

Annexures

Annexures 1-8
Minutes of the meetings of the High Power Committee

MINUTES OF THE MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF ICMR HELD ON DECEMBER 29, 2012 AT ICMR HQRS, NEW DELHI

The following attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Neurosurgery, AIIMS, New Delhi **Chairperson**
2. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
3. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
4. Dr. Dharma Rakshak Ayapati, Director Vice Chancellor, Nizam Institute of Medical Science, Hyderabad.
5. Dr. Seyed E Hasnain, Former VC University of Hyderabad, Presently Prof. IIT, New Delhi
6. Dr. K Mohan Das, Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST Thiruvanthapuram
7. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
8. Prof. Indira Nath, Raja Raman Fellow, Former Prof. of Biotechnology, AIIMS, New Delhi
9. Dr. Dwarka Nath (representing Dr. W Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO)
10. Dr. V M Katoch Secretary, DHR & DG, ICMR **Member Secretary**

Dr. J M Tharakan, Sr Professor of Cardiology, SCTIMST, Thrivananthapuram, Dr. G K Rath, Prof & Head, B R Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi and Sh. Rajiv Takru, Additional Secretary & FA, MOH&FW could not attend the meeting.

A team of senior officials of ICMR also attended the meeting as observers (List annexed)

Dr. Katoch welcomed and thanked Professor Tandon and other members of the HPC to taking time off to attend this important meeting. He mentioned that the activities of ICMR are regularly, systematically and independently being reviewed through a multi-tier review process viz., Scientific Advisory Board, Scientific Advisory Groups, Scientific Advisory Committees and Project Review Committees/ Expert Groups etc. comprising of external experts. This special review by this High Power Committee (HPC) has been mandated as per the directions of the Ministry of Finance, Govt of India to subject schemes approved for the XI Plan and proposed to be continued to the XII Plan period for evaluation through an independent and impartial agency with regard to performance in the XI Plan. This High Power Committee will undertake this evaluation and shall make recommendations with regard to whether the activities undertaken by ICMR need to be continued in XIIth Plan and in case the activities are to be continued then : whether there is an area of ICMR's activity that needs improvement; phasing out of expenditure in the XIIth Plan for each activity and setting of physical and financial milestones/targets for the XII Plan for each ICMR activity.

Dr. Katoch then requested to Prof. P N Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon welcomed the members and initiated the meeting with self-introduction by the members. He stated that the DHR's XII Pan document (that includes the activities and proposals of ICMR) is extensive with all details. He said that in view of the comprehensiveness of the document several key features did not get clearly highlighted, for e.g. the targets identified for the XI Plan, targets achieved; targets that could not be achieved during the plan period and reasons for not achieving the targets with proper justification for their continuation during the XII Plan. A clear listing of activities/proposals/projects of the XI Plan that could not be completed (with reasons there for) and are being taken forward to the XII Plan should be stated. From the present document, it is not easy to make out which activities/projects are being discontinued and which are proposed to be taken forward to the XII Plan. Further, a listing of continuing

proposals and their link with new proposals and their link to achievements of XII Plan will facilitate the proposed review process by the HPC. This information should be presented in tabular form.

Prof. Tandon also said that ICMR for long has been focusing on a disease-specific strategy with several institutes started with such a mandate. While such a strategy is good, in view of the changing epidemiological and technological advances, a time has come to relook at the strategy with more emphasis on a multidisciplinary approach to disease control programmes/projects involving other ICMR institutes/centres as well as non-ICMR institutes which is at the core of evaluation mandated by Finance Ministry. He also said that typically the ICMR Institutes have a set mandate and a time has come to think of specific time-bound, target oriented, delivery-specific strategies and to identify certain grand challenges. While research being done under the aegis of ICMR is vast and all encompassing and it is neither possible nor desirable to include every area in the XII Plan, he said that some important disciplines like cognitive disorders, regenerative medicine, biomedical engineering, bio-security, tissue engineering, health hazard of changing environmental scenario could have been more sharply focused in the document. He emphasized that human behavior research should not only focus on neurological disorders, CVD, other diseases but also concentrate on promoting preventive behavior, the key to the control of many diseases especially NCDs. Prof. Tandon finally concluded stating that the main thrust and focus of the Committee is to identify and discontinue such activities/projects of XI Plan that have fulfilled/outlived their mandate.

Subsequently, Dr. Katoch gave an overview of the major research activities undertaken, achievements of the ICMR along with flagship programmes initiated during the XI Plan. While presenting the achievements, the DG first highlighted the targeted deliverables to the Indian public. He said that a strong translation research programme has been launched with the identification of over 100 leads/technologies for the diagnosis of communicable diseases, genetic diseases, vector control, cancer control and vaccines from ICMR Institutes/Centres among others. These have further been prioritized to 30 leads/technologies that should be developed/evaluated so that some of them could be available to the Indian people by the end of 2013. These were circulated to members. He mentioned that this Translational Research activity is under his direct supervision with a bimonthly review being taken by him.

Dr. Katoch, while presenting the proposed activities of ICMR for XII Plan, said that some important proposals which could not be accomplished during the XI plan period are (i) establishment of new Centres on like Centre for Policy Research for Non-Communicable Diseases, (ii) National Centre for Cardiovascular Diseases, Diabetes and Stroke; (iii) ICMR Schools of Public Health (achieved partially); (iv) National Animal Resource Facility for Biomedical Research, (v) Institute for Research on Aging etc. These will be taken up either in the same form or modified in the light of new developments and advice/guidance provided by the HPC.

Dr. Katoch informed the HPC that one of his commitments was to strengthen and expand the research capability of Medical Colleges, especially those in the periphery. To that end, there has been a substantial increase on the outreach of ICMR extramural support from 70 to 94 medical colleges during the XI plan period. Significantly, the total expenditure on extramural funding rose from 52 cr in 2007-08 to 180 cr in 2011-12. He mentioned that many new extramural projects/fellowships (RA and SRF) were funded during last 3 years of XIth Plan in various areas. Many of these projects - 985 (180 Task Force, 793 Adhoc projects, 12 CARS) and Fellowships (670) are continuing in the XII Plan to complete their targets within the approved duration. He also highlighted the initiation of new programmes on Health Systems Research; Socio-behavioural research, new programmes on NCDs etc. He further informed about the fully functional online web-based project management system that facilitates online submission and processing of extramural projects is functional *w.e.f.* 1st January, 2012. With the initiation of this online project management system, concepts submitted are reviewed every month and decision is communicated within 4-6 weeks. Several Members of the Committee greatly appreciated this process.

