agriculture.

Take your time, study and master the subject. We will extend period of your study, if need be. We are going to release 2.8 million acres of Government land under Kotri and Guddu Barrages and equivalent area in Sukkur Barrage. As we are short of farmers, we will mechanize our agriculture and will not lend even a single acre of land to out-siders. The Chief Minister was Kazi Fazallullah and Khuhro was the Ministry maker, though sitting outside as disqualified from taking part in politics.

On coming out from Khuhro's house I saw G.M. Sayed as the next house was his. He said that you must study what he has said, but he wants to strengthen his feudals and wants to distribute the land among them. In order to succeed in keeping land among the Sindhis, the ministry should announce that the land shall be distributed among the landless Haris first and for distribution of the balance land, they have first to fix a limit on the land holdings and allow Waderas to purchase land within those limits. If they issue such a notification, there will be such an internal pressure from Hyder Bakhash Jatoi (Haris), that no outsider will ever think of getting any land in Sindh, but then Khuhro's Waderas will also not get big chunks of land. I have many times talked to him and Qazi Fazallullah, but the whole exercise is futile. They should learn lesson from India, which is planning on land holding limit to 30 acres.

He had always been stating that there are at least 20 different nations in the United India and each had

the right to sovereignty. During my study in USA, I came across a book "Modern Nationalities" published in 1950 or 1951. In 1953 I gave this book to Mr. Muhammad Ibrahim Joyo, who gave it to G.M. Sayed and latter asked me whether he could keep it? It was first time that he found a solution of his problem and spoke on this subject in Sindh Assembly and again projected this thesis in his book "Mojoodah Sindh Ja Masaala". It is influence of this book that he seems to have accepted Sindhis as a nationality in Pakistan. May be it was temporary.

Separation of Sindh from Karachi:

Mr. M.A. Khuhro took up the issue of separation of Karachi from Sindh in early 1948. Sindh Assembly was unanimously of the view that Karachi should not be separated from Sindh. Soon G.M. Sayed was interned under Defence-Safety Act for a period of 6 months. Khuhro was dismissed and Pir Illahi Bakhash as a new Chief Minister accepted separation of Karachi from Sindh. The date of the debate in the Central Assembly was so fixed that there were vacations of colleges and students could not be gathered for agitation. With G.M. Sayed having been interned, the motivating force behind the students was also not readily available, but resentment mounted so much that Quaid-e-Azam's pictures were removed from many shops in small towns. On being released, G.M. Sayed was welcomed by students, who gathered around him as before autumn 1945.

Sindh Agriculture Commission:

G.M. Sayed was returned to Sindh Assembly in 1953 elections Pirzada Abdul Sattar formed the Ministry with support of Sayed. He also setup a Commission called Sindh Agriculture Commission. Pirzada probably was afraid that the Commission's recommendations may cause serious administrative, social and financial problems for him within the Province and may annoy the Central Government. I had been appointed as Agricultural Engineer in Sindh in 1953 and was summoned to appear as witness before the Commission, Dr. A.M. Sheikh then Director Agriculture called me for discussions and told me that he would accompany me and if there was anything not practical to be done at the present stage, he would answer such queries. Mr. G.M. Sayed asked me the following questions:

Q: How much area can a tractor handle under Sindh conditions for various crops?

Ans: If the aim is full mechanisation within the economic limits, then one tractor of 50 H.P., can handle about 133 acres of cotton for operation like seed-bed preparation, planting, five inter-cultivations for weed control, and spraying five times with tractor mounted sprayer in Kharif. It will handle another 266 acres of Rabi crops like wheat, oil-seeds including operating a thrasher. It will be very efficient for row-crops like vegetables and can handle a total of 100 acres under winter, spring and summer vegetables, but to handle all

this area of 500 acres tractor has to be kept busy for 1500-2000 hours-annually, a difficult though not impossible task.

Q: How many tractors would Sindh need for complete mechanisation considering some 13 to 14 million acres of irrigated land?

Ans: Minimum of about 25,000 to 30,000 tractors.

Q: What will be the cost of these tractors and their accessories i.e., implements and other gadgets?

Ans: After working out the figure at rate of Rs.10,000 for tractor and necessary implements, I said Rs. 300 millions or equivalent to nearly US$ 90.00 millions.

On this Mir Ghulam Ali asked him where we can bring this kind of money from, if your aim is not to give an acre of land to out siders. G.M. Sayed replied that we will take the money from Americans. Mir Ghulam Ali asked how we can pay back this amount of loan. On this G.M. Sayed replied in Sindhi language, which means if we have nothing we pay nothing (Everybody laughed). At this stage Dr. Sheikh intervened. Dr. A.M. Sheikh "It is not possible for either the whole Pakistan or the whole of India to absorb 30,000 tractors efficiently and mechanise 13-14 million acres in a short period of 6-7 years when land will be released. We cannot get 30,000 operators. We will take 20 years to train them. We have only one Operator's Training School, which can train about 100 operators a year. To train just 1500 operators a year, we need at least one training school and also one

workshop in each district as well as in large sized towns for major overhauls. We will also need at least one workshop per Taluka to carry out minor repairs.

G.M Sayed: We will have about 14 million acres of land after completion of Kotri and Guddu Barrages. We do not have enough population. We do not want to give away our land. What is the alternative to mechanisation?

Mir Ghulam Ali: Slow down the construction of barrages by reducing annual budget allocations, promote mechanisation, built agricultural workshops, train operators and wait for population to increase.

One member (?) there are fixed annual costs of the staff working on construction of the Barrages. These would be paid irrespective of load of work and this will make the construction of barrages unfeasible, if it is delayed beyond the scheduled date.

G.M. Sayed: It means we must first train instructors for establishing one school in each district, then equip each district with teaching facilities, and construct buildings for the schools and hostels for operators. It means a new project and we will ask the government to ask Panhwar to prepare a scheme for one school for training instructors as well as the operators, to be replicated in each district/centre. He then told me to get to work for training school. Make it most modern.

It took me two years (1953-1955) to manufacture cut away sections, working models, collect or make slides, strips, and figures charts and etc., for

projectors and furnish the school, but officially budget for it become available by West Pakistan Government in 1959/60, when we started training 50 operators every six months. The school could train instructors, mechanics and even university students.

The Commission was still at work in 1954, when scheme for creation of one unit was being planned at a higher political level with active participation of Ayub Khan. His name as initiator remained secret until he revealed it in "Friends not Masters". The first constitution of Pakistan was passed by Parliament in 1954 and striping of powers of Governor General came during the same year. There was annual Fair at Bhitshah, where Pirzada Abdul Sattar was camping along with many officers and G.M. Sayed who created the tradition that the Chief Minister of the Province would inaugurate the first Session of Annual Conference at Bhitshah. Later on it was the Governor of the Province, who was performing this task and in 1963 even the President of Pakistan Ayub Khan performed this ceremony. It was G.M. Sayed's idea to create a research centre at Bhitshah and it finally lead to the present forum. His belief was that strengthening our culture will strengthen national spirit. At this Fair I had opened agricultural engineering stall, exhibiting improved implements, actually developed by the first Agricultural Engineer in Sindh, Mr. Cummings (1934-1939). G.M. Sayed visited the stall along with the Russian ambassador and he introduced me to him with the words: "His

Excellency is mechanical engineer and will be happy to meet our mechanical engineer". He had a quick look at various implements and pointed out to a bullock-cart axle with wheels, asking me, "what kind of bearings has it?" I replied that it had no bearing but had bushes. He said "friction in the bushes would increase the draft on the animal's at least 3 to 5 times than that on roller bearings. Why not try them. I see that you have steel wheels. If you try second hand rubber tyres, they will cause no damage to the roads but steel wheels would." He said, "If you come to USSR we will show you what implement we are using on our farms, and you will benefit from it." Late on I went to G.M. Sayed's tent, where he told me, "You have seen a number of American tractor and implement manufacturers. The Russian ambassador can ask the Government of Pakistan and specifically mention that they send to USSR. Diplomatically the Government will not refuse, but they will keep your name on the watch list and Americans will keep it on hit list, which would be dangerous for you, so I am going to ask him not to send such invitation, but at suitable time, your name could be included as one of the delegations to USSR and I will mention it to Pirzada."

Hill Stations for Sindh:

Gorakh as a hill station was G.M. Sayed's idea. Gorakh is known to Sindhi Sufis, as Gorakh Nath, a Bikshu saint of the Buddhist Times is reported to have

come there, meditated and preached against worshipped of Buddha, who himself had forbidden any worshiped of idols. This may be a folk-story, beyond which Gorakh has no merit as hill-station. G.M. Sayed had taken Pirzada Abdul Sattar to Gaj Bungalow on way to Gorakh in 1954. None of the two ever reached Gorakh. I went to G.M. Sayed and discussed with him that Gorakh peak was about 5600 feet high but the last 1200 feet of peak were very steep. The flat-land below it was only 4300 feet high and only about 400 to 500 acres in area. Being on 26th parallel, it could not be cooler than Quetta, which having the same height was on 30th parallel. Quetta is warm, in June- July and Gorakh would be warmer than it by one or two degree centigrade. It would be preferable to develop Darhiarho, which is about 6500 feet high and has a plateau of 5700 acres. I told him that I was planning to go there and spend few days at end of May and early June, measure temperatures, and plan what is possible. I did visit the site, prepared plans for a deciduous farm there, but the Government of West Pakistan dropped the scheme on the plea that there are more feasible areas for deciduous fruits in the northern areas of West Pakistan.

One Unit:

From October 1955 to October 1958 I met G.M. Sayed more. Often at Lahore, where he with his supporters had started Anti-One Unit Front. With this insignificant number, he was able to carry through

the resolution for restoration of the former provinces in the West Pakistan Assembly of 300 members in September 1958. He invariably was keen on knowing what injustice was being done to Sindh and many of the senior officers from Sindh were his regular visitors and informers. He always said that a strong Government Service is an asset to the Province and appreciated their role. Martial Law was applied on October 7th 1958. G.M. Sayed was arrested, thrown in Karachi Jail in C-Class, made to sleep on a single fold blanket spread on the floor and ordered to stand when army officer patrolled through the verandah. It was after about 3weeks or a month that he was given Class-B. He was released after about 3 years (?) and I with some friends went to meet at him Bhurgari House in Hyderabad. He said, "He and Khuhro were put in to jail and harassed, for no other reason but because we were opposed to One Unit and though Khuhro had imposed it on Sindh, we nominated him as the President of Anti One Unit Front. The Martial Law was applied just to save One Unit and usurp 2.7 million acres of Government lands of Kotri and Guddu Barrages. In case of Sukkur Barrage some 54 million acres were released up to 1958 and the balance 2.8 millions had to be released over next 20 years and under the clock of Martial Law all these lands have to be grabbed. It will take a whole decade for them to complete this task of grabbing, so there will be no democracy in1960s."

G.M. Sayed as a farmer:

G.M. Sayed had 600 acres of Barani land near Sann in his possession and the rest of the land has been distributed among his heirs during his life time. The 600 acres of land were commanded by a Protective Scheme called Shah Awais Pumping Canal which commanded some 20,000 acres. G.M. Sayed's holding was only three percent. This was non-perennial canal. The most interested party in it was Muhammad Musa the Chief Engineer and Secretary Irrigation, whose family had lot of areas under this canal, some miles South of Sann, but its mouth from the river Indus was so fixed that G.M. Sayed was also a beneficiary. We had leveled this land for him in 1956-57 and again in 60's and had also investigated ground water for him with a power percussion rig going down to 350 feet. Unfortunately there was no water up to this depth. He asked me if he could grow any fruit trees on non-perennial water available only for about 3-4 months a year. I could not guide him then, although now I know of such possibilities. Since he was progressive farmer, always interested in new knowledge and in search of advice on tractor cultivation. I invariably saw him, whenever I was travelling on the Indus Highway on way to Dadu, Larkana and beyond to Quetta. He was a learned person in his own right and had authored a number of books. Since I was interested in the various aspects of Sindh, information provided by him was always unique. Once I asked him if Sann had been

eroded by the river Indus and had been shifted a number of times like Amri, Manjnad, Budhapur, Unnarpur, Khanoth and etc. He said Sann has never been shifted at least since the times of his great grandfather Hyder Shah of the 15th and early 16th century. The reason for this was the Sann River brings large quantities of water (at times 50,000 cusecs as per my estimates) and discharges it with such a high velocity, that it pushes away waters of the Indus to the eastern bank eroding that bank and thereby saving Sann. I then asked him if the Sann River was eroding Sann village. He said it does and asked me the solution. I told him that it could be done by shifting the railway bridge over Sann River to the north by l-2 furlongs and also by shifting the culvert on the National Highway and then turning the nai take the new passage. On the Downstream of culvert a new channel has to be dug. However narrow it is, water would widen it, as per its own needs. He asked if shifting of bridge and culvert is difficult what another alternative is. I told him "Giving new course form culvert to river and training it." I thought it was worth- while saving the old settlement at nominal cost to the government.

