

# MUHAMMAD HUSSAIN PANHWAR A PROUD PIONEER IN HORTICULTURE

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An American horticulturist in his report in 1992 wrote: “M.H. Panhwar, an Engineer, has been re-incarnated as a horticulturist”.

Mohammad Hussain Panhwar was born on the 25<sup>th</sup> of December 1925 at village Ibrahim Panhwar in District Dadu. He graduated from N.E.D. Engineering College Karachi in Mechanical and Electrical Engineering in 1949 and started his career in earth moving and farm machinery department of the Government of Sindh. He obtained M.Sc., in Agricultural Engineering from the University of Wisconsin at Madison in 1953. From 1953-1969 he worked as Agricultural Engineer in Sindh and Balouchistan. His work in the hills and arid areas of Sindh and Balouchistan drove him to studies of ground water in 1951 and this led him to study historical, geography, hydrology, geology, archaeology and other material on Sindh. He wrote 13 books and pamphlets on ground water, all of which pertain to Sindh and Balouchistan regions.

Mohammad Hussain, as I have always called him, I have known him from 1945 when he was a student in the NED Engg. College and lived in Leslie Wilson Muslim Hostel where I was the Superintendent. I was Assistant Professor in S.M. College from 1943. He has been writing on the history, archaeology, historical-geography and etc., of Sindh for “Sindh Quarterly” for the past 21 years. We serialised his book “Chronological Dictionary of Sindh” and some articles from “Source Material on Sindh”, in the Quarterly.

It is a great pleasure and satisfaction to me to write about him and the hard work he has put in the field of his interest. His contribution in introducing new fruits, nuts and industrial crops in Sindh is great indeed. His specialised library contains about 10,000 books on Sindh.

5,000 books on ground and surface water and its application to agriculture, 4,000 historical maps pertaining to Sindh and adjoining areas and 11,000 books and bulletins on fruits, nuts and value-added crops. The books on fruits have been procured from U.S.A., South Africa, Australia and many other countries in the last 15 years. He studied the climate of Sindh in great detail by summarising 82 years data (1904-1985) and divided Sindh in 12 microclimate zones against 3 of Meteorological Department, Studying the Heat Indices (accumulated chill to force flowering in fruit trees) of 18 places in Sindh another California.

Muzaffar Hussain Shah then Speaker of Sindh Assembly in 1988 helped him in the publication of his book “New Fruits, Nuts and Industrial Crops for Sindh”. Panhwar got 50 copies and probably Finance Department, Government of Sindh for publication. The Director Public Agriculture Department hoodwinked everybody by misappropriating the amount. Sindh lost a chance to introduce new crops in the past 7 years. The Government of Pakistan surprisingly however became aware of this work and awarded Mohammad Hussain Sitata-e-Imtiaz, in recognition of his works and merit.

Mohammad Hussain has been experimenting with new fruits and their varieties not known before in Pakistan. In the past 15 years he has introduced 26 new crops namely low chill peaches, nectarines, pomegranate, dates, jojoba, jatropha, buffalo-gourd, mangoes, avocado, papaya, Simarouba glauca, low chill plums, pummelo, low chill pears, persimmon and Chinese Jujube. The first 10 have proved commercial success so far and have been planted by him on 5-7 acres each. Under trial peaches fetched Rs. 27,000 from 1/4<sup>th</sup> of an acre. Apples yielded 50 kgs per tree, longan produced 1<sup>st</sup> crop in 2 years, grape fruit produced 5 tons per acre in the 3<sup>rd</sup> year and Brazilian and South African guava weighs 3 per kg. Eighteen new mango varieties from U.S.A., Brazil and Australia are already producing very heavy crops in the 3<sup>rd</sup> and 4<sup>th</sup> year and of 24 grape varieties, which started fruiting after 2 years, some 5-6 varieties have produced excellent crops. Two varieties of grape fruit are seedless with red coloured pulp and contain red juice which reduces cholesterol level and blood pressure. Tahiti lime has no seed at all and fruits year around. Papaya introduced from Hawaii has Brix index of 14, almost equivalent to Sindhri mango, which has 17% Brix. He introduced all these crops after studying their climatic requirements and selected only those which suit climate in his farm near Tando Jam.

With the help of his wife he has written 18 handbooks on Chinese Jujube, guava, lychee, longan, pomegranate, fig, almond, jojoba, mango, grapes, peaches, plums, pears, grape fruit, Tahiti lime, apple, date and roses. These run into total of 2,000 pages. The Sindh Government under orders of Chief Minister Sayed Abdullah Shah is publishing some of them, but only their translations can push the programme of introducing new fruits in Sindh.

He has started Sindh Society for Horticultural Science on the lines of International Society of Horticultural Science, American society for Horticulture Science and similar societies for Australia, South-Africa, Japan and etc. H is a member of some 14 international fruit societies and attends their meetings in Europe and U.S.A. He also plans to start an Institute of organic and Sustainable Horticultural and introducing new fruit crops that sustain high yields. On his farm he has all the time engaged 4 to 5 M.Sc., (Agriculture) or B.E. (Civil) or B.E. (Agriculture) as farm managers incharge of various operations, instead of engaging 4-5 uneducated Kamdars. This has given him excellent results. They cost more but returns are also high and justifiable.