Responding to the suggestion of Prof. Tandon about complementary synergy between ICMR institutes/Centres carrying out similar work, Dr. Katoch informed the HPC about two flagship programmes initiated during XI Plan *viz.*, the Tribal Health Research Forum and Vector Borne Disease Science Forum with participation of all ICMR institute/centres engaged in these areas. These fora meet several times a year. The Tribal Health Forum which meets every three months under his chairmanship especially has made significant strides with several new projects underway that address important but neglected issues of tribal health such as hypertension. He also mentioned about the vibrant *Mycobacterium* initiative at the NJIL&OMD, Agra that has over the years through inter-institutional mechanism contributed significantly

to the progress of R&D on TB. There is also a joint SAC for NJIL&OMD and the NIRT, Chennai in which four other ICMR Institute as well as directors of Govt of India institutes on TB participate. There are also a serious efforts toward consolidating the various programmes of various ICMR Institutes/ Headquarters on several important themes through collective thinking, complementary efforts to reduce duplication of efforts and promote participation of other stake holders and develop complementarity, cohesive and targeted plan of action. These should eventually yield positive results towards better understanding of the health problems of Indian population and also for the development of indigenous, affordable technologies. He also mentioned about the proposal to create a “Harvest Group” in the Council to identify leads from extramural research for bringing out products/processes and other deliverable for public health. The HPC was also informed of the status and progress of biological repositories namely Malaria Parasite Bank at NIMR, New Delhi, National Tumor Tissue Repository (NTTR) at Tata Memorial Centre, Mumbai and other repositories on Mycobacteria, HIV and Leishmania which need to be continued for furthering of research. Dr. Katoch also mentioned that the proposed expansion of the Biomedical Informatics Centres of ICMR from 9 to 20. He also talked about new activities such as setting up Computational Genomics; Virtual Training Centre, e- Office implementation in ICMR and Data Repository of ICMR etc.

Detailed information on these subjects were circulated during the meeting so that the members could go through these prior to the next meeting. This information was not available in the document circulated earlier.

This was followed by an in-depth discussion among the members. All the members of HPC made various important suggestions for this review as well as for overall improvement in the Plan of ICMR. These suggestions/recommendations are mentioned below:

Recommendations

- (i) The HPC appreciated the activities and achievements of the ICMR/DHR during the XI Plan period, especially progress achieved in various flagship schemes.
- (ii) The Committee while noting that all the activities and achievements of the ICMR are reflected in the comprehensive XII Plan report, for quick recapitulation and review the presentation in the Plan document the information should also be given in a tabular form. The Table should contain (i) proposals/targets proposed for the XI plan period; ii) current status in terms of completion of targets; if not, reasons for continuation during the XII Plan; (iii) activities which could not be achieved during the XI plan along with reasons for the same and need to be continued (iii) proposed (new) activities during the XII plan, and their link with XI Plan activities with clear goals/targets. Committee approved this as format for compilation and analysis of these programmes.
- (iii) The Committee noted that a substantial number of extramural projects will be continued in the XII Plan as per approved objectives, duration, budget and plan and with close monitoring by External Project Review Committees comprising of external experts. The committee recommended continuation of these projects as planned. New projects could be considered on several emerging areas as regenerative medicine, biomedical engineering, bio-security, tissue engineering, emerging environmental health hazards etc. that may not be addressed by the intramural system of the Council. Efforts should be continued and strengthened to encourage research in medical colleges.
- (iv) The Committee appreciated the proposal to create an “Harvest Group” to identify leads from extramural research towards making products, processes and other deliverable for the Indian public health system. This initiative should be complemented with a robust structure at the ICMR Hqs to address the complex discovery-development and delivery cycle. As involvement of industry is essential, suitable mechanisms may be created for strengthening institute-academia-industry partnerships. Similar models available as the one under Dr. Ashok Mishra, Former Director, IIT, Mumbai could be considered.
- (v) The Committee noted that several developmental activities, ongoing programmes such as biological repositories are essential. However, for continuation of these and for optimal utilization of ICMR infrastructure for non-ICMR entities several models available in public funded institutions could be considered and also mentioned in the revised document.
- (vi) The Committee noted that the three tier peer evaluation mechanism for reviewing, monitoring and approving of intramural programmes of various Institutes/ centres is working well for the ongoing intramural projects. The Committee, however, observed that some consolidation, pruning of some of the programmes will help achieving a better outcome. There should be stronger multi-disciplinarity

and interdepartmental/ intersectoral coordination and sharper focus on the outcomes/deliverables. However, the decision to discontinue any research area/activity of ICMR would be taken in consultation with subject experts. The Directors/ Heads of Divisions/ Programmes in ICMR will be given an opportunity to present their viewpoint.

- (vii) The Committee emphasized the need for that ICMR institutes to strengthen linkages with other local institutions should focus on collaborative research with medical colleges/research institutes/ Universities in the region. Such collaborative research could be very productive and should at once address the local/regional health problems besides strengthening and participation of faculty of medical colleges who will benefit from the expertise and infrastructure available with the ICMR Institutes/centres. MOU may be signed with them. Collaboration with medical colleges/State Government may be made mandatory for accelerating the translation and implementation research. The utility of equipments at ICMR's institutes may be increased by such collaborations.
- (viii) Some areas the HPC suggested strengthening during the XII Plan included research on urban health, cognitive science, dementia, ageing, behavioral science, gender (women health) issues with specific focus on psychosocial aspects, environmental health issues (like those consequent to global warming, urbanisation etc.)
- (ix) The long term programmes/ activities like NNMB, IDVC, HRRC etc should not be allowed to be affected due to non-availability or retirement of the competent personnel. All efforts should be made to identify and train suitable personnel to continue the activity further.
- (x) The Biosafety and Biosecurity issues need enhanced attention and ICMR may consider partnering with the DRDO.
- (xi) The Committee appreciated the impact of various biorepositories and suggested further strengthening through partnering with other agencies and as per standard international practices.
- (xii) The HPC recommended strengthening the initiatives towards creation of more short and long term fellowships for young scientists from SAARC and other developing countries with specific focus on African countries.
- (xiii) In order to strengthen the translation process in ICMR further mechanism for involving the Industry in the beginning itself may be worked out.
- (xiv) A suitable system may be evolved to regularly and systematically document and disseminate the outcomes of extramural research like publications, products and patents etc.
- (xv) The mechanisms to identify and avoid duplication of funding of research projects should be strengthened through involving sister agencies.
- (xvi) The HPC members applauded the initiation of new web-based review system for review and support of extramural projects and suggested that the review for approval and funding could be completed within six months.
- (xvii) The HPC while appreciating the progress made by the IJMR in publishing good high quality research papers and improved Impact Factor suggested increased periodicity to a fortnightly to bring down the turn-around time. Outsourcing to commercial publishers could be explored.
- (xviii) For improving the efficiency further, especially to reap the benefits of e-governance, the capability of scientists as also upgradation of infrastructure at ICMR Headquarters is recommended.
- (xix) A final working document for the XII plan of DHR including with ongoing activities recommended for continuation with year-wise targets and an inbuilt mechanism to evaluate the progress as stipulated by the Finance Ministry, Govt of India will be finalized by the HPC after in-depth review.
- (xx) It was decided that the HPC shall meet on 12th January, 2013 and 28th January, 2013.