A visit to Ranikot Fort:

I accompanied by Muhammad Ibrahim Joyo, Hussamuddin Rashdi, Ghulam Rabbani Agro and Colonel Rashid went to Sann in mid-February of 1965. My visit was connected with investigation o f

ground water along the Ranikot or Sann River, besides visit to the fort. The others were interested in the fort only. None of us would have been able to visit the fort if G.M. Sayed had not provided camels at the gate of fort to take us inside. We spent 2 nights at Sann, availing of his hospitality. Of many things of interest and hitherto unknown to all of us, but revealed by G.M. Sayed were:

- I have been confined to this village and is cut-off from the world and the only contact with the outside world is though radio. I am expecting a war between India and Pakistan in a few weeks in the Rann of Kutch, as per my own analysis of news from BBC, Voice of America, Radio USSR, and All India Radio.
- Z.A. Bhutto had come to see me a few months back and had said that Ayub Khan himself is ready to come and see me for votes, if I agreed to the latter's visit. I informed him: We are opposed to dictatorship. We know that Ayub Khan will win due to official machinery and buying of votes, but we will oppose him in principle for restoration of democracy and if elections like this repeat, he may be ousted out in next elections.
- I and Bhutto sat down there on the river bank for some three hours talking about various things and I told him: We are really proud of you. As young man you have done very well and earned a good name for yourself as well as for Sindh, but no dictator likes anyone else to become

popular and thereby become a future threat and therefore he will not only remove you but humiliate you too. Some of your actions are anti-imperialistic and they will see you are out, so be careful. He showed us an original correspondence between him and Quaid-e-Azam and how he was thrown out from Muslim League in 1945. The correspondence made one thing very clear to us that as per constitution of Muslim League any appeal against Provincial Selection Board was to be heard by the Central Selection Board, rather than by Secretary or the President of the Muslim League. If I recollect it right, this correspondence was also discussed in his book "Struggle for New Sindh" and should be considered an important document for review of history.

Ranikot may have been constructed by Sassanians, Scythians, Parthians or Bactrian Greeks. The fort has four gates. It is rhomboid in shape. Sann River crosses two gates diagonally at opposite ends. The first to the west is on upstream side of the river and holds water outside the fort against the gate making it difficult to approach it. The Sann gate is on downstream of river and holds water inside the fort. By raising this gate attackers with their horses will be washed away by high velocity of water. The other two gates bring minor streams inside. He gave us the names of the four gates (repeated by the Col. Rashid). Inside the main

fort are two small forts Miri and Shergarh. Their construction is equally old. Constriction is similar to Wall of China. It has been repaired periodically, but main gates were washed away in some heavy floods. Gates of small forts have been remodeled so that in the gun battles they are not hit directly. There are Landhis, inside the fort.

- They are recent construction, under taken by his grandparents for staying there, during hunting season. Some British officers also camped there. British India's three geologists camped here for many years in winters collected fossil samples and gave the earliest rock formations in Sindh the name Ranikot series. There is one volume fossils and besides a number of articles and a book, Geology of Western Sindh, 1880 by Blanford).
- Mirs carried out repairs to the main gate but it was washed away by subsequent rains. (He gave us a chronology of the Sassanian, Parthian, Scythian and Bactrian dynasties, on which all of us had very little information. Colonel Rashid took notes and his article on Ranikot Fort was verbatim reproduction of G.M. Sayed's narrative. It made me think about these dynasties. Lambrick's "History of Sindh Vol-II" had not yet gone to the press and was sketchy in events and chronology. I had to dig many original sources for the chronology, ruler's names, and necessity of constructing the fort, as well as causes of its being abandoned from the incept, the quantity of

building materials needed, their sources, man power requirements and possible time to complete the construction.

- There are caves in the hills; which my men have seen. One of the caves is having a very big boulder lying at its mouth and making entry very difficult. His men entered it but were not equipped with torches for exploration.

Protective Schemes:

I met G.M. Sayed in 1968 or 1969 somewhere at Sann. I believe the regime probably was pressurizing him, that he asked me that to hit him alone, they have opened the file of Shah Awais pumping scheme, which was sanctioned as protective scheme but not an economic project. I told him there are a number of such protective schemes in NWFP and the Punjab, namely; Pahur, Kuramgrah, Talagang in Soan and most of soil conservation schemes in the Punjab, which are not economical, but protective. The Kotri Barrage drainage schemes is another example in which particular case, the cost of drainage is going to be as much as the Barrage itself, but farmers are not going to be charged. Finally I said that there is a case for at least ten pumping schernes of the size of Shah Awais form Talti down to Kotri Barrage head works and someone has to press for these. Once started they cannot be abandoned as it will be difficult to depopulate the area and even a dictator will shake to tread into this type of quick-sand.

Col. Rashid's Behavior:

His article on Ranikot published in Iqbal Review, brought Col. Rashid in prominence. He invited G.M. Sayed while the latter was allowed to visit Karachi, Hussamuddin and myself for dinner at his Jinnah Central Hospital of which he was Medical Superintendent. He had all praise for G. M. Sayed for some time, but when G.M. Sayed actually wanted some medical help at the very hospital, he refused stating that he cannot treat an enemy of the country. It seems that he was under pressures from his bosses. More than anyone else Hussamuddin was under shock, as he was the one to have introduced the two persons.

Prophecy of G.M. Sayed, Bhutto removed:

Mr. Z.A. Bhutto's removal was probably decided at Tashkent in January 1966 and along with him Nawab Kalabagh the governor of West Pakistan had also had to go. Both Kalabagh and Bhutto had built up their images through the media to the degree that they were potential threat to Ayub. Bhutto was out before end June and Kalabagh later.

His opinion of Ayub:

I visited Ranikot again to complete my investigations of ground water in 1965. I had seen the way and wheel type tractor and was other auxiliary to cross stream or reach, where jeep could not go. I stopped at G.M. Sayed's house at Sann. For a short

chat. Surprisingly his comments on Ayub other than a political dictatorship and party to the Punjab's ambitions, were favorable. He considered him as progressive person and specially admired his Land-Reforms, Family Laws and not yielding to the pressures of Mullahs, who want Pakistan to be Theoretic State. I mentioned to him that his Land reforms were really meant to cripple the power of Sindh's big land holders to procure more land from the barrage areas and reforms made it easy to distribute the land to armed forces as Sindh had no buyers. He stated that new land owners are weak link in social life of Sindh. They cannot stay here long without being absorbed in Sindhis. Those who leave, will sell it to Sindhi middle class people. The lands of Sindh's feudal will be divided among their family members in a few decades turning them into middle class farmers. Now looking back to the past 30 years, after Land Reforms and distribution of land among outsiders, G.M. Sayed's calling Land Reforms a progressive act of Ayub, things seem to have actually moved in that direction. Many of isolated alottees have already sold their lands except those who remained in large blocks allotted to Armed Forces. The lands of big land holders have been reduced. Their children after education have gone and settled on the land and today they form the new middle class. The dacoity in Sindh has encouraged to eliminate this middle class. Some feudals are harboring dacoits to direct them against members of

this new rural middle-class. In 1964 probably 40% of total agriculture land belonged to new allottees, including immigrants from India. Today 85% of land belongs to Sindhis and outsiders settled on the lands are equally eager to work for Sindh, as Sindhis themselves. In the same way "Family Laws of Ayub" are paving way for "women's emancipation."

Corruption under Ayub:

During this meeting I talked to him about increasing corruption among the Government officers. He said, "there was corruption in British Rule of India too. The Indian Civil Service in general was in corruptible, but in the lower ranks like those of Police, Revenue and PWD Departments, there was petty corruption. However the degree was not to the extent, calling for public protests and yet once caught, corrupt officers were severely dealt with." He asked me if I had read the 5-volume report "Rasai, Lapo and Cher" In Sindh issued in 1918-19 which indicates how the British frowned upon even the petty corruption. The corruption after independence is a consequence of Central Government dictatorship which allotted factories, shops, houses, agricultural lands and import and export licenses as pure and simple acts of favoritism. Officers were made party to the unholy decisions and they found that the merit, justice and fair play had no place and they could benefit by being party to wrong orders, they will be forced to execute any way. Soon the Pakistan Civil Services entered into

this higher degree of corruption. The other officers specially of development departments soon copied the Civil Service. Ayub's dictatorship showed to the officers, that once public representatives to watch their behavior are forced out, to keep their jobs, they have to please their immediate officers, only and simply by bribing. Before 1937 the role of public watch on subordinates was maintained by Indian Civil Service and after 1937 by the Members of Legislative Assemblies, Ministers and to some extent by the Civil Service." I asked him, if some ministers were corrupt, then corruption must have trickled down stream too. He said, "Yes corruption increased gradually. The World War-II, reduced imports of essential goods, increased export of textiles and food items and goods went to black market. To procure them more funds were needed and officers made illegal money, but yet society condemned the corruption. After Independence they do not call it corruption, but Haza min Fazale Rabi or this is Pakistan, and etc. the mentality has changed. Pakistan has remained under some or other form of dictatorship for the past 18 (1965) years and this has corrupted most of our society.

I asked him, "Why the Indian Civil Service was so scrupulously honest?" He said, "Because they were imperialists, they had to be honest. They wanted to keep people satisfied within their poor lot. They did not want us to progress at all, but whatever was done, was meant to keep the borders intact with maximum

spending on military establishments and stations. Roads, railways and bridges were strategically built for military control. Schools, colleges and universities were not built to teach masses. They were meant to produce lower subordinates for maintaining law and order and develop agriculture and irrigation, so that we produce sufficient surplus food for England and its colonies and leave behind a part so that we do not starve to death. We produced cotton and jute but the first processing mills and textile centres were in England. Finding the World War-I was inevitable they allowed textile and jute industries to develop gradually. On the eve of World War-I they allowed to build steel mill in India, but in the last century when demand for steel was maximum for construction of railways, it came from England. The justice of British I.C.S. was sweet poison. In return we fought their wars with our men as mercenary soldiers, being killed in unknown countries. If the Indians had other means to live, why to join army service, to be ultimately killed in foreign lands. Advantage to the British in both World Wars was that millions of Indians were killed to save the British Isles and territories they had occupied like India itself. The British had abolished slavery in India, meaning that the Indians cannot own slaves but they owned Indians as slaves to fight their Wars in foreign lands. They talk of British diplomacy. It was not diplomacy but fraud to rule us."

I did not see him for a couple of years. He was

being tried for his anti-two nation theory and anti-Pakistan stand and was sent to jail to stand a trial and there was proposal to shift him to Lahore Fort in torture cells. I heard that some of his friends specially Qazi Fazalullah came to his rescue. I did see him again in about 1968. The talk was concerning his three books "Janab Guzarium Jin Seen". I told him that M/s. Rabbani and Girami had come to my house at Tando Jam to meet Ali Muhammad Rashdi, to write reply to Government of West Pakistan's objections to his two volume book. This reply helped in a way that some pages of book to be removed. He said: "To write this book I had to write many thousand letters, refer to news papers, books and even get information from the persons themselves or their children. The biographies are written without political bias. I wanted to make it a reference material on the lives of my contemporaries and also discuss socio-economical and moral values of the period. It was not written with any political motives. It was also written in the period of most suffocating politically and sad conditions prevailing in Sindh. I wrote it to console myself and also to console the Sindhis. I know all about the Government actions. The result now will be that the Sindhi Abadi Board will be intimidated. The second edition of the book will not come out, as they have copyrights and Board from now on will print only second rate books."

His second book "*Mojudah Siasat Ja Naov Ratan*" was translated by friend of mine in English and given

to Mr. Altaf Gohar. It was thought that book will be banned due to his criticising Quaid-e-Azam, Allama Iqbal and Sir Syed Ahmed Khan. His third book "Jeki Ditho Monn" was also translated by the same person and Altaf Gohar Secretary Information was to discuss about both these books with Ayub Khan. I told G.M. Sayed the whole story of translation done, the purpose and translator's fees. Ali Muhammad Rashdi discussed the matter with Rizvi, the Director General Intelligence, who later on told Rashdi, "Both books will not be banned. G.M. Sayed has tried to prove that Jinnah, Iqbal and Sir Syed Ahmed were no good at all. That being so, then Aligarh college/university and the whole India has produced only one great hero of Islam and Pakistan, in Ayub Khan."About "Jeki Ditho Monn" Rizvi said "Its circulation will spoil his own name among religious parties and create political obstacles for him until his death."

In early 1968 he asked me if I could list out sources of "Separation of Bombay from Sindh," other than magazines and news papers. I had completed press copy of my book "Source Material on Sindh" and had no difficulty in sending him a detailed list within 15 days. When his book came out, he had eliminated information with regards to various attempts of the Punjab to annex Sindh to itself. He said: "The fact is that the Punjab after a century's attempts has actually annexed Sindh in the form of 'One Unit'. Balochistan was under political control of the Commissioner in Sindh, up to about 1875 and the

Punjab got it transferred. NWFP was under control of the Punjab, but purely for military reasons it was given status of a separate province and the Punjab got it back without much resistance. We separated from Bombay probably too early. If Sindh had not been separated in 1936, Pakistan could not have been created. The Punjab's only advantage in Pakistan was to have Sindh. They got what they want. I therefore have made a case that for the same reasons that we separated from Bombay and we have to separate from the Punjab. I therefore have deliberately eliminated the part concerning the Punjab's attempts to annex Sindh, lest it may justify 'One Unit'."

