



The Inland Fisheries News

Newsletter of the Central Inland Fisheries Research Institute

VOL. 8 No. 1

JANUARY - JUNE 2003

ISSN 0972-0774

Hilsa fishery facing problems

Scientists of the Estuarine Division of CIFRI report that the catchable size of Hilsa has gone down in recent years causing problems to the consumers.

The Indian shad hilsa, *Tenualosa ilisha* is most abundant in the Hooghly estuarine system of West Bengal forming one of the lucrative commercial fisheries of a single species. The silvery hilsa locally known as 'Ilish' is highly priced and esteemed for its culinary excellence. The abundance of hilsa in the estuarine system fluctuates significantly for its long distance anadromous migratory habit. Even then, it is the



A haul of Hilsa

major component of the fishery contributing 18 to 33% of the total yield from Hooghly estuarine system. The species is available almost throughout the year in the system, while the peak upstream migration is found with the advent of south-west monsoon i.e. June-July and continue up to October.

The upstream migration of the fish towards freshwater stretch of the system is mainly for breeding.

The annual yield of hilsa from the system varied between 6,448.2 and 15,799 t (Fig. 1) during 1998-99 to 2000-03 and the highest annual harvest (15,799 t) was recorded in 2000-01. 80 to 90% of the hilsa are captured during monsoon months.

In view of the high market price of the species, hilsa fishery replaces the fishery of other species in the monsoon months. A fall in intensity of operation of other gears occurs when hilsa gears increasingly appear in the estuary. The annual

Dr. Dibakar Nath takes over as the officiating Director



Dr. Dibakar Nath, Head of the Estuarine Division took over as officiating Director, Central Inland Fisheries Research Institute, Barrackpore on 10th June, 2003. Dr. Nath succeeded Dr. V. V. Sugunan who opted for voluntary retirement from service effective from the same date.

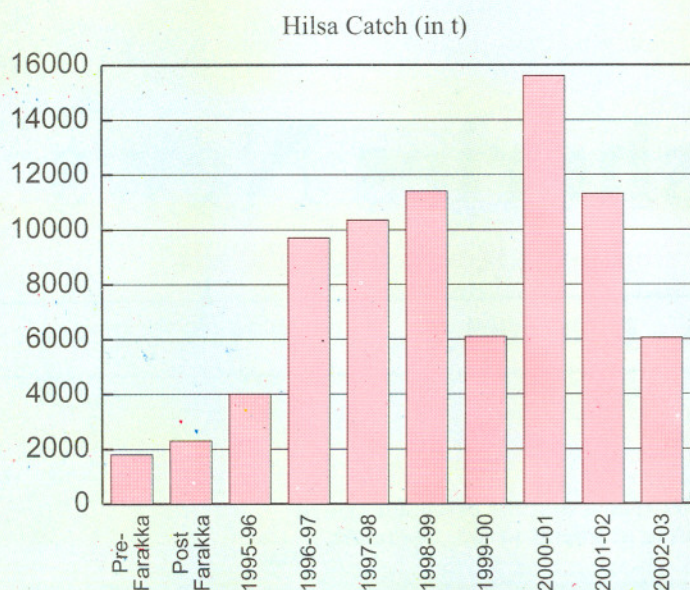


Fig.1

hilsa catches in recent years depict an upward trend due to rapid motorization of fishing vessels, increase of effort and modernization of other fishing infrastructures.

Gears deployed for hilsa fishing are mostly selective. The most important gears are gill net and clap or purse net. There are two types of gill nets viz., drift gill and set gill. Set gill (Khota jal and Nangar jal) and clap net (Sangla jal) are generally operated in upper freshwater zone of the estuary. Drift gill nets (Chandi jal) are extensively used in the entire estuarine system and its adjacent coastal areas. Each drift gill net consists of several pieces of netting and each piece having a varied length and height depending on size and area of operation. Generally, monofilament drift gill net with large sized pieces are operated in the lower marine zone of the estuarine system and adjacent coastal areas. The mesh variation in gill net and selectivity factors are highly variable.