The meeting ended with a vote of thanks to the Chair.



(Prof. P.N Tandon)
Chairperson

List of ICMR Officials who attended as observers

Smt Dharitri Panda, Sr Financial Advisor, ICMR

Heads of all Divisions/ Units at ICMR Hqrs : Dr. Bela Shah, Scientist 'G' & Head, Division of Non-Communicable Diseases, Dr. K K Singh, Scientist 'G' & Head, Division of Human Resource Planning & Development, Dr. Rashmi Arora, Scientist 'G' & Head, Communicable Diseases, Dr. Malabika Roy, Scientist 'F' & Head, Division of Reproductive & Child Health, Dr. G S Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur, Dr. Vijay Kumar, Scientist 'F' & Head, Division of Basic Medical Sciences, Dr. V K Srivastava, Scientist 'F' & Head, Division of P&I, Dr. Meera Singh, Scientist 'F' & Head Bioinformatic Centre, Dr. Mukesh Kumar, Scientist 'E' & Head, International Health Division, Dr. Neeraj Tandon, Scientist 'F' & Head, Medicinal Plant Unit, Dr. T P Ahluwalia, Scientist 'F' & Head, Health Systems Research, Dr. A S Kundu, Scientist 'E' & Head, Social Behavioural Unit).

Sh Sanjiv Datta, Former FA and Adviser to DG, ICMR.

Scientists of ICMR XII Plan Working Group: Dr. R S Sharma, Scientist 'F', Dr. Rajni Kant, Scientist 'D', Dr. Nivedita Gupta, Scientist 'D', Dr. Tanveer Kaur, Scientist D, Dr. Manjula Singh, Scientist 'C'.

Scientists of ICMR-DHR coordination Division : Dr. K Satyanarayana, Scientist 'G' & Coordinator DHR, Dr. R B Gupta Scientist 'E', Dr. A K Bagga, Scientist 'D', Dr. Ashoo Grover, Scientist 'C'.

MINUTES OF THE MEETING OF HIGH POWERED COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF ICMR INSTITUTES WORKING IN THE AREA OF VECTOR BORNE DISEASES AND ITS CONTROL HELD ON JANUARY 12, 2013 AT ICMR HQRS, NEW DELHI

The following attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Neurosurgery, AIIMS, New Delhi
Chairperson
2. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
3. Prof. Indira Nath, Raja Raman Fellow, Former Head, Dept of Biotechnology, AIIMS, New Delhi
4. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
5. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad.
6. Dr. Seyed E Hasnain, Former VC, University of Hyderabad, Presently Prof. IIT, New Delhi
7. Dr. Dwarka Nath, (representing Dr. W Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO)
8. Dr. J M Tharakan, Sr Professor of Cardiology, SCTIMST, Thrivanantpuram
1. Dr. V M Katoch, Secretary, DHR & DG, ICMR
Member Secretary

Dr. A C Dhariwal, Director, National Vector Borne Disease Control Programme, MOHFW, Delhi and Dr. P L Joshi, Former Director, National Vector Borne Disease Control Programme, MOHFW, Delhi participated as subject experts.

Dr. K Mohan Das, Vice-Chancellor, Kerala University of Health Sciences; Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore; Dr. G K Rath, Prof. & Head, B R Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi and Sh. Rajiv Takru, Additional Secretary & FA, MOH&FW could not attend the meeting.

Directors/ Director-in-Charge/ representatives of the 10 institutes involved in research on vector borne diseases and other Senior Officials of ICMR Hqrs also attended the meeting to answer the questions/ comments of the Committee (List annexed).

Dr. Katoch welcomed the Chairperson and all the members of the High Power Committee (HPC). He thanked them for sparing their valuable time for going through the documents as well as making very thoughtful comments on write-up received from institutes on their ongoing and proposed research activities. He mentioned that in the meeting research activities of the ten institutes of ICMR involved in research on vector borne diseases and their control will be discussed. Dr. Katoch then requested Prof. P N Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon welcomed the members and initiated the meeting with self-introduction of the directors of ICMR Institutes/ Centres and their representatives. Prof. Tandon reiterated that this review is not meant to be a fault findings exercise but to offer advice on appropriate measures for better coordinated and cohesive approach to get maximum research output. He mentioned that after going through the XII Plan document it is evident that ICMR has not only contributed a great deal to medical research but has participated and provided significant inputs for various National Programmes. However, the good work done by ICMR Institutes has not been highlighted properly and further there are some activities which have been going on for a long time and it is not clear as to what has been the output so far and what more needs to be achieved.

The Chairperson then discussed the work carried out by ICMR Institutes disease wise so as to get a comprehensive picture for each of the clustered activity. The diseases focused were Japanese encephalitis/ Acute Encephalitis syndrome, filariasis, dengue, chikungunia, malaria, and kala azar etc. The committee

took note of some of the important achievements like detection of JE virus antigen in desiccated vector mosquitoes, establishment of JE surveillance network in Tamil Nadu to monitor JE virus activity in vector mosquitoes, development of an early warning system for JE, development of JE detection kit, development of test for dengue, introduction of ACTs in National Drug Policy for malaria among others.

The committee observed that similar kind of work is being carried out by several Institutes at the same time and suggested that there should be a clear mention whether the work done by one institute is being repeated by others or is being validated or is it being carried out to generate geographically relevant information. Members opined that institutes working in a particular research area such as epidemiology, virology *etc* should club their activities under one head for better presentation and clarity. The Committee stressed that there should be co-ordination among the institutes carrying out research on the same area so as to prevent duplicity of work. Several examples of lack of clarity in the studies listed, inadequate information about technologies developed and their application vs what benefit will be achieved by their extension into XII Plan were pointed out by Chairman and members of HPC.

The research carried out by ICMR Institutes on malaria was discussed. The committee felt that some of the work done by the NIMR has been of national relevance and has been adopted by the programme also. But many other ICMR institutes are also carrying out work on malaria and there is a need for coordinated efforts among such institutes. The committee members commented that chloroquine resistance is known for decades but new information like *P. vivax* producing cerebral malaria should be highlighted. It was commented that there is a need for having a disease based models. The Committee was informed about the post tsunami ecological changes in the vector biology in Andaman & Nicobar Islands with disappearance of *An. sundiacus*, emergence of other species in some areas and possibility of zoonotic malaria. The committee felt that similar implications are true for other climate based studies and that should be reflected in the document.

The committee appreciated the work done by the Council's RMRC, Port Blair on leptospirosis and latex agglutination test and IgM ELISA for detection of leptospira antigen and suggested the need to extend this kind of work to other Institutes and also opined that the diagnostic techniques like ELISA for leptospirosis need to be validated for sensitivity and specificity.