Rashdi's letters:

His other book, reproducing Rashdi's letters came out somewhere in 1969. The book was published and released and complimentary copies circulated to a few persons. I got a copy but the same day was asked by Hamid Sindhi to return it as certain pages will be replaced. In two days I got a copy with 10 pages missing. I had read the first copy and known that those 10 pages contain very important information on 'One Unit' revealed by Rashdi. Rashdi wrote that the Central Government had given an under taking that after formation of 'One Unit' all class III jobs in Sindh will be given to Sindhis. Higher job ratio for Sindh will be maintained. Only Sindhi officers shall be posted in Sindh. Barrage lands will be given to land less cultivators first and the balance land distributed to zamindars and so on. There were

11 such points. Rashdi had said that only after this undertaking, we had agreed to form 'One Unit'. I asked G.M. Sayed why these pages were removed. He said Rashdi thinks, that breach of 11 points by the West Pakistan Government and agitation of Sindhis on the issue will raise an uncomprising attitude of the Punjab and will lead to their resistance to break it. In my mind I thought such correspondence does not exist. However when Khuhro's letters to G.M. Sayed were published, Khuhro puts the same claim as in Rashdi's letters. I asked G. M. Sayed: "If the statement is true, why not to get a copy and on the breaking of 'One Unit', all government employees recruited from out-side Sindh can be sent back and also get back lands and etc., usurped against the agreement. G.M. Sayed said "Rashdi's Masalehat" is that if we take up the case now they will not break 'One Unit' and even if they break it, they will install puppet government in Sindh, which will legalise the wrongs done during 'One Unit'. However question, where is this historical document, has remained un-answered and it needs to be searched.

Politics and money:

To be successful in politics in third World countries, availability of some amount of fund is necessary. The other factors i.e. policy programmes, their projection, communications and gatherings also need some financial support. His 600 acres of Barani land could hardly support him and his family. He was very hospitable and some funds in the form of

goats, chickens, and edible oil, came free from some of his followers and these were used in kitchen for feeding the very people who brought them, as well as his other guests. In 1970 Mujeeb visited West Pakistan. G.M. Sayed met him and organized a dinner in his honour at the Hotel Inter-Continental Karachi, but he had no money for the occasion. He sold a pair of his bullocks in Sann to raise funds.

G.M. Sayed and Six Points of Mujeeb:

He immediately agreed with Mujeeb on 6 points formula for elections. I asked him that the same formula is being ridiculed in West Pakistan and the name 6 points may drive any support away. He said, "The Pakistan Resolution of 1940 was a whole rupee of 16 annas. I have accepted to work under a lower ceiling of only 6 annas in form of 6 points and it should make everybody happy."

G.M. Sayed and his Stolen Cow:

A person living near Sann stole G.M. Sayed's cow. The thief was brought before him. He swore on the "Holy Quran" that he had not stolen the cow. G.M. Sayed let him go. Sometime later, his men again brought the same person along with the cow. G.M. Sayed said, "This cannot be my cow, as he swore on the "Holy Quran" that he has not stolen it, so the cow he has now, must have been given to him by God. Let him go away with the cow." He was ridiculed by many of his friends in 1970 for this type of administrating his personal affairs. To this he said

"Ninety nine percent people will not tell a lie while swearing on "Holy Quran". I have honoured the oath on "Holy Quran", so that people keep believing and do not lie while taking such an oath. The oath has played such a good role in society, that I want it to be continued."

Funding of his elections and politics:

His personal friends used to finance him for elections etc., Syed Hassan Bakhash Shah was one of such supporters. He too had paid for publication of many of his books a substantial number of which was distributed free. Hassan Bakhash Shah had promised to support him financially for elections but, as elections approached he backed out. According to G.M. Sayed as election approached, Hassan Bakash Shah came to me a few days back and told me; "In my dream I saw the Holy Prophet Hazrat Muhammad (Peace be upon him), asking me not to pay any money to you, as you have gone Kafir and paying money to you for election will annoy him." He asked me; "What do you think?" I said, "He must have been sure of Mr. Z.A. Bhutto's victory and become afraid that when he comes into power, instead of avenging on you (G.M. Sayed), he may avenge on him." He said, "exactly so". He further said that most of Sindh's politicians were with him and wanted the tickets from his "Sindh United Front" but when Mr. Z.A. Bhutto launched his programme, and started awarding seats to his candidates, he had sent Makhdoom Talibul Maula to him, with the message that if G.M. Sayed withdraws

from his seat in Dadu district and contests in Thatta district; we will not set up a candidate against him in Thatta district. This way G.M. Sayed will come unopposed but the only condition is that Sindh United Front will not give ticket to Ali Muhammad Rashdi. G.M. Sayed said, "Rashdi is my personal friend and I will not withdraw my support to him. "I asked him if the offer still stands. He said "Yes" I said: "Rashdi stands no chance at all, so you can politely inform him. At the present you will have difficult time to win. I have returned from Dadu only a week back and know it well that young voters have not even heard of your name. Since there is no other condition, accept the offer". He said "I cannot leave Rashdi alone, even if I lose."

I said: "Sain you should accept Mr. Z.A. Bhutto's offer. They simply are afraid that you will definitely win and they also want Malik Sikander to come unopposed and therefore are giving you seat in another district and return without contesting. They want to connive at it. It will be easy for them to do so and it will save you all the botheration of raising funds and yet being defeated. Most of your university student workers would want money from you or will desert you. Zamindars do not have any influence upon tenants and their votes will go to PPP rather than to you." He said, "My decision is final. I know I will be defeated."

(Sindh Quarterly, No. 04, 1996)

MY REMINISCENCES OF G.M. SAYED
PART - II

Contribution of G.M. Sayed to knowledge, language and literature and socio-cultural environments of Sindh

G.M. Sayed was a great friend of educated young and old and university students. He found it easy to convince and train them to his ideology. No other politician was attempting it. His goal was to inject in them psychological spirit to become good Sindhi nationalists. The success would vary from individual to individual and depending on socio-cultural-economic environments to which one was to get exposed during the life time.

I have already mentioned in Part I of the article (published in *Sindh Quarterly*), his compulsory introduction of Khaki shirt and nicker, which was soon done away by Pir Illahi Bakash. The step was bold. Both Muslims and Hindus of Sindh considered it immodest to expose knees and though nicker was about an inch or two below the knee, yet knees were exposed in walking but the comfort this dress offered compared to salwar and pajama, lead to its immediate acceptance. It was like Kamal Pasha's promoting European dress for Turks.

In 1952 someone in USA, had presented me a book "Modern nationalities" and on return in 1953, I gave it to Mr. Ibrahim Joyo, who gave it to G.M. Sayed and who in turn asked me whether he could keep it. I willingly agreed. This book had great influence on G.M. Sayed, who theorised that Sindhis are a nationality in South Asia and a people can be called a nation or nationality if they meet the following four criteria:

I. If they own separate geographical territory.
II. If they have distinct language with past history and preferably with its own literature.
III. If they have distinct history of their past.
IV. If they separate culture.

Sindh did met all these four criteria but it was G.M. Sayed who started working on these four topics to develop them more, to project to Sindhis themselves that they are a separate nationality and his own contribution to these topics is not only unique but pioneering effect.

Sindh a Geographical entity:

On maintaining geographical entity of Sindh, he had already contributed on separation of Sindh from Bombay. In 1948 he was put into jail for six months before separation of Karachi from Sindh and the government was convinced that if interned, he would lead a well organized agitation and stop separation of Karachi. In 1954 he was again sent to jail for 6 months, so that he does not create a successful resistance to

passing of resolution in favour of "One Unit" in Sindh Assembly. Interestingly Ali Muhammad Rashdi had drafted and typed the letter on a new typewriter, which he did not use for the next 15 years, considering it historical machine and Khuhro had signed it under repeated pressures from Sikandar Mirza and sent to the latter for the Central Government to detain G.M. Sayed for 6 months. The same typewriter was used again a second time by Rashdi to prepare drafts for G.M. Sayed to break One Unit in 1969. In 1958 G.M. Sayed with help of his seven colleagues was able to have passed unanimously anti One Unit Resolution in the West Pakistan Assembly of 300 members and recommendations sent to the Central government to call the session of National Assembly for recreating the old provinces again. In 1969 G.M. Sayed again took the case to Yahya Khan to break One Unit in view of the 1958 Resolution of West Pakistan Assembly and it was done. Rashdi asked G.M. Sayed that 1970 elections should be fought on basis of "One Unit" G.M. Sayed refused and Rashdi to told him that he and his party then will be defeated in elections. G.M. Sayed said that in democracy, the Punjab will man oeuvre in favour of One Unit and he would prefer to lose elections. He further said that dictators had created One Unit and only dictators will break it. Under his pleas with Noor Khan Governor West Pakistan and president Yahya Khan the latter dismembered One Unit.

In 1969 he also pressed for Karachi to become part of Sindh, though Ali Muhammad Rashdi told him that Sindhis will lose power of their vote, by adding Karachi to Sindh, but Khuhro said that he was dismissed from Chief Ministership of Sindh in 1948 as he was opposed to separation of Karachi from Sindh. G.M. Sayed said that he was jailed for six months to separate Karachi so he wants Karachi to be part of Sindh. G.M. Sayed further said "No nation surrenders its historical claims to its geographical territory". G.M. Sayed further said that people born in Sindh are Sindhis. Under One Unit all people of Sindh as well Karachi have suffered equally, whatever was their origin, so Karachi should be part of Sindh. He even said Lasbella is Sindhi speaking and so is Kutch, but we are not in a position today to get Kutch and Ran of Kutch, but we will do it when we are in a position to do it. His is how G.M. Sayed looked at geographical territory of Sindh and maintenance of its boundaries. This attachment to geographical knowledge of Sindh was so much that he persuaded Pirzada Abdul Sattar to visit Gorakh and establish hill station there. Knowledge of Gorakh came to him from the name of legendary Gorakhnath (?), who is said to have mediated there. He organised visit of Col. Rashid, Hassamuddin Rashdi, Ibrahim Joyo, Ghullam Rabani and myself to Ranikot and gave us background on which is based on Col. Rashid's and later on my article on Ranikot. He mentioned to us about a number of caves in Khirthar, which Badar Abro was

to explore later on. These were unexplored before G.M. Sayed emphasized about them.

Sindhi a distinct language of Sindh:

As a minister for education in Sindh, he was responsible for promoting Sindhi language and it ultimately lead to creation of Sindhi Adabi Board and this Board was created by Khuhro's government in 1951 under influence of G.M. Sayed. He himself was one of its members and board published the journal Mehran and some 250 books in next 15 years under secretary-ship of Muhammad Ibrahim Joyo. Examination of this journal and the books shows assorted mixture of translation of history books from Persian to Sindhi but with elaborate notes, many Persian historical texts reflecting the past of Sindh, many political works in Sindhi and many history books on Sindh (Thar and Kohistan included) including many books on Sindh literature. Thus an interest in the past of Sindh was created and the next 40 years have shown enormous historical works published on Sindh, to the extent of quality and quantity which no other Province or State of South Asia can match, except in literature, in which case Bengali, Hindi and Tamil were already leading Sindhi before independence.

History of Sindh:

By necessity he wrote on history of Sindh and became a historian, though this fact is projected very

little. His own contribution of History of Sindh can be known from his own writings namely:

- Naee Sindh ji Jidojihad.
- Janab Guzarium Jin Seen, Vol-I and II.
- Jadid Siasat ja Nao Ratan.
- Sindh ji Bombay Khan Azadi.
- Sindh ja Soorma.
- Sindh ji Kahani, Sayed ji Zibani.
- Panhji Kahani Panhji Zabani.
- Matiari and Sanai Sayeds Ji Tarikh and Shujra.
- Muslim Sarbarah conference jo Tajzio.
- Sindhu Desh - A study in to separate identity through the ages.

All these works though apparently historical in nature depict past glory of Sindh, its weaknesses, and mistakes and guidelines for re-writing history of Sindh from nationalist point of view without telling lies and but projecting realistic national view point. Consequences and influence of this approach is perceivable in enormous literature previously produced on history of Sindh in Sindhi, Urdu and English and now being re-written. New writing on Sindh in general are rational and less coloured by prejudices and biases. The historians of pre 1970 era are being re-examined in new light. The work is still in infancy.