Presently drift gill nets having mesh size of 2" to 4" are widely operated in the lower estuary. As a result, a heavy toll of young hilsa (200-500 g) are caught which prevents the fish to become mature as well as grow to bigger size. Random samples collected in the monsoon months from an assembly centre of lower estuary during 2000-03 indicated that 51% of the species were below 30 cm size, which is alarming. It is an indication of over fishing with similar gear of similar mesh size. This indiscriminate exploitation of young hilsa through small meshed nets is not a very healthy sign in terms of sustainable yield of the species from the estuary. However, as pointed out, the average catch of hilsa from the Hooghly estuarine system during the recent years has shown an increasing trend in spite of annual fluctuation in yields and size. This would bring solace to the fish eaters of this delicious fish.

Clarias gariepinus the African catfish going strong in West Bengal

Scientists of the Extension Section of CIFRI record extensive culture and propagation of the African catfish in West Bengal during their survey.

The African Catfish *Clarias gariepinus* commonly known as Thai-magur, is being cultured profitably by farmers of West Bengal. Seed of *Clarias gariepinus* initially entered West Bengal without the sanction of appropriate authority.



Clarias gariepinus is being loaded in truck for transport to different states

The culture of the species has been gaining popularity due to its faster growth vis-à-vis higher production. Though the fish is banned by Government of India, its culture is flourishing and seed are being produced in large numbers in hatcheries out of which 33 numbers are located in North 24 Parganas itself. These hatcheries after meeting the demand of the State have been exporting seed of *Clarias gariepinus* to the states of Assam, Nagaland, Andhra Pradesh, Bihar, Haryana, Uttar Pradesh, Punjab and Delhi. It is reported that during 2002-03 transaction of 220 million seed of *C. gariepinus* occurred. The selling size of seed varies between 2.5 and 20 cm. As the *Clarias batrachus* (magur) has medicinal value and is highly priced (80 g size Rs.180/- per kg), the producers harvest *Clarias gariepinus* of about 70-80 g to confuse the buyers and earn higher profit. *Clarias gariepinus* is cultured in West Bengal by a large number of fish farmers and produce around 50-70 tonnes/ha/3-4 months. The fishes are also exported in live condition in trucks loaded with 5 tonnes of fish in each to Assam, Nagaland, Delhi, Haryana and Punjab.

Wholesale price for the above fish is Rs.40/- per kg against the production cost of Rs.23/- per kg. The socio-economic condition of the fishermen culturing the fish has improved significantly. Turn over for some of these farmers is more than Rupees 1 crore.

Mass awareness campaigns were organized by CIFRI to make farmers aware of the evils of culture and propagation of *Clarias gariepinus* to save the ecology and indigenous germ plasm of the country.



Inland Fisheries investigation in Rajasthan

Scientists of the Resource Assessment Division conducted investigation in the reservoirs of Rajasthan on various aspects of inland fisheries

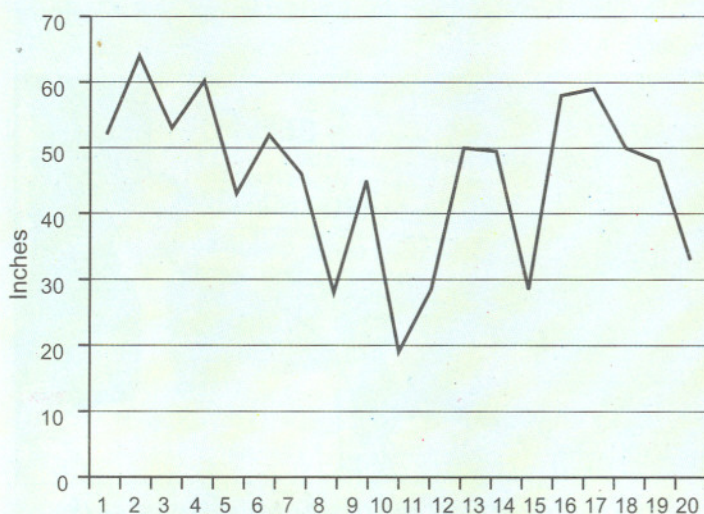
In the semi arid region, water harvesting is very important in the formation of the water quantity and quality of a reservoir.

Taking this into consideration various parameters were investigated to estimate the amount of water accumulated in the reservoirs of this region.