Chairman mentioned the quality of work done by the VCRC on filariasis in past and commented that co-administration of Albendazole and DEC can prevent, control and treat the diseases but yet filariasis could not be eradicated from the country. Therefore research on filariasis should be a major activity of the XII plan. Further, he asked the RMRIMS, Patna to concentrate on research targeting elimination of Kalazar. He also mentioned about a formulation for the treatment of Kalazar that has been developed at Biotechnology Park, Lucknow. The use of amphotericin in PKDL cases in Bihar was discussed. Members commented that there is a significant visible improvement in Kalazar situation in Bihar now which highlights the need to consider research efforts on elimination of kalazar.

The committee mentioned that community acceptance and compliance of the LLIN/ITNs has been mentioned but its impact on reducing the malaria cases has not been presented anywhere in the document. The committee felt that activities like Parasite Bank, the RT- PCR based diagnostics, Pharmaco vigilance, drug resistance study particularly impending threat of ACT resistance are important but proper coordination with others is needed. Experts opined that these are good studies and have helped the national programme. The Committee stressed that interaction with implementation authorities is necessary and also cautioned that Institute (s) should not be overburdened by the work entrusted by others, as this will reduce their concentration from major activities. It was commented that activities like impact of climate change are of futuristic in nature and of national relevance but it needs to be clarified how such research will help in early warning. The need to have one chapter on Health Economics including cost of the treating diseases, loss of earning, man days lost *etc* was also emphasized by the Committee.

The committee felt that some of the studies such as efficacy of larvivorous fishes in mosquito larval control, role of *An. stephensi* as mosquito vector are well established facts, and there is no need for further evaluation unless any new species or innovative approach is involved. Similarly various centres have been carrying out work on plant extracts/herbal formulations which has not resulted in research of any significant public health impact and hence such studies need to be reviewed. Some members commented that studies like the use of neem coated urea should be better done by DBT as this is not mandate of ICMR.

Studies carried out on JE/ AES by CRME, NIV, RMRC Dibrugarh were discussed. Experts, however, expressed concern that problem is on the rise in various parts of the country. The Committee felt the good work done on Japanese Encephalitis should be continued in the XIIth plan in better coordinated manner involving various institutes of ICMR. Committee also stressed coordination with national programme launched by Govt recently.

Replying to the Experts suggestions and comments, Dr. Katoch remarked that as informed in the 1st meeting an initiative has already been taken for co-ordination among ICMR institutes by constituting a 'Vector Borne Disease Science Forum' in 2010 through which these institutes are interacting periodically. He added that since vector dynamics may be similar and many technologies may have similarity, others who are not in ICMR system can also join this group. He gave an example that JE virus detection in desiccated mosquitoes by CRME is of national significance but it needs to be tested and replicated by others hence it should be a network activity. He also informed the committee that in XII Plan ICMR has already documented a proposal for creation of a centre on Health Economics which will cover the issue of Health Economics.

The committee suggested that ICMR should be able to show the impact of its research on public health and this should be brought out in terms of clear deliverables/commitment of what will be achieved in the next five years. Further the committee was of the opinion that ICMR should identify 5-6 grand challenges for the next five years. Some of these may be in the form of development of comprehensive programmes for elimination of Filariasis and Kala azar and research should focus on these achievable goals.

Chairman desired that document may be further revised and rather than giving Institute wise details, a consolidated and concise note for each disease should be prepared clearly highlighting the current knowledge and disease burden, work done by ICMR institutes in the XIth Plan and the remaining work to be accomplished in XIIth plan so as to get a holistic picture for each of the clustered activity. Other members also agreed that there is a need for a road map for each Cluster Program. It was decided that this can be done by allocating a lead role for a institute working on a particular disease as its major activity e.g. for Malaria, NIMR Delhi may take the lead which may be complemented by the others, for filariasis it may be VCRC, similarly for JE it may be NIV, for dengue it could be CRME and for leishmaniasis it may be RMRIMS, Patna.

The Committee desired that disease specific document should also contain the list of publications, number of products, number of patents, list of Technologies developed, Technologies transferred, Human Resources trained and new Human Resources created along with ICMR leads being adopted by the WHO.

The following recommendations were made by the committee:

1. A concise note should be prepared for every vector borne disease clearly highlighting the current situation, achievements of each institute during XI Plan, important and essential activities which needs to be continued to XII plan with proper justification, time frame and deliverable outcome with public health impact. Further the document should highlight the research papers published, patents awarded, techniques developed, technology transferred to programmes/industry, human resource trained/ and new human resource created during the XIth plan.
2. The Institutes should focus on activities involving research component necessary for the development of affordable technologies and once a technique/model is developed and validated it should be transferred to the suitable National programme/agency for follow up.
3. There should be clear mention of any routine surveillance or monitoring activity being carried out by ICMR on the request of the Ministries, WHO, etc.
4. Important programmes like diagnostics, resistance studies, support to the national programs, collaboration with the states in outbreak investigations, maintenance of repositories/banks, database creation etc are important and need to be continued.
5. Each institute should prioritize their research activities and in the light of comments made by the Committee should themselves come up with a list of activities which may be discontinued because no additional information is expected to be generated or the programme has reached their logical end or it should now be transferred to the National programmes, etc.
6. Screening of plants for development of herbal drugs should be discontinued since such studies have not resulted in any significant outcome in general. However in cases where a structured programme already exists or some lead is available the specific case may be pursued.

7. Studies like use of fishes in mosquito control, establishment of role of *An. stephensi* as a vector of malaria etc which have been tested from time to time and proven facts need not be repeated unless their application in a new area is planned and efforts are needed to transfer such technologies for translation and implementation.
8. Important leads/ technologies developed by the Institutes should be tested and validated by other institutes and this should be reflected properly in the outcome related deliverables in the XII plan.
9. ICMR research efforts in the area of leishmaniasis (Kalazar) and filariae should concentrate on their elimination.
10. The disease specific documents in consultation with other institutes involved in a particular area with lead institute playing the major role should be prepared in 10 days and be examined by the subject experts before finalization. It was discussed that for malaria- NIMR, for filariasis- VCRC, for JE/AES - NIV, for Dengue/ Chikungunya- CRME, for Kalazar- RMRIMS, etc may take the lead.
11. It was decided that HPC will meet on January 28, 2013 and February 15, 2013.

The meeting ended with a vote of thanks to the Chair.