Sindhi Literature:

Like history his interest in literature was to promote nationalism. Shah Latif was born at almost at

the end of 175 years of struggle of Sindh against Arghoons, Tarkhans and Mughals discussed by me in 40 pages article published in *Sindh Quarterly* and *Sindhological Studies* under title "Sindh's Struggle Against Feudalism, 1525-1843 AD". The environments had been destroyed, canals had decayed, area under agriculture reduced, no relief was in sight and Kalhora's struggle to restore the canal irrigation in short period meant every man and woman of Sindh had to work hard but once peak was achieved, then came Nadir Shah's looting the treasury, taking away library, imposing heavy annual tribute and taking sons of Noor Muhammad Kalhora as is security against annual payments of tribute. The psychological approach to Shah Latif in form of his message to the people in the mid eighteenth century, became a convenient tool for nationalistic movement against the British first and then against high handedness of Government of Pakistan, as well as Government of West Pakistan and G.M. Sayed used this poetry and Bhit of Shah Latif as centre to create nationalism among Sindhis.

Bhit Shah Culture Centre was his idea and funds for it were committed by Pirzada Abdul Sattar in 1953 and in both years 1953 and 1954 he him-self was present along with G.M. Sayed at Bhit Shah. It was in 1954 that US Secretary for State visited Bhit Shah to discuss certain things with Pirzada Abdul Sattar in his tent and there G.M. Sayed's personal guest the Russian Ambassador was also present in the next

tent. Pirzada knew that G.M. Sayed could get his ministry defeated any time and therefore surrendered to any demands of G.M. Sayed and this is how Bhit Shah Centre gave its birth. G.M. Sayed asked Pirzada, who him-self was a good singer, to sing on the occasion before a selected group and he was obliged, a rare thing Pirzada ever did in public, but frankly all Chief Minister of Sindh from 1937 onwards were out to please him, being afraid that he could have their Ministry defeated in the next season, if he was angry. He made no personal demands, nor could he be bribed. All heads of State in Pakistan knew that he was incorruptible like M.A. Jinnah and never attempted to bribe him, but if he was opposed to them, they conveniently put him in jail.

There was a rumour that construction of Shah Awais canal in 1953-54 was a political bribe to G.M. Sayed. While on government duty since 1953, I visited the site every time I was going to Dadu and Larkana or returning to verify efficiency of pumps mounted on pontoons. I knew that their selection was defective. The scheme was proposed by Mr. Muhammad Moosa, Chief Engineer and Secretary Irrigation Government of Sindh coming from village Lakha some 10 miles South of Sann and he had done it to irrigate his family lands on that canal. His whole village was main beneficiary. G.M. Sayed had only 600 acres out of 20,000 acres. The scheme was protective and having been opposed by G.M. Sayed in 1964 elections, President Ayub was planning to close

down the canal. G.M. Sayed was not bothered, but I mentioned to him that they have sanctioned a number of schemes namely, Kurram, Pahur etc. in NWFP. Purely as protective, and there is justification for more pumping schemes from Talti to Kotri and people have to raise voice.

Following books of G.M. Sayed though apparently literary works have deep psychological influence on readers and were meant to guide and lead people to nationalistic thinking.

- Paigham-e-Latif.
- Shah Latif Joon Waiyoon and Kafiyoon.
- Hihara Haghha Thian.
- Choonda Mazmoon.
- Panhji Kahani, Panhji Zibani.
- Khutabat-e-Sayed.
- Sindhu ji Sannaha.
- Rahbar.
- Message of Shah.
- National Unity.

These are the literary works which discuss Sindh, but psychologically orient the reader to Sindhi nationalism.

In the same way various letters of his various friends, like Miran Muhammad Shah, I. I. Kazi, Pir Ali Muhammad Rashdi, Muhammad Amin Khoso writers, scholars and politicians. etc., are mixture of literature, contemporary political conditions, G.M. Sayed's attitude and stand to political issues and his role. Thus they go beyond literature to development

of political psychology. They also describe contemporary socio-economic conditions.

Sindhi Culture:

G.M. Sayeds book "*Sindhi Culture*" lays guide lines to understanding of culture as an entity to develop nationalism. When Sindh's lands were being allotted to immigrants from India in 1948, he told a group of students among whom I was one; "Rural Sindh had a typical culture in which these new comers must get absorbed or leave and this culture is: axe, kidnapping unmarried women and theft. We have small population and must increase it to match that of the Punjab and if they get absorbed better for us, as we won't have to give land to Punjabis". Twenty years later he said the Punjabis settled in Sindh under One Unit have suffered as much as we have and in future they will fight the Punjab along with us and it has been proved again and again.

Political writings:

Political writings of G.M. Sayed are nationalistic. He has changed his opinions with changed situation. G.M. Sayed cannot be separated from Sindh from 1920-1995, nor can Sindh be separated from him. He is leading part of history of Sindh for three quarters of the last century. Although it is irrelevant here but in the same way Muhammad Ayub Khuhro cannot be separated from Sindh from 1922-1961. Hamida Khuhhro's book on her father is well researched but yet incomplete and needs up to dating. Khuhro's

letter to G.M. Sayed throw new light on these aspects.

Enormous writings of G.M. Sayed are made him immortal. Ali Muhammad Rashdi in 1969 in my presence told Hussamuddin Rashdi, with all these volumes left behind, he is going to live, going to live a few centuries. I saw sadness on his face, that though he was a genius, he had not left enough to live that long. He was envious and possibly jealous and could do better than G.M. Sayed, but did not have a subject like G.M. Sayed, to write upon and had no time at age of 65 to mend his mistakes.

In my opinion to do research on G.M. Sayed and all his contemporaries one has to study the following:

(i) Socio-economic and political conditions in the British India as well as Sindh from 1900-2000 AD or even 1843-2000 AD.
(ii) Bombay Legislative Assembly debates 1923-1936.
(iii) Records of Karachi Local Board of which G.M. Sayed was the President since 1929.
(iv) Sindh Assembly Debates 1937- August 1947.
(v) Sindh Assembly Debates August 1947-1955.
(vi) West Pakistan Assembly Debates November 1955-September 1958 and 1963- 1969.
(vii) Pakistan Assembly Debates 1947 to 1999.
(viii) Sindh Assembly Debates 1972-2000.
(ix) India Today Annual report of Government of India to Parliament 1909-1947.
(x) Indian Register 1909-1947.
(xi) Annual Administrative Reports of the Bombay

Presidency of various departments 1861-1937.

(xii) Annual Administrative Reports of various Departments of the Government of Sindh 1937-1942.

(xii) Pakistan National Assembly Debates 1964-2000 AD.

(xiv) Fortnightly reports of Chief Secretary Sindh and Governor of Sindh to Governor General and Viceroy of India 1937-1947.

I knew G.M. Sayed since 1943. When he was interned in his village or was otherwise present there, I saw him from 1953 to 1979. From 1953 I used government vehicle, petrol and driver and claimed and charged travelling expenses and daily allowances from the government and showed the trips in the T.A bill and informed the Secretary Agriculture that I discussed agriculture crops, mechanization of agriculture, tube wells, bulldozers, drilling rigs etc., with Mr. G.M. Sayed. Once Malik Khuda Bakash Bucha Secretary Agriculture asked me, "*Bhai G.M. Sayed ka government kay bari me kia Khialat hain*". I replied; "he thinks the government has sent me to him as their spy, so he talks shop and nothing else."

Politics:

No politician ever admits his mistakes, but G.M. Sayed was upright in admitting his mistakes. His book "Struggle for new Sindh" blames Allah Bakash Soomro for his wrong policies and discussed these in great length, but in his book "Janab Guzarium Jin

Seen", he exonerates him clearly stating that in his policies Allah Bakash Soomro was right and we were wrong. We wronged by bringing Muslim league in Sindh, where as Allah Bakash always pleaded not to bring All India Organizations, as they will exploit Sindh and quotes many other incidents.

Another incident is his own publishing Khuhro's letter to him, where Khuhro told him that he (G.M. Sayed) had joined hands with Home Minister Gazdar to fabricate Allah Bakash's murder case against him and later on had apologized and due to this Khuhro had not only forgotten about it but had never mentioned it. G.M. Sayed's publishing the letter was his own admission of the guilt. I know of no politician who has ever done such a thing. To keep records straight and reveal the truth, I am citing from my personal knowledge that Allah Bakash was killed by Hurs, who had come and stayed in Keti (forest land) of Adam Khan Panhwar and had told him about their plan with threat that they would kill him, if he leaks the matter out. This good man informed Ali Nawaz Panhwar another big land owner of Jacobabad and friend of Allah Bakash to inform Allah Bakash that tomorrow they will kill him, if went out to visit some Pir or another friend on a particular road. Ali Nawaz did inform Allah Bakash the very night, but Allah Bakash said that he wanted to see how they shoot a man to death and his carelessness cost him his own life. The Hurs were not remotely connected with Khuhro and he was made to suffer for nothing, but he

did see that Muhammad Hashim Gazdar is no longer made minister in his cabinet. For years Adam Khan and Ali Nawaz Panhwar were so afraid of Hurs that they did not publicly tell the true story. Some twenty years later Ali Nawaz revealed it to me.

Conclusion:

Impact of G.M. Sayed's political and non-political writings, preaching and contacts with people and university students, though little realised is, that he has left behind his thought all over Sindh form Kashmore to Keti Bander and Karachi to Karunjhar hills of Nagar Parker, and under his psychological influence all people of Sindh are equivocally asking for rights of Sindh, forgetting, their ethnicity, caste, and religious beliefs. It is spirit which G.M. Sayed has left behind and has joined all people of Sindh on one platform.

(www.panhwar.com)

SAYID GHULAM MUSTAFA SHAH
SOME PERSONAL GLIMPSES

Sayid Ghulam Mustafa Shah was intimately associated with Sindh Madressah High School and Sindh Muslim College. For years, he was on their boards of management. Pir Illahi Bakhsh, Minister for Education (March 1938 to February 1949), was his close friend and supporter. He was made incharge of Leslie Wilson Muslim Hostel (popularly known as Jinnah Courts now) built from funds collected from the people of Sindh with assistance of Mr. Wilson, the Governor of Bombay, who had felt that Karachi being predominantly a Hindu city, had no facilities for Muslims of rest of Sindh to come and stay for studies. This private institute was also managed by the Government through a Board. Ghulam Mustafa Shah was incharge of the Hostel in 1945. He was totally committed and very sympathetic to students but never allowed any one to take liberties with him or indulge in non-academic activities. He always spoke in English with the students, probably to impress upon them that they are entering the competitive life of the modem world. In a dispute between two students, in which my roommate Muhammad Shafi S/o Muhammad Waris Junejo, was a party, he asked my opinion as a witness.

I told him that I cannot tell a lie but at the same time cannot betray my roommate of 8 years in the high school at Mehar and therefore, please do not make me a witness. He appreciated my stand and just dropped the case for lack of evidence. He knew that my words meant that Shafi was at fault. I developed a great respect for him and he reciprocated equally and trusted me that I won't tell a lie.

Sometime in August 1946 some students issued a poster against him. He called me and asked: "Do you know who the author is?" I replied: "I am not the author". He asked me again: "Do you know who is behind this poster?" I said: "I am not". He questioned me: "Has Shah Nawaz Shaikh written it?" I said, "Shah Nawaz has tried to take credit for it, but had not done it". He fully understood that I know the background but will not tell the names. He then told me: "It is good that you have cleared Shah Nawaz otherwise Pir Illahi Bakhsh, was already determined to rusticate him". The background was that Shafi had felt insulted in the previous inquiry and although no action was taken against him; It was obvious that he was found guilty and he unnecessarily had carried grudge against Shah Sahib. The other student was Bachal Soomro (retired as Brigadier), who did not like Ghulam Mustafa Shah Sahib's booming voice and his typical accent. The two decided to issue a poster against Shah Sahib, but since both were not fluent in English, they wrote some nasty sentences in Sindhi and asked me to translate for them. I refused, but I

and Shafi had many common friends and therefore, he approached this group. Ghulam Mustafa Shah had never suspected this until 1998, when I told him that it was written by Jariwala a Parsi gentleman, well known for telling jokes and stories, who was working as assistant in Sindh Secretariat. It was typed by Ahsan Ali Shah, cyclostyled in the Sindh Secretariat, Department of Education, on Government paper. The cartoon showed Ghulam Mustafa Shah with pipe and in the smoke the words spiraled to say. "I can't; I shan't." It was drawn by Shafi Junejo (Retired Chief Engineer Irrigation). The bundle of 500 sheets was brought to the house of another friend of ours, distributed in the Muslim College Hostel by S.T.S. (retired Sessions Judge), and in the Leslie Wilson Hostel by Shafi, Bachal and some others. I told Shah Sahib it was a joke but since Pir Illahi Bakhsh had taken it seriously, everybody was scared. Had it not gone to Pir Illahi Bakhsh, I could have given him names with full understanding that no disciplinary action was taken against anybody. The same year Shah Sahib left for England for higher Education and on return was sent to Muslim College as Principal on deputation. In 1953, I was appointed as agricultural engineer in Sindh, but my hobby of reading and collecting books on Sindh, periodically drove me to his office for borrowing books. This made us understand each other far better. He was a Sindhi nationalist but had many immigrant friends, class fellows or colleagues and therefore, he was ready to

accommodate them, but not on cost of Sindh at all. My own opinion, as a government employee was, that all those who were to die and be buried in Sindh were Sindhis and therefore, had to be treated at par with Sindhis. I was convinced that urban people cannot work as tractor operators, cleaners and mechanics, if they had to stay for many days a month in the field and therefore, these posts should go to Sindhis of the rural areas. Thus it became a matter of record that many of the engineers, supervisors and foremen recruited by me were urban immigrants and formed majority in that group. But again credit goes to them, that for good treatment received by them, they protected rights of Sindh and Sindhis better than many Sindhis did. Ghulam Mustafa Shah's attitude was just the same. Late Dr. Mushtaqur Rahman of Iowa State University told me that he went to S.M. College to get some job. Ghulam Mustafa Shah asked him a few questions in English and having been satisfied with vocabulary of the former, told him:"I am not going to recruit you, but I am going to admit you in this college as student. You have a future in it. Pay rupees five to the accountant, fill your form and attend classes". Mushtaqur Rahman said: "I do not have rupees five". Ghulam Mustafa Shah paid the money from his pocket and told the accountant that from poor boys fund, pay his fees regularly till he is able to pay himself. With the help of Ghulam Mustafa Shah, Mushtaqur Rahman became the Professor of Geography in Sindh University and later on become a

distinguished scholar and head of department of geography in the Iowa State University. The effect of this treatment was that Mushtaqur Rahman became a great geographer of Sindh after his own teacher Pithawalla.