Muhammad Hussain with the help of his wife, a bio-chemist, has brought a revolution in horticulture in Sindh. This now has to be carried further by the Sindhi land owners. No such revolution has ever occurred in both India and Pakistan in the past but once technology is known from his books, it should not be difficult for any one to replace conventional crops i.e., wheat, rice, cotton, sugar-cane and oil seeds with new value added and exportable commodities of fruits, nuts and etc.

Surprisingly while we in Sindh are ignorant of his work, the President of American Society of Horticulture Science in his personal reflection for the month of January 1994 described Panhwar's works as "A Great Success Story" and describes how Panhwars have made use of U.S. publications the existence of which U.S. citizens have taken for granted.

Besides books on horticulture, his new books "A Social History of Sindh" (600 pages), "History of 5000 Years Irrigation in Sindh", "Changing Climate and Its Impact of History of

Sindh”, Historical Atlas of Sindh with 185 maps” and Experiments into sustainable and Organic Methods of Agriculture and Horticulture” are ready for press.

I am listing new fruits introduced by him and also 18 hand books in fruits from the information of our readers. I hope they will be translated into Sindhi by some well-wishers of Sindh to introduce and boost new economic revolution in agriculture. In my own opinion he deserved a higher recognition than “Sitara-e-Imtiaz”. The Government, of Pakistan and Agricultural Universities callous and lethargic as they are know nothing of his work and endeavours but all specialists in foreign countries know about him and his researches.

#### **NEW FRUITS, NUTS AND INDUSTRIAL CROPS INTRODUCED COMMERCIALY FROM ABROAD IN SINDH, NEAR TANDO JAM.**

<b>Sr. No.</b>	<b>Year</b>	<b>Fruit Crop</b>	<b>No. of varieties</b>	<b>Source of plants</b>
1.	1980	Date (At Clifton Karachi)	1	Grows on 50% sea water + 50% fresh water fruiting for the past 10 years.
2.	1983	Jojobe oil nut.	1	Mexico, fruiting since 1986, a wax nut, substitute for whale oil.
3.	1983	Jatropha nut.	1	Mexico, yielding diesel oil.
4.	1983	Buffalo- gored.	1	Texas (USA), yielding one ton edible oil and 100 mounds of starch per acre per year.
5.	1985-1990	Mango	18	USA, Brazil and Australia.
6.	1988	Peaches.	13	Florida (USA), now fruiting.
7.	1988	Plums.	4	Florida (USA), now fruiting.
8.	1988	Nectarines	3	Florida (USA), now fruiting.
9.	1988	Avocado.	2	West Indies.
10.	1989	Cashew.	1	Australia.
11.	1989	Papaya	3	The Sunrise Solo from Hawaii (USA) and two varieties from Taiwan.
12.	1989	Simarouba Glauca	1	Hawaii (USA). Nut used as a edible oil.
13.	1989	Lychee	2	Australia (USA).
14.	1989	Tahiti Lime	1	Florida (USA) now fruits all year around.
15.	1989	Grape fruit “Ruby”	1	Florida (USA) in fruit now.
16.	1989	Apples: Anna, Dorset Golden, Einshmer, and Crab apple.	4	Florida (USA) now fruiting.

17.	1990-1993	Grapes Thompson seedless and others.	24	California (USA) now fruiting.
18.	1990-1993	Guava	5	Taiwan, Indonesia, Hawaii (USA), South Africa and Brazil.
19.	1992	Pummelo	1	Thailand.
20.	1992	Pear (Oriental).	2	California.
21.	1992	Persimmon (Japanese).	2	California.
22.	1992	Z. jujube.	2	California, already fruiting.
23.	1993	Fig.	1	California, already fruiting.
24.	1993	Longan.	2	Florida, already fruiting.
25.	1993-1994	Pomegranate.	8	Spain, USA, already fruiting.

## APPENDIX = II

### LIST OF HAND BOOKS ON VARIOUS FRUITS, NUTS AND INDUSTRIAL CROP.

Sr. No.	Title of Hand Book.	Page.
1.	Chinese & Indian Jujube.	90
2.	Guava.	96
3.	Lychee	140
4.	Longan (brother of Lychee), for Sindh.	60
5.	Pomegranate for Sindh.	75
6.	Fig for Southern Pakistan.	50
7.	Persimmon (Chinese) for sub tropic.	85
8.	Almond.	50
9.	Jojoba.	25
10.	Mango.	220
11.	New fruits, nuts and industrial crops for Southern Pakistan	228
12.	Grapes for subtropic.	150
13.	Low chill peaches and plums for subtropic.	150
14.	Low chill pears for subtropic.	96
15.	Citrus.	148
16.	Tropical Apple.	129
17.	Date.	80
18.	Roses.	70

<b>BOOK</b>	<b>SINDH QUARTERLY ESTABLISHED IN 1973</b>
<b>VOLUME</b>	<b>XXV, 1997 NO-2.</b>
<b>PAGE</b>	<b>34 - 39</b>