(Prof. P N Tandon)
Chairperson

List of Directors/Director-in-Charge/representatives of ICMR Institutes:

1. Dr. S K Kar, Director, RMRC, Bhubaneswar
2. Dr. P Jambulingam, Director, VCRC, Puducherry
3. Dr. Neeru Singh, Director, RMRCT, Jabalpur
4. Dr. P Vijaychari, Director, RMRC, Port Blair
5. Dr. B K Tyagi, Scientist G & Director-in-Charge, CRME, Madurai
6. Dr. D T Mourya, Scientist F, NIV, Pune
7. Dr. R C Dhiman, Scientist F, NIMR, New Delhi
8. Dr. Anil Prakash, Scientist F, RMRC, Dibrugarh
9. Dr. P K Sinha, Scientist E, RMRI, Patna
10. Dr. Karam Vir Singh, Scientist F, DMRC, Jodhpur
11. Dr. P Philip Samuel, CRME, Madurai
12. Dr. V N R. Das, Scientist E, RMRI, Patna
13. Dr. M R Ranjit, Scientist E, RMRC, Bhubaneswar
14. Dr. R K Hazra, Scientist D, RMRC, Bhubaneswar
15. Dr. B Dwivedi, Scientist C, RMRC, Bhubaneswar
16. Dr. P V Barde, Scientist C, RMRCT, Jabalpur
17. Dr. K B Saha, Scientist D, RMRCT, Jabalpur

List of ICMR Hqrs Officials

1. Smt Dharitri Panda, Sr FA, ICMR
2. Shri Sanjiv Datta, Former FA, ICMR and Advisor to DG, ICMR
3. Dr. Rashmi Arora, Scientist G & Head, ECD
4. Dr. R S Dhariwal, Scientist E, NCD
5. Dr. Rajni Kant, Scientist D, P&I
6. Shri R.K. Sharma, Former, Sr AO & Consultant

MINUTES OF THE 3rd MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF ICMR INSTITUTES HELD ON JANUARY 28, 2013 AT ICMR HQRS, NEW DELHI

The following attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Department of Neurosurgery, AIIMS, New Delhi **Chairperson**
2. Prof. Indira Nath, Raja Ramanna Fellow, Former Head, Dept of Biotechnology, AIIMS, New Delhi
3. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
4. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad.
5. Dr. Dwarka Nath, (representing Dr. W. Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO)
6. Dr. G K Rath, Prof. & Head, B.R. Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi
7. Dr. V M Katoch, Secretary, DHR & DG, ICMR, New Delhi **Member Secretary**

Subject Experts

1. Dr. V K Paul, Prof. & Head, Deptt. of Pediatrics, AIIMS, New Delhi
2. Dr. P K Julka, Professor, Department of Radiotherpay, AIIMS, New Delhi
3. Dr. S K Gupta, Staff Scientist VII, National Institute of Immunology, New Delhi
4. Dr. K C Gupta, Director, IITR, Lucknow
5. Dr. DCS Reddy, Former NPO, WHO-India, New Delhi

Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi; Dr. K Mohan Das, Vice-Chancellor, Kerala University of Health Sciences; Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore; Dr. Seyed E. Hasnain, Former VC University of Hyderabad, Presently Prof. IIT, New Delhi; Dr. J M Tharakan, Sr Professor of Cardiology, SCTIMST, Thrivanantpuram and Additional Secretary & FA, MOH&FW could not attend the meeting.

Directors/ Director-in-Charge/ representatives of the ICMR institutes and other Senior Officials of ICMR Hqrs also attended the meeting (List annexed).

Dr. Katoch welcomed the Chairperson and all the members of the High Power Committee (HPC) as well as subject experts invited for this meeting. He reiterated the mandate of the committee and mentioned that today in the 3rd meeting of HPC, research activities of the ICMR Institutes working in the area of Tuberculosis, Leprosy, HIV/AIDS, Reproductive & Child Health, Nutrition, Environmental and Occupational Health, Cytology & Preventive Oncology, Immuno-hematology etc will be discussed. He said that based on deliberation on Vector Borne Diseases and their Control in earlier meetings revised documents have been prepared which are being resubmitted for review by committee. He then requested Prof. P N Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon welcomed the members and mentioned that the committee has been given a very difficult task and therefore all the documents submitted by ICMR to the committee are being examined thoroughly. Prof. Tandon reiterated the comments he made in the last meeting on the documents prepared by the various institutes. He mentioned that an overview of the report shows that a lot of good work has been done by ICMR with considerable impact on public health; however it has not been highlighted properly in the documents prepared and submitted to HPC. He also commented that research of critical importance done by the various Institutes has not been projected well. He also stated that similar kinds of projects have been mentioned by an institute at a number of places and hence there is a need to reorganize the

contents of the document prepared and submitted to the committee. Further he mentioned that similar kind of work is being done by a number of institutes in ICMR network, though mostly these are multi-centric studies, but this has not been properly reflected.

Prof. Tandon also mentioned that the less important activities which will not contribute significantly to existing knowledge or will not have public health impact need to be discontinued. The committee then discussed the research activities of institutes one by one.

ICPO, Noida: The Experts noted that some of the achievements of the institute such as development of clinical data base, networking for screening of cervical and oral cancer and development of a magnifying device (Magnivisualizer) with an inbuilt source of light for use in field conditions for detecting carcinoma cervix *etc.* have not been highlighted.

Dr. Rath mentioned that cervical cancer is number one cancer today and PCR kit is best for HPV detection. Similarly prevention of HPV 16 is better through vaccination and such research should be the mandate of the institute as these types of cancers are preventable and there is a need for some serious efforts for the same. Further the experts were of the opinion that along with the research on development of the vaccine, it is also important that parallel research be carried out for the identification of the target group for the vaccine, doses to be given, implementation strategy *etc.* as there is lack of consensus on these aspects. It was also suggested that a formal group may be constituted on the issue of HPV vaccine. Dr. S K Gupta suggested that some sort of networking is important as others like NIRRH and DBT Institutes are also working in same areas. The committee felt that ICPO should be strengthened, vaccine research should be geared up and a formal group may be constituted as a focused group on vaccines. Prof. Tandon stated that each institute should accept one or two challenges besides the routine activities being carried out by them.

Director, ICPO assured the committee that he will revise the document and institute will focus its research activities on vaccine development.

NIRRH, Mumbai: Committee felt that they have generated a good data on various aspects of reproductive biology however document prepared showed unnecessary repetitions and less clarity at many places. Also collaborative research has not been clearly mentioned. Committee suggested that instead of chemical conjugation, recombinant protein should be used for development of anti fertility vaccine as it is difficult to replicate chemical conjugation. Prof. Tandon added that already enough resources have been spent on research on HIV vaccine without significant progress and hence there is no rationale of NIRRH taking up this task until they have a novel idea. The Experts also commented that peptides are not good candidates for microbicide development and may have limited practical outcome as compared to smaller molecules which will have better penetrability and solubility and hence better applicability. Prof. Tandon mentioned that though the institute seems to be doing good work related to socio-behavioral research but it needs to have focused activities. Further Prof. Tandon suggested that only standard abbreviations should be used in the document and emphasized on clarity required for some of the terms used.

The committee also appreciated the work of National Centre for Pre-Clinical Toxicology and suggested that it is an important activity and should be mentioned separately. Similarly the proposal to set up National Centre for Primate Breeding was also appreciated and was considered necessary.

Dr. Gupta suggested that Institute should not aim to set up tissue banks as this in itself is a full fledged activity and they should concentrate more on knowledge generation. Similarly research on DAZ genes was recommended to be discontinued.