In 1962-63 Ghulam Mustafa Shah while posted in Hyderabad probably in Text Book Board rang me up that he was coming to see me at Tando Jam where I was posted as Superintendent Engineer Agricultural Machinery. I said that he should not take the trouble, I myself was going to come to him instead, but he replied by saying that he would reach my office before I got in my vehicle. He was there in half an hour. I told him that I respect you, and as such I wanted to come to you."He said I need some help and that is why, I want to reach your office and sit with you for two to three hours and resolve the problem. He told me that he and his brother had divided paternal property and all the good and developed land had gone to him, and he had most undeveloped land left for himself. He needed tractor for breaking soil, bulldozers for leveling the land, tube-well and pumping set to pump water from the canal as the land was above level of water in the canal. I organized all these the very day and told him that most probably ground water is brackish and if it is good in shallow depths a 30 HP diesel engine can operate, tube-well as well as lift pump simultaneously. He had to pay 25% money in advance and rest in 10 yearly installments. I visited his land many times

to help him the layout of land and plan for crops in next 2-3 years.

In 1968-69 he became Vice Chancellor of Sindh University. I went to see him in connection with publication of my book, "Source material on Sindh", which was delayed by Dr. Muhammad Saleh Qureshi, on flimsy ground that for each book in the list, I should give number of pages, illustrations, maps, charts, drawings and etc. A task as ridiculous as Ghulam Mustafa Shah said: "To collect this information you need to spend three years in England and reach various libraries and still there will be many books which are not available there". He ordered to publish it immediately. After Shah Sahib left, the book was lying in the press for 8 years, probably deliberately and would never have come out, if Sheikh Ayaz who became the Vice Chancellor had not ordered that it should be out in two months time otherwise the Manager of the University Press was to be suspended. That day Ghulam Mustafa Shah asked me to comment on a letter he was addressing to Dr. I. H. Qureshi, Vice Chancellor of Karachi University. I. H. Qureshi and many others had been distorting the history of Pakistan and Ghulam Mustafa Shah had a long comment to offer. I told Shah Sahib that his comment was highly constructive and many serious scholars are frustrated with this approach of present historians of Pakistan, but there will be no end to the controversy, if he starts confrontation. It is better if you encourage some people in Sindh University to write history in the

positive way. He appreciated, I tore the letter apart and said: I am going to discuss with Professor Mubarak Ali as that scholar is capable of exposing the myth of I.H. Qureshi. Later on K.K. Aziz came out with "Murder of History" and other book "Historians of Pakistan" in which he exposed the so-called historians like Dr. I.H. Qureshi, Dr. Mubarak Ali has also done an excellent job in the field.

In 1970 an army officer at Hyderabad misbehaved with a member of the staff of the University to show off the authority of the Armed Forces. Ghulam Mustafa Shah with resignation in his pocket saw Rakhman Gul, Governor of Sindh, and complained against the Army personnel. He apologized for misbehavior of the Army officers, and requested Shah Sahib to take back his resignation.

Due to maltreatment of Sindhis by Commissioner Hyderabad and Police, the students agitated and they along with a number of university teachers were put behind bars in false cases.

After arrest of Mr. Bhutto and later his execution, Ghulam Mustafa Shah vehemently opposed the government in *Sindh Quarterly*. His editorials were censored, but his anecdotes which ridiculed Army Officers escaped their attention. So orders were passed by the Federal Government to arrest him, but Mr. Rafi the then Home Secretary with the help of the Governor sent a note to General Zia, that the *Sindh Quarterly* is read by no more than: 600-700 well educated persons, officers, and scholars, but his arrest will invite serious agitation in Sindh, as he has

remained Principal of a leading college of Karachi, Director of Education in Sindh and Punjab, Vice Chancellor of Sindh University twice and he has students all over Pakistan in key government positions as also leading politicians, industrialists and zamindars and the resentment by his arrest would be difficult to suppress. General Zia withdrew the order of his arrest, on the eve of night he was going to be arrested.

Ghulam Mustafa Shah was the President of Servants of Sindh Society, since 1981 and very boldly supported Sindh's cause. The resolutions of society are witness to his frankness, boldness and foresighted -ness.

Since he knew me very well and my interest in anything pertaining to Sindh, he asked me to write for *Sindh Quarterly* in 1975. The second issue of *Sindh Quarterly* came out with an article of mine running into 76 pages and the only other article in it, was his editorial. He was asked why no other article was included. He said that the total material in my article was not only new to him but probably new to 99% scholars of history of Sindh and so he was tempted even to drop his editorial to accommodate my article. He said the only alternative was to increase the number of pages which he had to do. He published almost one article of mine in each issue, numbering to about 50, except probably three or four. I am grateful to him for introducing me to Sindhi Scholars, although now I know that I have created more enemies than friends, due to jealousies of some petty

minded Sindhiologists.

Ghulam Mustafa Shah was keenly interested in introducing fruit crops on his farm and I invariably volunteered to supply him with plants if he wanted any. I visited his farm to give further advice. He published an article about me in one of the issues of *Sindh* Quarterly and told me that he had to do so, because from an engineer I had turned into a Sindhiologist and again from a Sindhiologist to the leading horticulturist of Sindh.

That he trusted me so much from 1946 that in 1999 before his death he would sit with me and tell me his personal things good or bad, printable or unprintable about his life, that many men avoid to tell.

When I saw him in 1985 along with my new wife he told me he appreciates it, encouraged her to read and write in her own field and outside her field, anything that can help Sindh and humanity. That day in confidence, he told me that without a wife as a companion, I cannot be productive in life. Life and wife go together and intelligent as she is, she can make me many times as productive as before and results will come out soon. I and my wife saw him frequently and many times he came and stayed with us. We both went to see his farm many times. During the last days of his life he wanted to see the books written by him to be published before his death. He also wanted to complete his autobiography, which remained incomplete.

(Sindh Quarterly, No.00, 2000)

ABDULLAH HAROON AND HIS TIMES

The World War-I started in 1914 and with it started in India political developments of far reaching consequences. Exactly two weeks after Mrs. Annie Jasant's publishing of 'New India' there was outbreak of the World War on August 4th. This paper made strides for national movement. Three motions later, on November 5, England declared war against Turkey. Gandhi, who had began his famous Satayarraha Movement against a judgment of South African Supreme Court, which had declared all unregistered marriages illegal on March 14, 1913, arrived at an agreement with South African governor-general Smuts on June 30, 1914. This gave him great popularity both in South Africa and India. Having bid farewell to Africa, he reached Bombay in January 1915 and had meeting with Gokhale, who was to die one month later. Under the latter's mature advice, Gandhi entered in Indian political scene clamoring for political rights, but before so doing he traveled, whole India for 15 months to have a feeling of problems of vast populace of India. It gave him in depth knowledge of problems. The British were put under pressure not only by the Indian politicians, but also by revolutionaries in India as well as abroad. Some

Indians residing in USA and Europe formed "The German Union of Friendly India" in September 1914. By middle 1915 this Union was renamed as "Indian Independence Committee" with no non-Indian as members. Mrs Annie Besant announced formation of Home League on 25th December 1915, with a view to built in India a mighty self governing community.

These German intrigues, terrorist activities and conspiracies in Bengal and the Punjab and constant raids by Hill Tribes on North Western Frontier, resulted into uneasy time for the government and this was further aggravated by deep disaffection and discontent of the Indian Muslims caused by the Turky -Italian war in 1911 in Tripoli (Libya) and in Balkans and was further aggravated by British in World War-I, fighting against Turkey, whose head was the Caliph of at least theoretically, head of Islamic Religion. Abdullah Haroon was made Secretary and treasures of 'Halal-e-Ahmar Sindh' Society on 8th October 1911, to raise funds for helping Turks against Italy's invasion, Mulana Mohammad Ali and Shaukat Ali, two leading members of this anti-British movement who called the Khilafat movement, were entered in 1916 and so was Abul Kalam Azad then a firy Pan Islamist, The World War ended in victory to British and her allies in 1918. Political prisoners in India were released and political activities reached their pitch. The first All India Depressed Conference (untouchables or Sudras) was held on March 23rd and 24th. Rowlatt (Sedition) Committee which was appointed in

December 1917 gave its report in April 1918. The Indians were not satisfied with its recommendations as it provided speedy trial of political crimes by special court of High Court Judges, which could meet in camera and take into consideration evidence not admissible under the Indian evidence act and it empowered the executives to arrest the suspected persons, without warrant and keep than in confinement. In the midst of this political turmoil was major famine in 1918-19 and again in 1920-21, the miseries of which helped political consolidation of dissatisfied in the whole of India? These were preceded by the great influenza of 1917, which took a considerable toll of life and almost 40% lives in rural Sindh, reducing population in Sindh in 1921 to below 1911 level.

Abdullah was member of the Karachi Municipality from May 1913 to September 1916. Again he became member of this Municipality from 1st May 1921 to 21st August 1934. On April 6, 1918 there was all India Hartal against Rowlatt Bill. On April 9, Dr. Kitchlew and Dr. Satyapal were deported. Next day there was firing at Lahore on processionists, who had organized the Hartal, Due to firing, mob lost control and there was brutal violence and killing of 5 Europeans, looting of banks, cutting of telegraph wires and etc. The government declared Martial Law, prohibiting all meetings and gatherings. A public meeting was summoned in Amirtassar at Jallianwalla Bagh, on which Brigadier General Dyer reacting by armored

Cars and troops, fired, killings some 1000 men. Dyer admitted that "his purpose was to strike terror", He could have dispersed the crowed without firing, but it would have been derogatory to his dignity as defender of law and order.

Amidst of this agitation the British Government passed Government of India Act in December 1919 to pacify Indians. Muhammad Ali and Shaukat Ali visited Karachi in 1919 in connection with 2nd Khilafat Conference, and were Abdullah Haroon's guests. He was President of Sindh Khilafat Committee from 1919 to 1924. He attended Khilafat Conference at Larkana in 1920. In 1920 in the Session of All India Khilafat Conference at Bombay, he seconded Maulana Shaukat Ali's resolution, for collection of Rs.30 lacs forwards expenses of delegation to visit Europe and to get support for Khilafat Movement,

In 1919 he presided over 7th Sindh Provincial Congress Conference at Karachi. In which he stated that:

(a) The role of All India Congress in the struggle for independence was praise worthy and Hindus and Muslims must unite to work for independence.
(b) Motageau-Chelmsford Reforms do not meet aspirations of people.
(c) National week may be organized in protest against Jalanwalla massacre.

On June 22, 1920, he along with other nine Sindhi

Muslims signed a memorandum addressed to the Governor General to do justice to Turkey in the Armistice.

1920 saw another major famine and also formation and holding of the first meeting of All India Trade Union Congress. Hither to political scene was dominated by Hindus with Muslims usually as camp followers, but in 1920 situation started changing with formation of Aligarh Muslin University which was established four years after establishment of Benares Hindu University.

Muslim League branch in Sindh was established by Ghullam Muhammad Bhurgari in 1918. Muslin League and Congress party of Sindh held their annual sessions at the same place simultaneously and passed similar resolution. Abdullah Haroon, who joined it in 1918, was elected the president of the province at Muslim League in 1920.

He also established and published Sindhi news paper Alwahid in 1920. He encouraged Din Muhammed Wafai to publish in 1921 "Tawhid" a monthly journal which started crusade against Syedism, Pirism and Mullaism and continued for next 30 years.