Quality of water (W vol.) generated through natural water harvesting depend on the factors, as mentioned below :

- Amount of catchment area (ca)
- Average annual rainfall (ar)
- Type of bottom soil (bs)
- Slope of catchment area (sl)
- Storage capacity – of tank, dead storage capacity, live storage capacity (sc)
- Length of overflow (lo)
- Flood discharge (fd)
- Water loss – Discharge cannals, irrigation normal and average irrigation (wl)
- Environmental parameters – Temperature, sunshine hour, humidity, windspeed resulting evapotranspiration (env) from reservoir water

Graphical presentation of water level accumulated in reservoir through water harvesting at Ramgarh, Rajasthan. Maximum gauge heights variabilities of annual rainfall (Sources State Irrigation Department, Rajasthan) and other environmental parameters following the above equation were estimated.



During the year 1980-1999 at Ramgarh of Jaipur, Rajasthan

Meetings/Seminars

QRT Meeting

The QRT of CIFRI for the period 1997-2002 constituted under the Chairmanship of Dr. M. Y. Kamal and Prof. Y. Sreekrishna, Dr. K.L. Sehgal, Prof. H.R. Singh, Prof. Brij Gopal, Dr. V.R. Chitranshi as members and Dr. M.K. Das, CIFRI as member secretary, visited Headquarters at Barrackpore, Guwahati, Alleppy, Bangalore and Vadodara centres of CIFRI. They had elaborate discussion with scientists on the salient findings of the various research projects and on other administrative matters.



QRT Team in discourse with scientist in Pesticide Analysis Laboratory

Annual Staff Research Council

The Annual Staff Research Council meeting of the Institute was held on 22-23 April 2003 under the Chairmanship of Dr. V. V. Sugunan, Director, CIFRI. Progress achieved under all the research projects of the Institute was presented by respective project leaders. After elaborate deliberations future project programme for 2003-2004 was formulated.



SRC meeting in progress



At the end all the Heads of centres, sections presented the monthly target of individual scientist and centres. There was extensive discussion and deliberation on the targets and finalization of the targets for individual scientist and the Institute was done.

Deputy Director General (Fisheries) addressing the scientists



The Deputy Director General (Fisheries), ICAR visited CIFRI, Barrackpore on 28th June, 2003. A series of meetings were organized with the scientists from the centres of CIFA, CIFE and staff members of CIFRI, Barrackpore. Deliberations on various research projects, organizational matters of CIFRI were conducted. Several action points were formulated for improving the scientific and administrative functioning of the Institute.

EXTENSION SCENE

Training programme on inland fisheries development

A total of 30 fish farmers from different districts of the state participated in the 10-day training programme on Inland Fisheries Development for the fish farmers of Meghalaya organised by the Indian Council of Agricultural Research (ICAR) from January 20-30, 2003.

Three constituent research institutes of the council involved in fisheries research in the eastern region of the country the Central Inland Fisheries Research Institute (CIFRI), Barrackpore, ICAR Research Complex for the North East Region (NEHR Complex), Barapani and the Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar participated in the training programme.

Fish farmers of Meghalaya "learning by doing"



The training was meant for disseminating the latest know-how on the various aspects of inland fisheries development to the fish farmers of the state.

The training schedule included recent information on different aspects of fish breeding, composite fish culture, nursery and rearing pond management, integrated fish farming, pen and cage culture, fish health management, fish nutrition, management of reservoirs and economics of fishes.

Training programme on Pen Culture in Beel

The Central Inland Fisheries Research Institute (CIFRI) organized a 3-day long training on Pen Culture in Beels at its Northeastern Regional Centre, Guwahati from February 4 to 6, 2003. The training was meant for disseminating the latest technology on various aspects of pen culture in beels to 50 prospective fish farmers of Assam. These farmers were selected from 5 beels viz. Samaguri, Haribhanga, Rowmari and Borghuli beels (Nagaon district) and Kumri beel (Goalpara district).



Hon'ble Minister of Fisheries, Govt. of Assam at the valedictory session of the training programme



The training programme was inaugurated by Dr. Amlesh Dutta, Professor & Head, Department of Zoology, Guwahati University.

In the valedictory session Mr. Etuwa Munda, Hon'ble Minister of State for Fisheries, Government of Assam distributed certificates to the trainees.