Dr. Indira Nath pointed out that a number of research activities being undertaken by NIRRH like osteoporosis and menopause are overlapping with other institutes. Dr. Gourie Devi suggested that relationship with antiepileptic drugs and Polycystic ovary syndrome should be studied.

Director of institute assured the committee that he will revise the document keeping in view the suggestions made by the members.

NIN, Hyderabad: Prof. Tandon started the discussion with the note that he is a great admirer of NIN, however he expressed his disappointment on the document submitted by NIN which had a list of 73 projects. Some of these were repetitive in nature and hence pointed out the need for reorganizing the document. Prof. Tandon cited the example of obese rats mentioning that there are around 20 research

activities related to it given at various places in the document and suggested that all of these should be clubbed together clearly mentioning what has been achieved, what more needs to be done and expected outcomes. Prof. Tandon also commented that the contribution of CCMB in the work on alpha crystallin protein should be adequately acknowledged. He mentioned that many important contributions like revising the RDA for Indians *etc* have been lost by giving unnecessary details and lack of prioritization of activities. It was suggested that utility of Centre of Excellence in Bioinformatics should also be justified.

Prof. Vinod Paul commented that the document lacks vision and too much is being aimed for. He mentioned that the institute should identify and list few core areas of national relevance like under nutrition, stunting, anemia, obesity, *etc* and then decide the basic, clinical, epidemiological, operational and translational research which can be undertaken by the institute in each of these areas. Prof. Paul suggested that the document should have goals to be achieved by end of 5 years.

NIRT, Chennai and NJIL & OMD, Agra: Prof. Tandon said that he has great respect for NIRT but they should confine to few important activities which could reduce morbidity and mortality due to tuberculosis, towards development of diagnostic tests as well as vaccine. He said that there were some programmes which were in XIth plan but again reappeared in XIIth Plan. Prof. Tandon also said that socio-behavioral research is extremely important and should be continued. Dr. Katoch informed the committee that six ICMR Institutes are involved in TB research and NIRT and NJILOMD are two main institutes while four others are complimenting the efforts. Dr. Katoch also said that efforts should be made to reduce morbidity and mortality. It was felt that NIRT and NJILOMD have generated very good data and are in the forefront of Mycobacterial identification, drug resistance strains and diagnostics. The committee opined that the diagnostic techniques should be given priority and suggested that in XII Plan, ICMR should work hard for the same aiming for better sensitivity and specificity of tests. Work on Mw was also found useful as it has major application in category II and drug resistance tuberculosis. The committee was informed that in Ghatampur (U.P), DOTS and DOTS Plus strategy have been very effective and NIRT is doing similar work in South. Committee felt it as an important contribution. It was suggested that a third party evaluation should be done for the diagnostic test developed. Committee felt that HIV-TB co-infection study should be done in coordination with NARI. It is recommended that a comprehensive document on TB with contributions of all ICMR Institutes should be prepared. Committee was informed that currently 46 labs have been set up by Govt. of India (CTBD) for TB diagnosis. These are state labs and are also located in Medical Colleges. Committee was also informed that JALMA is a national centre for drug resistance surveillance of leprosy and common regimen advocated by JALMA has been adopted by WHO as informed by MDT. It was also suggested to treat the residual stigma of leprosy with sustained efforts.

NIOH, Ahmedabad: The discussion on research activities of NIOH was initiated with its mandate vis-à-vis work done. Dr. K C Gupta said that a number of studies have been carried out, but document does not mention deliverables and how regulatory authorities utilized them. Prof. P N Tandon said that studies related to neuro-cognitive test require expertise and facilities. He also advised to look into good work of Dr. Devika Nag in regards to all types of toxin published as a book.

Dr. Katoch informed the committee that considerable time is spent by Institute on studies commissioned on the request of the Government. It was suggested that NIOH document should have two parts (i) Government requested research activities and likely outcomes and (ii) Institute developed programmes.

NARI, Pune & NIE, Chennai: The committee appreciated the development of HIV Virus Repository at NARI, observed it as an important achievement. The committee also appreciated the progress of School of Public Health at NIE and courses on Public health being conducted at NIE as large number of people are being trained which is an important activity. Committee was also informed about the output of clinical trial unit and about other programmes of NARI. The committee discussed NACO supported Phase I and Phase II trials with Basant Polyherbal cream. Prof. Tandon said that NARI, should collaborate with medical colleges around them. All members felt that activities related to Public health should be supported.

NIIH, Mumbai: The committee appreciated the progress of Institute and agreed that some obligatory services to the hospitals need to be continued and so far as the new centres proposed are concerned the institute can prioritize which should come first. The committee also suggested for interacting with DBT Stem Cell Research Centre, Bangalore and cautioned on Biobank specially the DNA Banking as it requires to follow standards of the International Bioethics Committee. The committee expressed reservation for

Pharmacogenomic studies but agreed for immunodiagnostic and immunogenetic studies.

ERC, Mumbai: The committee appreciated the efforts and found clarity in the information provided by the institute. It was suggested that the institute should expand its research activities from Polio to other enteroviruses and should also have an explanation in the document that why surveillance should be continued.

The following recommendations were made by the committee:

1. All the institutes should revise their documents in the light of discussion held and as per the three formats developed. Institutes should also refer the general recommendations made in the earlier meetings.
2. ICMR should circulate minutes of the earlier meetings to all institutes for reference of discussion held in these meetings and recommendations made.
3. It is recommended that a comprehensive document on TB should be prepared by NIRT, Chennai reflecting contributions of all ICMR Institutes.
4. Any diagnostic kit developed by ICMR Institute should be evaluated by third party.
5. ICPO, Noida should constitute a focused group on development vaccines against cancers.
6. The committee also suggested to prepare 3-4 page document by the lead institute on cluster area of specific disease/condition in collaboration with other ICMR Institutes involved in similar activities. The lead Institute identified to prepare these documents are as under:

Area	Lead Institute (Coordinating Institutes/Centres)
TB/Leprosy	National Institute for Research in Tuberculosis, Chennai (with NJIL&OMD, Agra, RMRCs Dibrugarh, Jabalpur, Port Blair, NIE, Chennai, etc.)
HIV/TB	National Institute for Research in Tuberculosis, Chennai (with NARI and others including treatment of HIV, diagnostics, Opportunistic infections, etc.)
HPV	Institute of Cytology & Preventive Oncology, Noida (with NIRRH)
STD/Chlamydia	National Institute of Pathology, New Delhi (with NIRRH, Mumbai).
Nutrition	National Institute of Nutrition (NIN), Hyderabad (with RMRCs and others)
Diarrhoeal & Enteric Diseases	National Institute of Cholera & Enteric Diseases, Kolkata (with RMRCs, Bhubaneswar, Port Blair and others)

The documents may contain a brief introduction, with current situation and disease burden and ICMR Contributions during XI Plan. Activities planned for XII Plan may be highlighted in the light of time frame, deliverable outcome and public impact. The document may also contain the number of Publications in that area, list of patents/technologies developed/transferred and Human Resources trained/generated.