On the international scene the British and their major war Ally, France had during the World War succeeded in raising mass rebellions in Turkish occupied Arab lands i.e., Arabian Peninsula and northern Africa and the end of war saw many independent Arab States, invariably taken over by

Kings of influential feudal. Turkey's possessions in Europe too were lost to independent Balkan-States for Turkey the war had yet not ended as British were still fighting on their territories. Russians after 1917 Revolution had also usurped certain territories. Thus Caliphats in fact stood dissolved. The lost territories were not restorable, however much, any World Powers could Although the British Prime Minister, Lloyds George publicly declared on January that "Allies were not fighting to deprive Turkey of its rich and renounced lands of Asia Minor and Thraca, which were predominantly Turkish race" and although his views were endorsed by president Wilson in his message to U.S. Congress, but under Amistice which concluded war, the Turkish Empire in Asia and Africa passed under control of England and France under disguise of Mandates. The Caliph or Sultan was placed under complete control of a High Commission appointed by Allied powers, who really ruled in his name. The Indian Muslims feeling the treatment of Turkey, as great betrayal on the part of British and Allies, agitated throughout the year 1919, without any effect, but early in the year 1920 they started a vigorous agitation to bring pressure upon the British to change her policy towards Turkey.

Abdullah Haroon came in lime light of the Indian political scene at this stage of 1919-1920. Gandhi gave full support to Khilafat movement. The leading Khilafat workers as well as Congressmen assembled at Amristar and decided to organize the

Khilafat movement under guidance of Gandhi. For the first time in a manifesto issued on March 10, Gandhi gave definite elaboration of his doctrine of nonviolence and Non-cooperation, which played an important part leading towards independence in 1947. Although the claim of Sultan of Turkey as a 'Supreme Religious Authority' of Muslim World had no practical significance outside Turkey and Muslims of India had never before in history given him such homage, but the issue was played up well, by leading Muslim Ullama of the sub-continent. Muslims of India gave full support to the cause and it became quite apparent that it would be easy to march than under religious banner rather than national, secular social and economical programmes. Gandhi, who was criticized by his friends and had justified his alliance with the Khilafat movement in the name of Hindu-Muslim unity, had failed to realize that Pan-Islamic idea, which inspired the Khilafat Movement, cut the very roots of Indian Nationality theory. It is this failure of his part that lead to division of India, Most of Ullma participants in the movement too did not realize that the vary movement was going to be basis of Muslims as a separate nation. Had Khilafat movement not been started in 1920 by Gandhi's cooperation, India would not have been partitioned in 1947.

Sir Abdullah Haroon at much later stage was to realize it and the movement turned into became camping of Pakistan, without any connection with

Khilafat.

In 1921 M.N. Roy was to organize a communist party in India. If Khilafat movement had not started earlier, he probably would have attracted many revolutionary Muslims as well as *Ullama*, but they were all involved in religious fervor.

On November 17, 1921 Prince of Wales (later King Edward-VIII) landed Bombay on Indian tour. The city along with rest of India observed *Hartal*. Khilafites took leading role everywhere, including Sindh where it was under Abdullah Haroon guidance,

The new reforms under India Act of 1919, which had received the Royal assent on December 1920, came into operation from January 1st 1921. The Legislative Assembly under this act though mostly powerless before the executive brought to light two important elements of political importance:

i) By rejecting recommendations of any Government report, repealing acts and making positive recommendations to the Government, they stood threat to the British Bureaucratic way of ruling and could ask for reforms and concessions, which otherwise the British were not willing to listen or conceded.

ii) By making certain subjects as Provincial and also accepting the Indians as members of Governors Executive Council, it was found that majority community at provincial level could get more concessions for their community.

The first factor made British to take tough attitude in granting further concessions and the second factor was to cause differences between two major communities Hindus and Muslims on future constitutional issues, behavior was clearly be seen of Hindus and Muslims of Sindh towards separation of Sindh from Bombay presidency, Prior to these reforms it was Hindus. Who raised voice for separation of Sindh, as they saw it as means of more gain in terms of government jobs and trade against Gujaratis and Marhatas of Bombay Presidency? But now realizing that separation of Sindh from Bombay, would ultimately benefit Muslims on the Indian scene as they will have more representation in N.W.F.P. and Baluchistan new provinces proposed to be created. They also wanted to more provinces to be created in the Hindu majority areas of the Central and South India on linguistic basis, so that there were more Hindu majority provinces. The Muslims on the contrary wanted:

a) New provinces to be created in Muslim majority areas like Sindh, Baluchistan and N.W.F.P.
b) More representation of seats to the Muslim in Hindu majority provinces.

Natural outcome was increasing mistrust between two communities, leading to Communal riots,

On the other hand Gandhi who had started his 'Civil Disobedience' movement in collaboration with Khiilafaties in 1920, kept increasing scope of his

moment by adding new clauses like, boycott of foreign goods, withdrawal of candidates for election to form Councils, boycott of courts, withdrawal of children from schools, surrender of titles and etc. On February 1st, 1922, he informed Viceroy of his decision to start civil disobedience. The civil disobedience was not entirely peaceful. In a village Chauri Chaura, a mob attacked police station, set it to fire and hacked 20 policemen to death. Gandhi was compelled to stop civil disobedience movement. The anti-government feelings were at the pitch and sudden stopping of the movement caused frustration and Hindu Muslim riots. 1923 saw serious communal riots at Multan, Amritsar, Malbar, Agra, Saharanpur, Calcutta and many other places, but yet Gandhi was still in a position to have some hold on Khllafaties, though after reforms in 1919, some Muslims had started thinking in terms of census figures i.e., Hindu and Muslims population area wise. In 1923-24, the Khilafat movement was to get a crushing blow, not from within India, but from Turkey itself Kamal Pasha, who showed no concern for the Holy places of Islam (in Arabian Penisula,) finally abolished Caliphate. This chilled the enthusiasm of Khilafat movement and it died a natural death. Only its soul lingered. The Muslims no longer needed Gandhi's Hindu-Muslim united movement.

The ill feelings were clearly indicated by 1500 delegates and thousands of Sikhs Jains, Buddhists Sanatanists and Arya Samajists, attending the Benaras

session of Hindu-Mahasaba held in August 1923 presided by Pandit Madan Mohan Malaviya. During this session Hindu Mahasabha was main political organization to fight for interests of Hindus. It is fair to say that the Congresstite Hindu present ware indifferent to and even opposed to Mahasabha's attitude towards Muslims.

All India Muslim League which had gone into background since 1920, revived its activities under the chairmanship of Mr. M.A. Jinnah, who being an old Congressite and Nationalist, came up with new program of the Muslim League asking for Federal Constitution for India, with full autonomy for Provinces and affective representation to minorities in every province.

Sir Abdullah Haroon was elected member of Bombay Legislative Council in 1923 for period of 3 years. The years 1924 and 1925 witnessed communical riots at Kohat, Delhi, Aligarh, Arvi (CP) and Sholarpur. In 1926-27 they were to repeat at Calcutta, Delhi, Rawalpindi, Allahabad and many other places.

During all this period Haji Abdullah Haroon stood with Khilafat Conference. The conference on January 1920 had sent and address to viceroy of India to allow a deputation to lay before King George V, the question of wardens of Holy place in Jazirat-ul-Arab and integrity of Ottoman Empire. The letter was signed by Gandhi, Pandit Ram Bhaj Dutt and twenty Muslims including Shaukat Ali, Maulana Bari, Abdul Kalam Azad, Abdullah Haroon and others.

After abolishing of Caliphate by Kamal Pasha, Indian Khilafat Committee decided to send delegation to Ankara to wait upon the President of Turkey (Kamal Pasha) on the question of Caliphate (restoration of). The proposed delegation including names of Dr, Ansari, Hakim Ajmal, Syed Suleman Nadvi, Haji Abdullah Haroon, Chaudhri Khaliq-uz-Zaman, Sherwani and Pickthal. The delegation was not able to depart, partly because the Government of India has denied to give passports to an earlier delegation and partly because probably they were sure of fait accomplished.

On 18th November, 1926, Abdullah Haroon was elected a member of Central Legislative Assembly to which body he was being elected very time until his death in 1942. In 1928, Muslim League party was established in the Central Assembly. He join it and took active part in the separation of Sindh from Bombay presidency from 1925 onwards and was made a member of Sindh Financial Inquiry Committee from 1931 to 1935. He also acted as Secretary to this Committee. He was nominated member of this Inquiry Committee for the separation of Sindh from Bombay. The only other Non-European member of that Committee was Mr. M.A. Khuhro. In 1931, he presided over all Indian Muslim Postal and Railway Men's association. He visited interior of Sindh in order to get first hand information on Sindh. During this visit to upper Sindh a resolution was passed appealing to the Governor General to re-adjust

the boundaries of the Provinces, so as to make Naseerabad Tehsil of Sibi a part of the Sindh, He supported 14 points of Mr. M.A. Jinnah. In 1932 he was nominated by the Central Government of India to attend Imperial Economic Conference at Ottawa Canada. In 1933 he became Chairman of Haj Committee.

The Khilafat Conference in fact immediately after 'Abolation of Caliphate' had decayed and died, but it continued to meet periodically. Its continuance and lingering soul helped some old Khilafaties to win elections held in early 1937 Abdullah Haroon presided over 20th All India Khalafat Conference at Luckhnow in February 1927. Abdullah Haroon's printed address was read by Mr. Abdur-Rehman editor Al-Wahid. The address dealt with Pan-Islamic and Indian activities, urged Hindu Muslim-Unity and asked Hindus to respect Indian Muslins Status and Muslims to respect non-Muslim Indian States etc.

On November 8, 1927, the British Prime Minister, announced the Simon Commission, which did not arrive in India until February 3, 1928, when in protest, All India Hartal was observed. The same year saw appointment of Royal Commission on Agriculture, which in itself was a very important body and their voluminous report was basis of Pakistan Agricultural Enquiry Committee (1950), Sindh Agricultural Commission 1955, Pakistan Agricultural Commission 1958 and National Agriculture Commission 1986. Sindh happened to be an important Agricultural

province of undivided India and benefited. Imperial Council of Agricultural Research was set up on its' recommendations. Abdullah Haroon had business involvement in sugar and agricultural produce. Simmon Commission failed in its mission. Its report was published in June 1930. Gandhi started his Civil disobedience movement in February 1930.

The outcome to Gandhi's civil disobedience was Viceroy Irvin's meeting with him and announcement of the Round Table Conference in London, the first Session of which was inaugurated by George V. A Gandhi-Irwin Pact was signed on March 5, 1931. On December, 1st 1931, Ramsay McDonald announced his decision to constitute Sindh a separate province and N.W.F.P. as Governor's Province.

Sukkur Barrage was opened on January 1932 and its' economic repercussion were felt within next two years. After 1934 large number of Muslim students from rural areas turned up to towns, for education. In pre-Barrage days out of every five years crops, two would be below the annual average, two about the average and only one above the average. It was not separation of Sindh from Bombay Presidency that brought awakening in Sindh. It was Sukkur Barrage, followed by Kotri and Guddu Barrages.

Sindh was separated from Bombay Presidency on April 1, 1935, after long turbulent political discussion at all India level. In the Round Table Conference in 1931 and Financial Enquiry Committee on Sindh, the details of which have been published

many times. Abdullah Horoon played most active role in separation of Sindh.

In 1936 he was appointed as a member of Provincial Agriculture Research Committee. Since Sindh was made separate Province in 1936 and elections were expected take place at the end of that year, Sindh united party was formed on the lines of Sir Fazal Hussain of the Punjab's Unionist Party. Initially he was its leader and later on vacated this seat for Sir Shahnawaz Bhutto and become its Deputy Leader. After the defeat of Sir Shahnawaz Bhutto in the provincial election in 1937, the latter was sent to Bombay as Sindh's member representative on the Bombay-Sindh Public Service Commission and Abdullah Haroon became the President of Sindh United Party, which supported Allah Bur Soomro to become Prime Minister of Sindh. Difference arose between Allah Bux and other members on the sliding scale of Land Revenue, Sir A. Haroon along with G. M. Syed, Ali Muhammad Rashidi, Sheikh A. Majeed, M.A. Khuhro and others joined Muslim League, under Leadership of Quaid-e-Azam.