Training on Reservoir Fisheries Management

A one-day training programme on Reservoir Fisheries Management was conducted at Coimbatore Centre of CIFRI on 26 June, 2003 for the benefit of officials from the Department of Fisheries and Tamil Nadu Fisheries Development Corporation Limited. Fourteen officers in the grade of Deputy Director of Fisheries, Assistant Directors of Fisheries, Inspectors of Fisheries, Manager and Deputy Managers of Fisheries attended the training.

Shri V.K. Murugesan, Principal Scientist and Course Coordinator welcomed the trainees and explained the significant achievements made under Reservoir Division of CIFRI in general and Coimbatore Centre in particular.



Inaugural session of the training programme at Coimbatore centre

TRAINING

◆ A 10 day on job training course on Ornamental Fishery was organised under NATP during March 17-27, 2003. The training programme was designed to demonstrate the package of practices step by step to the participants along with theoretical knowledge to motivate them towards adoption of the technology. Twenty women of the fishermen community underwent the training course. The participants learnt the technologies through "learning by doing" method.



The training on Ornamental fish in progress

◆ A 4-day training programme on Reservoir Fisheries Development for the officials of the Dept. of Fisheries, Govt. of Orissa was organised during April 8-12, 2003 at CIFRI Headquarters, Barrackpore. A total of 11 officers participated in the training course.

◆ A 3-day training course organised for the benefit of Fish Farmers and Fishermen of the Joka area on Inland Fisheries Development during May 20-22, 2003.

WORKSHOP

A workshop under NATP entitled Fishery Management in Lentic Water System : Stocking of Reservoir with Fish Seed was organised at JNKVV, Jabalpur during February 19-20, 2003. The workshop was inaugurated by Dr. S. A. H. Abidi, Member, ASRB, New Delhi and Vice Chancellor, JNKVV, Prof. D. P. Yadav presided over the function. A total of 60 Scientists, Professors and Officers participated in the Workshop.



Workshop under NATP at Jabalpur



Fish Farmers' Days

The Institute organised a Fish Farmers' Day at JNKVV Fish Farm, Jabalpur, Madhya Pradesh on February 20, 2003. A total of 100 fish farmers and fishermen participated in the interaction session.



Interaction session of fish farmers

The Institute also organised a Fish Farmers' Day at Kujerbagi Fishermen Cooperative Society, Nataberia, 24 Parganas (North) on June 20, 2003. A total of 321 tribal fish farmers and fisher women participated in the discussion

Exhibitions

- The Institute participated in the Gramin Mela organised by Srijani Sanstha at Chhoto Jagulia during January 4-8, 2003.
- The Institute participated in the First Indian Pearl Congress Exhibition organised by CMFRI, Cochin during February 5-8, 2003.

HUMAN RESOUCCE DEVELOPMENT

★ Dr. P.K. Katiha, Senior Scientist, CIFRI was deputed to Malaysia for attending the Second Regional Workshop on Aquaculture Technologies and Fishing Practices in Asia of ICAR-ICLARM ADB Project, entitled "Strategies and options for increasing and sustaining fisheries and aquaculture production to benefit poor household in Asia" from 17-27 March 2003.

★ Mrs. Keya Saha and Sri Dipak Kumar Biswas, Technical Officers, CIFRI were awarded M.Sc. in Ecology and Environment by the Sikkim Manipal University of Health, Medical and Technological Sciences, Gangtok, Sikkim.

VISITORS

The Director General, ICAR. and Secretary DARE, Dr. Mangala Rai, alongwith Secretary ICAR, Ms. Sashi Mishra, Finance Advisor, ICAR, Mr. Gautam Basu, visited Karnal Centre of CIFRI on 17 January, 2003. They inspected the Centre and discussed with the Scientists about the research activities undertaken at the Centre.



Dr. Mangala Rai, Secretary, DARE, Govt. of India and Director General, ICAR visits Karnal centre of CIFRI

Just Published

The Ornamental Fishes of West Bengal

by

V. V. Sugunan, Krishna Mitra &
G. K. Vinci

Price : Rs.600/-

\$ 48

Published by

Central Inland Fisheries Research Institute
(Indian Council of Agricultural Research)
Barrackpore, Kolkata-700120
West Bengal



STAFF NEWS

Appointment

	Position	Effective from
Mrs. Usha Unnithan	T-3	24.06.2002
Dr. Bana Behari Satpathi	Sr. Scientist	17.03.2003
Dr. V.R. Suresh	-do-	27.03.2003
Dr. K.D. Joshi	-do-	26.06.2003
Dr. (Mrs.) Preetha Panikkar	Scientist	26.06.2003