The meeting ended with a vote of thanks to the Chair and it was suggested that remaining institutes and Extramural activities will be covered in the next HPC meeting scheduled for 15th Feb, 2013.



(Prof. P N Tandon)
Chairperson

List of Directors/Director-in-Charge/representatives of ICMR Institutes:

1. Dr. (Mrs.) Kiran Katoch, Director, NJIL & OMD, Agra
2. Dr. Sunita Saxena, Director, NIP, New Delhi
3. Dr. P K Nag, Director NIOH, Ahmedabad
4. Dr. S M Mehendale, Director, NIE, Chennai
5. Dr. Soumya Swaminathan, Director, NIRT Chennai
6. Dr. J M Deshpande, Director, ERC, Mumbai
7. Dr. S D Kholkhute, Director, NIRRH, Mumbai
8. Dr. Arvind Pandey, Director, NIMS, New Delhi
9. Dr. R S Paranjape, Director, NARI, Pune
10. Dr. A Nandakumar, Director-in-Charge, NCDIR Bangalore
11. Dr. Ravi Mehrotra, Director, ICPO, Noida
12. Dr. Kalpagam Polasa, Scientist 'F' & Director in Charge, NIN, Hyderabad
13. Dr. A Laxmaiah, Scientist 'E', NIN, Hyderabad
14. Dr. S Chakrabarti, Director, NICED, Kolkata
15. Dr. Sanjay Chawla, NIRRH, Mumbai
16. Dr. Deepak Modi, NIRRH, Mumbai
17. Dr. KVR Reddy, NIRRH, Mumbai
18. Dr. Parag M. Tamhankar, GRC, Mumbai
19. Dr. Anita Nadkarni, Scientist 'D', NIIH, Mumbai
20. Dr. Malay Mukherjee, Scientist 'D', NIIH, Mumbai

List of ICMR Hqrs Officials

1. Smt Dharitri Panda, Sr FA, ICMR
2. Shri Sanjiv Datta, Former FA, ICMR and Advisor to DG, ICMR
3. Dr. G S Toteja, Scientist 'G', Head (Nutrition)
4. Dr. Malabika Roy, Scientist 'F' & Head, RCH
5. Dr. Vijay Kumar, Scientist 'F' & Head, BMS
6. Dr. Rajni Kant, Scientist 'D', P&I
7. Dr. Nivedita Gupta, Scientist D, ECD
8. Dr. A N Kapoor, Scientist 'F' & Head RCH
9. Dr. Manjula Singh Scientist 'C', ECD
10. Dr. R S Dhariwal, Scientist 'E', NCD
11. Shri R K Sharma, Former, Sr AO & Consultant

MINUTES OF THE MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF INDIAN COUNCIL OF MEDICAL RESEARCH HELD ON FEBRUARY 15, 2013 AT ICMR HQRS, NEW DELHI

The following members attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Neurosurgery, AIIMS, New Delhi *Chairperson*
2. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
3. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
4. Prof. Indira Nath, Raja Ramanna Fellow, Former Professor of Biotechnology, AIIMS, New Delhi
5. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
6. Dr. Dwarka Nath, (representing Dr. W Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO)
7. Prof. Jagan Mohan Tharakan, Senior Professor of Cardiology, SCTIMST, Thrivanantpuram
8. Dr. G K Rath, Prof. & Head, BR Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi
9. Dr. V M Katoch Secretary, DHR & DG, ICMR *Member Secretary*

Subjects Experts

Dr. H P Sachdeva, Sr Consultant, Sitaram Bhartia Institute of Sciences and Research, New Delhi, Dr. V K Bahl, Prof. & Head, Dept of Cardiology, AIIMS, New Delhi, Dr. V K Paul, Prof. & Head, Dept of Pediatrics, AIIMS, New Delhi, Dr. Y K Gupta, Prof. & Head, Dept of Pharmacology, AIIMS, New Delhi, Dr. N K Mehra, Prof. & Head, Dept of Transplant Immunology & Immunogenetics, AIIMS, New Delhi, Dr. P K Julka, Prof. & Head, Dept of Radiology, AIIMS, New Delhi, Dr. S S Handa, Former Director, IIM, Jammu, Dr. K R Nayar, Prof. & Head, Dept of Social Medicine & Community Medicine, School of Social Sciences, JNU, New Delhi, Dr. R C Mahajan, Former Prof. & Head, Dept of Parasitology, PGI, Chandigarh, Dr. L Dhaliwal, Prof. & Head, Dept of Obstetrics & Gynecology, PGI, Chandigarh, Dr. DCS Reddy, Former Advisor, HIV/AIDS Project, WHO, Lucknow, Dr. P L Joshi, Former Director, NVBDCP, Delhi

Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad, Dr. Seyed E. Hasnain, Former VC University of Hyderabad, Hyderabad, Presently Prof. IIT, New Delhi, Dr. K Mohan Das, Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST, Thiruvanthapuram and Shri Naresh Salecha, JS & FA, Ministry of Health & Family Welfare, GOI could not attend the meeting.

Directors/Director-in-Charge/ representatives of the 5 ICMR Institutes, Divisional Heads of the ICMR Hqrs and other Senior Officials of ICMR Hqrs also attended the meeting to answer to the questions/ comments of the Committee (List annexed).

Dr. Katoch welcomed the members to 4th meeting of High Power Committee and summarized the proceedings of earlier three meetings. He reiterated that exploratory testing of herbal and plant preparation should be discouraged and may only be taken if there are any significant leads. However, he added, that ICMR's Belgaum Institute has been set up to promote research work on Herbal Medicines and will pursue the mandate as per suggestion of SAC. Dr. Katoch informed members that in today's meeting, research activities of the NICED, Kolkata, NIMS, NIOP, New Delhi, NCDIR, Bangalore and RMRC Belgaum as well as extramural activities operated through Headquarters will be discussed. He requested Prof. Tandon to chair the meeting and conduct the proceedings.

Prof. Tandon thanked the members and appreciated the efforts of all those who were associated in making the revised documents based on discussions and recommendations of earlier meetings of High power Committee. He said that ICMR has done tremendous amounts of good research work and it should be presented in the following ways (i) Contribution towards National Programmes (ii) work done towards

improving Health delivery System and (iii) New knowledge generated. He then asked the Scientists of the NICED, Kolkata to present their work.