Incidentally Sindh United Party was established with the purpose of the Hindu Muslim Unity, but no Hindu applied for the tickets in the 1936-37 Provincial Elections. They chose to contest as independent or Congress candidates, when elections were over they enblock joined Sir Ghulam Hussain Hydiyatullah'a Provincial Muslim Political Party in exchange for speakership and one out of two minister-ship of his

cabinet,

Haji Abdullah Haroon developed differences with Allah Bur Soomro, the Chief Minister of Sindh on the question of Rates of Land Revenue which had been increased, under advice of British officials working in Sindh and justifiably with the purpose of balancing the budget. This was done without consulting the party whose leader was Abdullah Haroon. Hindu Congress members first supported Haji Abdullah Haroon, but at the last moment voted with the government. In further negotiation they agreed to join hands with Abdullah Haroon but in the end Allah Bux Soomro succeeded in inviting Sardar Patel and Abdul Kalam Azad who appealed the Congressits members to vote with the Government of Allah Bux Soomro the Chief Minister. This disillusioned Abdullah Haroon, who also had been active in Muslim League. Some of the new Muslim Leaguers pursued Abdullah Haroon to launch Masjid Manzalgah Movement. This Mosque since 1939 had been converted into Military camp was claimed by Muslims. Hindus wars opposed simply because it happen to exist in Hindu majority residential and commercial area. This movement equally gained ground throughout Sindh but there were riots at Sukkur, in which number of people from both Communities were killed and property damaged and enquiry commission under judge Watson sat up at Sukkur, The movement was meant by Sindh Leaguers to help Muslim League to become a popular party

among the masses of Sindh. It succeeded in doing and hence after Muslims and Hindus ware never to meet on a common platform in Sindh. It must be said to the credit of all time secular leaders Quid-e-Azam that he had threatened Sindh League leaders to throw them cut of the Muslim League if they ever started such a movement. Inspite of these threats Abdullah Haroon, G. M. Syed and M.A. Khuro defied the order (Personal Communication by M. A. Khuro to the writer and the statement confirmed by G.M. Syed). The movement swept over the Province and League gained extreme popularity, Quid-e-Azam too failed to take action against Sindh Leaguers,

In 1940 Abdullah Haroon was taken up as a member of Central Working Committee of Muslim League and same year he was made Chairman of Foreign Affairs Committee of All India Muslim League. He devoted balance of his days of life in organizing Muslim League in Sindh.

Beginning of Pakistan movement started in 1933, when Chaudry Rahmat Ali, a student in London issued a 4 page leaflet headed "Now or Never". The pamphlet attracted no serious notice and when delegates of All India Muslim Conference and Muslim League appeared before Joint Select Committee of Parliament in 1933 in London, their Chairman was asked whether there is scheme of federation of Provinces under the name of Pakistan, their reply was "it is only a student's scheme and we have considered it chimerical and impracticable".

Chaudhry Rehmat Ali issued another pamphlet in July 1935. It was also ignored, but Haji Abdullah Haroon seems to have picked up the threads after having had bitter experience with Hindus, so in the session of All India Muslim League held in Karachi in 1939, he proposed a Federation of Muslim majority States and even a resolution was passed which with some modifications was presented as Pakistan resolution at Lahore in 1940. This resolution No.5 of 1938 was proposed by Shaikh Abdul Majid Sindhi and seconded by Haji Abdullah Haroon. Thus it became clear that Haji Abdullah Haroon played a most important role in promoting Pakistan Resolution of 1940 of the Sindh Muslim leader who lived up to 1980, each one viewed this resolution as basis of or form of confederation

On November 1939, Germany invaded Poland. Congress Ministries resigned between October 27, November 15, 1939, Quaid-e-Azam observed December 22, as a day of day deliverance from Congress Ministries. Pakistan Resolution and general body of Muslim League in its session at Lahore adopted this famous the Pakistan Resolution. Some authorities think 23rd March should have been the Pakistan Day.

Every important declaration of Viceroy of Indian of the British policy came on August 10, 1940, which briefly stated:

1) The expansion of the Governor General's Council and the establishment of Advisory war

Council should no longer be postponed.

2) The minorities were assured that the Government would not agree to any system of Government, whose authority is directly denied by large powerful elements in India's national life. Nor could they be parties to the coercion of such elements into submission of such government.
3) After the war the representative Indian Body should be set up to frame the new constitution.

The statement sought to conciliate both the Muslim League and Congress. The guarantee asked by former was given in clause (2) and the Congress demand for Constituent Assembly was virtually conceded in clause (3). Like most compromises, it failed to satisfy any party. The Congress took exception to clause (2) for there is no doubt that it gave Qaid-e-Azam the powers to be Veto an constitutional advance. Similarly the Muslim League would not be favorable to clause (3) for, in any democratic procedure the number would count in the long run and the Muslim, could not hope to let anything like equality with the Hindus, which Muslims demanded as a Separate nation.

The Congress working committee rejected this offer of the Viceroy but an August 31, 1940, Muslim League Working Committee welcomed the offer as it proposed to divide India. Muslim League from now on wards separated the British war efforts and Congress opposed. Subush Chandra Bose, a

prominent Congress leader secretly left Calcutta on January 17, 1941 and arrived in Berlin on March 28. On December 7, 1941 Japanese attacked American Navy at Pearl Harbour and next day England declared war against Japan. In the beginning of 1942, Rangoon the capital of Burma as occupied by Japanese and simultaneously started the Hur trouble in Sindh. Singapore fail to Japanese on February 15, 1942 and Indonesia was surrendered by Dutch to Japan in March 1942. Amids these losses to British and Alles, Churchill announced Crips Mission to India on March 11, 1942. Twelve days later, Crips was already in Delhi talking to the Indian leaders. Working Committee of the Congress rejected Crips proposals on April 2, 1942.

Allah Bux the Chief Minister of Sindh advised Karachities to make arrangement for their security in the interior Sindh, against any possible bombing by Germans, then in Egypt. While Karachi was gradually being vacated, Abdullah Haroon died on April 27, 1942.

If is unfortunable that a man who was responsible for prototype Pakistan Resolution of 1938 could not live to see his thoughts to take a material shape on August 14, 1947 A.D. Since he essentially was secular, the later developments in Pakistan would have shocked him beyond repairs.

(www.panhwar.com)

CAN PRESENT SYSTEM OF EDUCATION PRODUCE SCIENTISTS IN SINDH, OR MORE SO IN PAKISTAN?

My professional career has involved me not only in recruitment of scientists, including engineers for different kinds of jobs and trains them on the job for specific purposes. This has covered wide range of topics, like mechanical, electrical, civil, industrial and environmental engineering, scientific equipment for higher education, research and industry, agriculture specially value added horticulture, post-harvest technology of horticulture products for export, animal sciences, fisheries, renewable energy, wind mills, solar panels, gasification of agriculture wastes for power production bio-gas, processing agriculture products, mechanized agriculture, irrigation, drainage, water logging, salinity and degraded land reclamation, rain water harvesting etc. My teacher at Madison (Wisconsin) had told me that technology is changing so fast that you have to change your profession five times in the next half a century. He was perfectly right and I have changed profession more than five times. I had two guides in this respect, books and travels to many foreign universities, where I discussed the subject with professors, considered to

be, one of the top in the field and benefited to the extent that in Pakistan they consider me one of top scientist though such complements have invariably reminded me of Socrates a Greek philosopher who lived in 469-399 BC and said "people call me wise because I know nothing". I myself am no more than a beginner.

During the past sixty years I have collected some 25,000 books and bulletins on science and technology, and other 15,000 on horticulture crops printed after 1980. I have discarded twice as much material as obsolete and no longer needed for reference or just to save space for new acquisitions. This change from one field to has been easy due to back ground of study of sciences at Matriculation and Intermediate Science levels. I am always grateful to the British for imposing on us text books of science, prescribed for similar classes at Oxford and Cambridge universities and text books were written by the same authors, and printed from England. The world War-II had brought shortage of paper and new text books were not being published except in new fields like radio, televisions and wireless technologies etc. As a student I had chance to check examination papers of Cambridge University and surprisingly Bombay University teachers were extracting their examination papers from those of Cambridge or Oxford from Matriculation to engineering examinations. I remember having written to Mr. Kewalramani the principal of NED University that there was nothing new they taught me at Texas A & M College for Agriculture Engineering

courses, which I had not studied from a poor NED college of a poor country and I had preferred to leave and get practical training with them World's then the largest company of agriculture machinery, International Harvester, employing four hundred thousand persons and being USA's fifth biggest. This company told me "You cannot learn mechanization of crops unless you know soils, agronomy of each crop, irrigation, fertilizing, plant protection, post-harvest and storage. They gave me many books and manuals on all those subjects published by them. I felt no difficulty in understanding them as one of three text books in first year science of biology course was botany taught in D.J. Sindh College. My experience is that almost all branches of engineering or agriculture are applied physics, mathematics, chemistry and biology. If a student is weak in them, he cannot be a scientist.

The standards of education have been falling. A decade after I left in NED Engineering College in 1949, new candidates of NED had thirty three percent less knowledge than we had been taught under Bombay University. At end of second decade in 1969, Mehran College of Engineering candidates had about 33% knowledge as we had acquired, but this was also year of great disaster for education in interior of Sindh.

A ruthless officer of Anti-Corruption Department wanted every Sindh officer to be removed from job specially those opposed to "One Unit Government's working" Dr.Qadeer Afghan Principal of Mehran College being one, was involved in a false case of refusing to perform supervision of construction an

additional duty assigned to him, on the plea that unless transport is made available to him, he cannot go to all sites of construction in an area of thirteen thousand acres or twenty square miles. No transport was provided. The engineer in charge was booked for corruption and Dr. Qadeer was arrested for negligence in delaying the orders, due to which civil engineer in charge had free hand to misappropriate. From jail he sent a word to his students to go on indefinite strike till he is released and in return all students of all classes in Mehran College would pass annual examination and would be promoted to higher class. He was released and kept his word. This was first beginning. Something else happened to deteriorate education further. In 1976, two new universities were created out of Sindh University, Sindh Agriculture University and Mehran University of Engineering and Technology. Mehran had strict Pro Vice Chancellor and two senior professors, who discouraged copying, which had become a rule, but then Minister for Education Sindh visited university and stopped all the three of them from visiting examination hall, so that students freely copy and pass. This was a serious blow to technical education in Mehran University and yet Vice Chancellor and some professors sincerely tried for improvement, but copy culture was now fully established and threatened those, who wanted to maintain standards.

After defeat in East Pakistan, the Government to reconcile people to the new situation emphasized in

Pakistan Studies a subject to be taught at all levels in the schools and universities. General Zia himself son of a Mula of mosque in Jalandar, made introduction of Islamic way of living as true ideology of creation of Pakistan and the subject was introduced at all levels from the primary to university level. Before this in 1966 there was agitation to replace English by Urdu in the government offices as well as in educational institutes. President Field Martial Ayub after set-back in 1965 war and Tashkent negotiations, had lost prestige and surrendered. Sindhi teachers and students agitated that Urdu is as alien to Sindh, as in Bengal, so Ayub's government surrendered. This was unfortunate for education Pakistan.

On the other side of the border Government of India in 1948 had decided that Hindi will replace English and a Committee of experts was formed to coin technical phrases and words for those of English. A story was current then that the committee met Prime Minister Nehru in 1963 and informed him that some four hundred thousand words had been coined and equal number of words of new terminology developed since end of World War-II in 1945, had to be coined. Nehru just asked a simple question. How many words have the Hindi language? The reply was, one hundred thousand. Nehru then asked, under such situation can Hindi easily absorb those four hundred thousand words and phrases? The result was putting the issue into cold storage for ever. India's strong point is; English as medium of

instructions, whereas, we are nowhere. It is worth point that Nehru was not only a statesman, but literary giant whose glimpses in World History and Discovery of India are classics.

Although English is still continued a medium of instructions at higher level, but use of Urdu and Sindhi at High School and Intermediate level in technical subjects and less emphasis on English language, has produced students, who cannot not read text books in English and the substitute is local text books summarized from large English editions and which did not impart correct concepts of these sciences.

I have been interviewing all kinds of candidates to be trained as farm managers for the past fifteen years. I found that the present Kamdars (foremen) used on the farms are incompatible with advanced agriculture and more so with horticulture I wanted to replace them. I have advertised periodically in news papers and also put advertisements on notice boards of various departments of universities at Jamshoro, Tandojam, and Khairpur during the past fifteen years.

Getting less response, I talked to a professor, who told me that candidates want easy jobs, easy time, facilities like furnished office, electric bell to call peon for cup of tea on reaching office, relax for while, walk around the farm, for one round of short duration and return back to office. Your systems is that each manager in charge of 5-10 labourers to get some job done during the day or week, switch over to other jobs and continue year around on different jobs

on different fruits. You are doing unconventional agriculture which involves new crops, dwarf trees, high density tree planting, Foliar feeding of fertilizers, use of micro-nutrients, elimination of synthetic pesticides, mulching of trees, no use of tractors and inter-cultivators, organic agriculture and use of natural pesticides. All these are labour and supervisory intensive. This means strict timing and supervision and your timing is 8.00 am to 5.00 p.m. with two hours break in summer and 8.00 am to 4.00 p.m. in winter with one hour break. He said that he had discussed with many graduates and post-graduates and they think that they do not like this kind of punctuality. A few astray candidates did come for interviews and though somehow none was up to the mark, yet I thought they could be trained on the job and made offer to them. Only a few joined and who were trained on the job. To our utter surprise when some jobs were advertised by government or some private parties, they applied and were immediately taken up without asking any questions, stating that the employers know the quality of work the candidate must have learnt at our farm and therefore were immediately employed.

Recently we needed some twenty persons and advertised for a walk in interview of any graduate in any field and bring with them selves marks of matriculation and intermediate. Some 200 candidates appeared. They were graduates in engineering, sciences, agriculture engineering and social sciences.