Promotion

	Position	Effective from
Md. Qasim,	T-4	29.06.2001
Sri D.N. Baidya	Asstt. Adm. Officer	06.01.2003
Sri A.B. Biswas	-do-	28.06.2003
Sri P. Muraleedharan	Senior Clerk	24.12.2002
Sri Chandan Chakrabarty	-do-	23.12.2002
Miss Mira Sen	T-9	01.01.2001
Sri James Murmu	T-4	29.06.2001
Sri N.K. Saha	T-3	01.07.2002
Sri Subrata Das	-do-	27.01.2003
Sri P. Rajani	T-II-3	01.01.1998
Sri Arijit Ghosh	T-2	02.01.2003
Sri Jeeendra Kr. Singh	-do-	15.01.2003
Sri A.K. Goswami	-do-	29.06.2002
Sri Ashis Chakraborty	-do-	18.02.2003
Sri M. V. Krishnan	-do-	15.07.2002
Sri R. Balamurugan	-do-	09.02.2003
Sri A. Murugesan	SSG-IV	08.05.2003 (A.N.)
Sri A.L. Yadav	-do-	08.05.2003
Sri Ananta Kr. Biswas	-do-	08.05.2003
Sri B. Hazarika	-do-	08.05.2003 (A.N.)
Sri Suraj Bahadur	-do-	08.05.2003
Sri M.L. Saha	SSG-III	08.05.2003
Sri Gunadhar Dhibar	-do-	26.05.2003
Sri Sankar Bose	-do-	09.05.2003
Sri G.J. Roundale	-do-	09.05.2003 (A.N.)
Sri G.C. Paramanik	-do-	19.05.2003
Sri Umesh Chowdhury	-do-	24.05.2003
Sri M. Mari	SSG-II	09.05.2003 (A.N.)
Mrs. S. Bhattacharya	-do-	13.05.2003
Mrs. Suvra Chakraborty	-do-	17.05.2003
Sri Kamlesh Kr.	-do-	19.05.2003 (A.N.)
Sri Ganesh Bhanja	-do-	24.05.2003
Sri Sayyad Qhasem Said	-do-	09.06.2003

Upgradation to the next higher scale under the ACP Scheme

	Upgraded scale	Effective from
Miss Jolly Saha, Steno Gr. III	Rs. 5500-9000	22.09.2001
Sri K.S. Rao, Sr. Clerk	-do-	13.02.2003
Mrs. M. Banerjee, -do-	-do-	16.05.2003

Sri U.B. Bhattacharjee, -do-	-do-	16.05.2003
Sri Pradipta Sen LD. Clerk	Rs. 4000-6000	21.06.2003
Sri Sree Nath, SSG-II	Rs. 2650-4000	21.02.2003
Mrs. Hemlata Halder, SSG-II	-do-	07.07.2007
Mrs. S. Bhattacharjee, SSG-I	Rs. 2610-3540	21.02.2003

Transfer

	From	To
Dr. A. Mukherjee, Pr. Scientist	Malda	Kolkata
Sri H.C. Karmakar, -do-	Kolkata	Barrackpore
Dr. M.K. Mukhopadhyay, -do-	Vadodara	Barrackpore
Dr. Krishna Chandra, -do-	Barrackpore	CIFE, Kolkata
Sri A. Hajra, Scientist (SG)	Barrackpore	Guwahati
Dr. S. Bijoy Nandan, T-6	CIFNET, Cochin	CIFRI, Alappuzha
Sri S.K.S.S. Hameed, T-6	Barrackpore	Allahabad
Sri L.R. Mahaver, T-5	Allahabad	Barrackpore
Sri Kishore Shaw, LDC	Malda	Barrackpore
Sri A. Sahani, SSG-III	Guwahati	Kolkata
Sri S.C. Burman, SSG-III	-do-	Kolkata
Sri A.K. Jana, T-2	Vadodara	Uluberia
Sri G.J. Roundale, SSG-II	Hoshangabad	Vadodara
Sri T.H. Ghume, -do-	-do-	-do-
Sri M.S. Bhoi, -do-	-do-	-do-
Sri M. Panika, -do-	-do-	-do-
Dr. P.K. Sukumaran, Pr. Scientist	Alappuzha	Bangalore
Dr. R.K. Manna, Scientist	Bangalore	Guwahati
Sri S.S. Bondre, SSG-III	Hoshangabad	Vadodara
Sri S.P. Ghosh, T-6	Farakka	Kolkata
Sri K.P. Singh, T-3	-do-	Barrackpore
Sri S.P. Yadav, SSG-IV	Malda	-do-
Sri R.N. Tiar, -do-	-do-	-do-
Sri B.N. Mondal, SSG-III	-do-	Kolkata
Sri M.P. Bind, -do-	-do-	Barrackpor
Sri K.P. Ram, SSG-II	Farakka	-do-
Sri J. Mukhia, SSG-III	-do-	-do-
Sri N.P. Srivastava, Pr. Scientist	Hoshangabad	Guwahati
Sri K. Majhi, Sr. Clerk	-do-	Karnal