The number of graduates in liberal arts and social sciences was limited. What we found was shocking and needs attention of whole nation. Almost 95% of them had over 85% marks in Sindhi, Urdu, Islamiat and Pakistan Studies. They had between 40-50% marks in English. In six practical of physics, chemistry and biology accounting for 25 marks each or total of 150 marks, they had 23 or 24 marks out of 25 i.e., 92-96%, but in theory papers of physics, chemistry, mathematics and biology, they had just pass marks or a few more than 33%. Enquires were made to find how students in practical got 138-144 marks out of 150 in science practical. We were informed that practical take place in the very colleges students attend .They take tuition and pay the teachers, who in turn get them these marks. Some had even failed in theory, but were condoned. The problem to ponder about is that they got high percentage marks in arts subjects and got admission in scientific universities, because of those subjects and not of sciences. It was concluded that they cannot be scientists all their life. Further examination showed that though they were B and C grade in Matriculation and Intermediate but, they were first class in the universities from the first year to the last. How this miracle happened needed further probe?

Some ten years ago I applied for a World Bank project and found a very suitable person in one of the universities. I offered him Rs.50,000 a month, while university was paying him Rs.18,000 . He agreed and

when project was about to mature, he backed out on the plea that he had to help his students in writing their thesis for M.Sc and he was not interested in money, but service to nation. I thought he was great, but told of this sacrifice on his part to another professor of the same university. He told me that he was not madman but I was. He charges Rs.20,000 per thesis, with guarantee to pass the student, pays about 16,000 as income tax on his salary of Rs.216,000, saving Rs.200,000, but he makes another Rs.300,000 from writing thesis himself for students, making a total of Rs.500,000. Even if he has 10 students, he will make Rs.400,000. It was surprising, but on questioning about thesis, some candidates admitted that their thesis was written by their teachers and payment which was customary. I remember my own days. After graduation from NED College, I went to work with. Buckwell and Co. They put me in charge of repair shop, where on the first day, after a caterpillar tractor engine was opened, I realized that text books knowledge was totally outdated and I started my higher education on the job, from that day onwards and I am learning something new every day and sometimes every hour. My new teachers for the past 56 years are the latest books.

Recently a friend of mine brought his son studying in class IX in a prestigious high school at the campus of an important university and asked me to examine his IQ and see his aptitude for his future career. Before further enquiries I ask him how much

he liked arithmetic, algebra and geometry. He said that they do not teach geometry in the school, as none of the teachers in the school knows the subject. I told him engineering sciences are out of him, as he cannot fully understand trigonometry, solid (or three dimensional) geometry, cannot handle engineering drawings properly, cannot design and engineering civil or mechanical engineering structures or mechanical components as various forces on these structures need application of geometry. He cannot enter into space technology as it involves astronomy which needs application of plane and solid geometry. I told him that he simply cannot have grasp on physics, without geometry. Engineering is applied physics, as such in principle it is applied geometry. Geometry teachers, reasoning and logic and trains man's mind. Its deductive structure has created thinkers and philosophers, since the time human being was created.

Then I pulled a classical book from my library; "The 100 ranking of most influential persons in history", by Michael Hart and showed him and his father that out of 100 important lives, Euclid has been placed as number 14, much above Moses Darwin, Augustus Caesar, George Washington, Karl Marx, Napoleon, Graham Bell (telephone inventor), Asoka, Otto (petrol engine inventor), Julius Caesar, John F. Kennedy, Lenin, Tao, Zoroaster and Mahavira (Jain Prophet). Among the persons more influential than him were Prophet Muhammad (PBUH),

Newton, Christ, Buddha, Confucius, Columbus and Einstein.

I told them that geometry definitely was a difficult subject compiled in scientific lines by Euclid, but it is more important than arithmetic and algebra and helps a person to develop analytic mind. I told that the Chinese, Indians and Japanese had not produced good scientists until they learnt geometry in the eighteen and nineteenth century. All European scientists starting from sixteenth century right up to Einstein were excellent in geometry. Newton who is considered by the as the World's number two important person and only Prophet Muhammad (PBUH) leads him, was so imbedded in Euclid's Elements (geometry) that he wrote his great work "Principia in geometrical form". My final advice to this young man was to join services which do not need brains and without geometry we are turning out stupid.

In new post World War-II era, there will be many people who would keep researching and learning throughout their life. A quarter of century ago, US had planned that of their population, 45% will be white collared and 55% blue collared. The white collared would be of BA-BSc level and of them 15 would have MA-MSc education. Again of these 15 persons, 7 would go for Ph.D. All those 7 would be involved in research and development all their lives. Exactly opposite is the case in Pakistan. On leaving the university, they give life long vacation to their books, read and experiment little and boast as if new

technologies are revealed to them every day.

I do part time farming for my living. The farm is one hundred and three acres orchard, where in I grow fruit crops like mango, lychee, longan, peaches, apples, grape fruits, grapes and pomegranates for past forty years. From the beginning in 1965, I had observed that labour will work only if supervised very strictly by foremen called Kamdars. However tragedy was that these Kamdars had risen from labour and were equally ignorant, but had become crafty due to their position and continuously created problems, which they alone could resolve with labour or neighbours and made owners helpless. Their main defect is that they neither know the technology nor are willing to accept any advice beyond what others do and anything new is totally wrong, and they refuse to accept or execute it. I lost thousands of plants and scores of new varieties of fruits and other crops due to their open negligence and considering it unworkable. My conviction is that unless the supervisor is motivated and convinced that what he is doing is right, he will not execute the assignment properly. I tried to introduce new innovations from the beginning, but Kamdars rejected them and did not execute them. I tried to introduce new crops and with them mortality rate sometimes was 100%. Finally I got hold of some MSc's in Agriculture who though technically poor, were at least amenable to discipline and were willing to carry out experiments as I suggested to them, but were hindered and

ridiculed by Kamdars. One Kamdar told these MSc's and B.E's that his knowledge starts, where theirs ends. On this I decided to get rid of the Kamdars once for all and try educated ones. Between 1990 to this day I have advertised a number of times interviewed many. I found many of them technically very poor and unwilling to work. I knew the reasons and causes of lack of knowledge, but that gap was easy to fill if they were only willing to carry out the instructions for which I decided to prepare a monthly instruction manuals. Large majorities of candidate were reluctant to be punctual to timing of 8 am to 5 pm and also were not willing to supervise work of labour in the field. Only those needy would join. These usually were those, who had remained unemployed for 5-8 years and had learnt that their education was too defective to keep them employed.

The basic cause of this deterioration of education is the syllabus and education beginning from the Primary school level. In the primary schools they taught geography from primary class II to Matriculation a total of 11 years, starting with geography of Taluka or Tehsil, district, Sindh, India, Asia and World, but both political and physical, including solar system and galaxy. In history they started in Primary class IV with history of Sindh, then of India in brief in the lower classes and in the higher classes in more details and analysis. Then started history of England from 1500 AD along with history of India for four years. History of England was in

brief history of World. Most important subject in primary education was arithmetic which indirectly taught to analyze. Matriculation examination had Mathematics, physics, chemistry as compulsory subjects and even clerks and typists in the government service had to be matriculates knowing these subjects. These subjects developed higher level of IQ among students to think for themselves. We eliminated these and made two categories of matriculates in humanities and sciences. This trickled down to primary level and arithmetic was the first victim of new educational policy. In my opinion lack of good standard of mathematics has caused the worst damage to education.

I have been visiting university libraries periodically in search of some material on engineering, horticulture and Sindh. I have seen only a few teachers visiting the libraries. Students do visit, but majority of them to read news papers. Many librarians are well qualified, but funds to purchase books are lacking. In case of most technical libraries only a few books are imported after 1965. Many local or Indian technical books are substandard. Sindh Agriculture Research has purchased books under Agriculture Research Project-II, but all of them are Indian publications and mostly substandard. Cost involved in foreign exchange was millions of dollars. The amount could have been well spent by import of standard books from the Western countries. This is what happens to loans and aids, our future generations have to pay.

After 1966, teachers took standard text books of 400-500 pages summarized them in fifty pages of notes and taught from these notes. As standard of the English language was very poor students could not refer to original texts and depended on notes. Since most of the students were granted first class at the university, they were selected as lecturers and taught from the same notes. In 2005 they are still teaching from the same notes prepared in 1966. The teachers themselves have such poor knowledge of both the English language and the subject they teach, that they cannot grasp the subject themselves. They themselves are the examiners and set papers. At end of the semester, they issue a paper of probable questions, the final examination may have and it lists 100% questions that are in the final examination. One tragedy is that because of poor standards of English, they cannot pass TOFEL and other examination conducted by US and other countries and the only foreign universities available to them in the past were Eastern Europe, Russian, Philippines, Egypt and Thailand etc. In most of them there was different syllabus for foreigners and they got Ph.D. degrees very easily, without adequate knowledge. Such teachers have not improved the standards of students. Being aware of the low standards of education, the government decided that any promotions beyond the level of Assistant Professor would be from PhDs of the subject. On this has started rush to register for Ph.D. It is not American system of studying 40 or more subjects and a research

thesis for PhD in addition. It is a British system of PhD by thesis, but the British make students to carryout research on latest topics with all facilities and candidates have to work day and night. In Pakistan thesis are written by some senior teachers for their juniors, against some payments. Some ten years back rate was Rs.40,000 for PhD and today it must be multifold. The reward for Ph.D. to a teacher is increment in salary by Rs.5,000 per month, but the same amount is to be paid as extra to normal pension after retirement and costs university more than rupees one million per Ph.D. The favoritism to admit or not to candidates for Ph.D. degrees has been a rule since 1960 and many brilliant persons were refused admission on some or other pretext, but now degree is a marketable commodity.

How every student in the universities in Sindh secures first class is a complex issue. There are strong political groups among the students and on new admissions; they recruit various students to their groups. These groups are utilized by the teachers against administration. Teachers put pressures on Vice Chancellors in cases of new recruitment's, promotions and other facilities and when denied, students groups are called upon to agitate for removal of Vice Chancellors. All students cooperate in return for first class in every subject. The recruitment pattern also shows that relatives and children of senior or influential teachers get jobs in these very institutes by same tactics.

The education has been systematically destroyed by changes in syllabus from the Primary school level and beyond. During the British rule there in Sindh was a test called Vernacular Final Examination of eight papers conducted by the Government of Sindh after completing eight years of Primary education. The candidates who passed it were qualified to be taken up as Primary School teachers, Tapedars (low level revenue officers), Abdars for distribution of water in Irrigation Department and Munshis in the courts. Such was the high standard that not many matriculates of Bombay University could pass it. It was tough in arithmetic, geometry, history of India, geography of world, commercial accounts, general science, advanced Sindhi grammar, and Sindhi literature. The candidates were recruited as teachers and after some years experience were sent to Teachers Training College Hyderabad for updating for a year at a time and a total of three years. Such were the high standards, that when Sindh University started Sindhi language classes for Masters degrees, these primary teachers were brought in, to teach Sindhi language and they worked in place of senior professors for many years. After independence the government changed rules of recruitment of teachers and allowed Middle class pass students of High School to become teachers. The Primary Educational Systems was immediately destroyed. The present recruitment of teachers allows Intermediate (Class XII) pass students to become Primary teachers, but majority of them

have studied only humanities or liberal arts and cannot teach arithmetic or science subjects. The result then is the students weak in sciences and arithmetic, remain weak in mathematics and sciences right up to university level. One would wish that old Vernacular Final Examination System is restored to recruit teachers and we begin afresh; but then question is, will the examination be honest? This is where I see dead end of street (*Regrets: I do not have firsthand knowledge of Karachi and other provinces, but heresy is not different*).

(www.pankwar.com)

A long list of indigenous scholars can be cited who were prolific authors on Sindh. However, the two scholars can be singled out because on the one hand their entire contribution was in English language and on the other hand they both raised awareness at local and international level about injustices being meted out to Sindh and its people in every sphere of life in body politic of the country in the contemporary period. The first of the two was late Professor Syed Ghulam Mustafa Shah, whom we seem to have forgotten, died in 1999 and wrote exclusively in the English language. The second scholar Muhammad Hussain Panhwar's name and fame alongwith his scholarly work, is still fresh and alive in our memories due to his illustrious son Mr. Sani Hussain Panhwar, who is fully aware of invaluable services of his father and has been carrying forward great mission of his great father, with zeal and passion despite the fact that he has been living in the USA for the last four decades.

Nowadays, a campaign for building new dams in the country is underway at the highest level in Pakistan. Since the creation of Pakistan and due to Indus Water Treaty and also because of non-implementation of the terms and conditions of the treaty in letter and spirit, Sindh has been deprived of its rightful share from Indus river and its tributaries. Under the said treaty, Tarbela and Mangla Dams were built. Due to the construction of the two mega Dams and many other small Dams on river Indus and its tributaries during the last five decades; Agriculture, forests, environment, and eco-system have suffered irreparable damage in Sindh. Moreover, the situation is set to compound further in foreseeable future.

Ghulam Muhammad Lakho

ISBN # 978-969-9543-93-7

Price: Rs. 500/=