Retirement

	Date of retirement
Sri Bideshi Lal, SSG-III	01.01.2003 (FN)
Sri D.N. Baidya, AAO	31.01.2003 (AN)
Sri S.P. Yadav, SSG-IV	31.01.2003 (AN)
Sri Gulab Shaw, SSG-IV	31.01.2003 (AN)
Smt. Sukla Das, Technical Officer	28.02.2003 (AN)
Sri Khem Chand Balmiki, SSG-IV	28.02.2003 (AN)
Sri A.R. Paul, T-6	31.05.2003 (A.N.)
Dr. V. V. Sugunan, Acting Director	10.06.2003 (FN)
Dr. M. A. Khan, Principal Scientist	30.06.2003 (AN)



CULTURAL ACTIVITY



Dance drama organised by CIFRI Recreation Club

LIBRARY

New Additions (Books)

- Textbook of fish Immunology : Diseases of fishes by Anderson, Douglas
- Fish nutrition, 3rd ed. by Halver, John E. & Ronald W. Hardy eds.
- Sustainable fishery systems by Charles, Anthony T.
- Farmed fish quality by Kestin, Steve C. & Paul D. Warriss.
- Palaemonid prawns – biodiversity, taxonomy biology and management by Jayachandran, K.V.
- Fish biotechnology by Ranga, M.M. & Q. J. Shammi.
- Microbiology, 5th ed. by Prescott, Lancing, M. & John P. Harley & ors.
- Aquatic ecosystems by Kumar Arvind.
- Health maintenance and principal microbial diseases of cultured fishes by Plumb, John A.
- Wetlands conservation and management by Hosetti, B.B.

- BSAVA Manual of ornamental fish by Wildgoose, William
- India – A lifescape freshwater fishes of peninsular India by Daniels, R.J. Ranjit.
- Fish biotechnology (Studies in Biotechnology, Series No.7) by Ranga, M.M. & Q.J. Shammi.
- Molecular genetics of bacteria by Snyder, Larry & Wendy Champness.
- People plants and protected areas – a guide to In situ management by Tuxill, John & Gary Paul Nabhan.
- The biology of polluted waters by Hynes, H.B.N.
- Conservation of freshwater fishes : Options for the future by Collares Pereira & I.G. Cowx.
- Fish Immunology by Anderson, Douglas P.
- Fishes in estuaries by Elliott, Michael & Krystal Hemingway.
- The Aquarium fish – handbook by Bailey, Mary & Nick, Darkin.
- Fish and shellfish health management by Shankar, K.M. & C.V. Mohan.
- Sustainable aquaculture by Sahoo, Dinabandhu & S.Z. Qasim eds.
- Sustaining our food security by Paroda, R.S.

OBITUARY

The members of staff of CIFRI express their deep sense of sorrow at the sudden and untimely demise of Sri Hemanta Kumar Pramanik, SSG.IV, posted at Kolkata, whose tragic end came on 28th March, 2003.

May the departed soul rest in peace.

Published by : Dr. D. Nath, Director, Central Inland Fisheries Research Institute, Barrackpore, Kolkata-700120
 Edited by : Dr. Manas Kr. Das
 Assisted by : Sarvashri H. Chaklader & P.K. Ghosh
 Printed at : M/S. Classic Printer, 93, D.D. Road, Kolkata-700048, 25210254 Mob-9433087849