NICED, Kolkata: Dr. Dipika Sur of the NICED, Kolkata informed about the work related to Shigella and Salmonella vaccine being carried out at the Institute and also about the Dipstick test for the diagnosis of cholera. The committee wanted to know the activity which can make a public impact in near future and the leads which can be taken forward. Lt General Raghunath informed that Dipstick has been prepared by someone else and have only been tested by the Institute. Dr. Mahajan informed that vaccine has been prepared by the Shanta biotech. On NICED, Virus Research Centre, the committee felt that there is no coordination with the RMRC Dibrugarh which is the nodal centre for arboviruses. It was also informed that there is no Grade 1 viral diagnostic laboratory in east zone and due to inadequate facilities in medical colleges in Kolkata, Virus Research Unit (Regional Virology Lab) located at NICED virological complex can take up this work and provide support to entire West Bengal areas. Lt Gen Raghunath also emphasized that there is a need for restructuring and re-phasing of the work. As the committee could not be convinced with the presentation it was suggested that the research work of the Institute may be discussed again in next meeting with more clarity.

NIOP, New Delhi: Research activities of NIOP, New Delhi were discussed. The committee was informed about the document on Chlamydia prepared by the Institute. Dr. Saxena briefed about the work related to pesticides exposure and cancer in North East as well as also work related to tobacco & beetle use. It was recommended by the Committee that a comprehensive document on cancer should be prepared involving ICPO, Noida, NCDIR, Bangalore, NIOP, Delhi and RMRC, Dibrugarh. Activities of the Institute like work on submucous fibrosis, pilot studies on autograft and early markers of cancer in collaboration with GB Pant Hospital, New Delhi were also discussed. The committee suggested that if anything positive comes out in a year only then the study on early markers should continue and include more centres. Dr. Mehra advised that follow up is of utmost importance and should be taken care off. The committee felt that the Institute is engaged in many other studies like work on leishmaniasis, diabetes mellitus, chronic obstructive lung diseases etc with no clear cut direction. Dr. Saxena informed that all these have been mentioned in the vision document as a thrust area. The committee felt that NIOP should focus its work on pathologies of various diseases of national importance/problem as well as on the chronic inflammatory diseases. Dr. Nath suggested to find out the overlap areas and pointed out that pesticide study is now a multi-institute activity in ICMR. Dr. Katoch informed the group that ICMR has strengthened research activities on environmental health by setting up NIREH at Bhopal. Dr. Julka mentioned that cancer of Urinary bladder is a problem in India. Dr. Rath suggested that the Institute should also work in the area of cancer considering the urban and rural divide. Dr. Saxena informed that they are already doing the urban part and will also cover the rural population as well. She also briefed about the Tumour Tissue Repository of the Institute. Dr. Saxena assured that they will consider to drop studies on toxicology, metabolic syndrome etc. and will focus on the main mandate of the Institute.

NCDIR, Bangalore: The committee was informed that the institute is the result of the evolution of the Cancer Registry Programme during XI plan. Dr. Nanda Kumar explained the major activities of the Institute and informed that they are covering the north east area and found high incidence of stomach and oesophageal cancer. He also informed about the Malwa region of the Punjab being a problematic area for cancer. Dr. Gupta suggested to work out the age related disease. He added that Registry can be a mechanism for forecasting. Dr. Gourie Devi suggested to include the diseases like dementia, stroke, Alzheimer etc as not much of information is available on these. Dr. Tandon suggested that institute should not be loaded with several types of work at this stage and if they want, may carry out population based studies, especially on degenerative diseases.

NIMS, New Delhi: Dr. R J Yadav summarized the activities of the NIMS, New Delhi and highlighted the work related to HIV/AIDS estimation projection since 2003 and trends of HIV epidemics. He also highlighted the establishment of Clinical Trial Registry of India (CTRI). Prof. Tandon appreciated that the information provided was very precise and clearly written. He further wanted to know how many clinical trials are registered in CTRI and he was informed by Dr. Yadav that total 3300 clinical trials are registered. The strengthening of the recording system and monitoring is also required as we do not know what is happening after registration. Dr. Gupta advised that multilevel approach is needed as large numbers of medical colleges and even private nursing homes are not aware of CTRI. Dr. S K Joshi advised that NIMS should be the leader in database management of many diseases and there is a need for synergy between different Institutes. He suggested Institute to join hands with ISI, Delhi Branch.

EXTRAMURAL ACTIVITIES

Division of Epidemiology and Communicable Diseases (ECD): Activities of Division were presented by Dr. Arora. She informed the group that Division is coordinating the programme of 17 institutes of the ICMR in the area of communicable diseases and has also funded 440 adhoc projects and 100 fellowships. She also explained about the new initiatives such as Antimicrobial Resistance studies which will be strengthened in XII Plan. The committee was informed about the establishment of network of the viral diagnostic laboratories, Vector Borne Disease Science Forum (a new initiative which has brought 10 Institutes working in same area under one umbrella and NVBDCP, NCDC and some non-ICMR Institutes, Universities and Medical Colleges are partner) and Tribal Health Research Forum. The group suggested to include the research activities on all marginalized communities instead of only tribal. It was discussed that involvement of medical colleges is also important and ICMR can adopt medical colleges to support research, lab facility and training (HRD) and existing Institutes of ICMR can play a major role in this effort. Dr. Katoch informed the group that extramural funding of the ICMR has increased from 12% to 35% of its total budget *i.e.* from 52 crores to 180 crores in recent past. Lt Gen Raghunath suggested that research on presence of *P. malariae* in Orissa, its genotyping and changing behaviour of vectors should further be studied. It was suggested to undertake situation analysis with broader goals including diseases dynamics and effect of interventions. He also suggested that long term strategic projects need to be continued with goal oriented approach. On a query to commitment for filariasis in XII Plan, it was informed that ICMR is not directly responsible for elimination of Kalazar and filariasis though helping the national programmes through knowledge generation and technical support.

Division of Reproductive & Child Health (RCH): Dr. Malabika Roy presented the work related to Reproductive and Child Health and described about the studies on safe motherhood, child survival, cost effective technologies, novel technologies and contraceptive choices. The committee pointed out the cafeteria approach studies conducted long back but wanted to know the outcome of such studies. It was discussed that the basket is full but it has not reached to the people and community acceptance has to be enhanced. The committee also raised concern on deliverability issues and wanted to know why country has not benefited. The committee felt that India has not done well in Reproductive Health, though some states have performed well because of their own efforts. Dr. Dhaliwal suggested that outcome of the studies like those on eclampsia, use of magnesium sulphate and guidelines or standard protocols should be conveyed to the Gynecologists. Similarly in case of anaemia use of Iron tablet once a week or daily should be highlighted. It was discussed that Implants showed wonderful results but there is a need for transfer of technology and Gynecologists should know about the injectable contraceptives. The committee felt that some bulletin/periodical every 3 months should convey the information to the clinicians. While discussing on ART, it was felt that ICMR ART Guidelines should also contain information related to sperm banks. Committee recommended studies on new areas like gender based violence, reproductive health in disability, adolescent health and home based management of pneumonia. It was suggested that document may be revised in the light of discussions by taking the help of Dr. Dhaliwal, Dr. Sachdev and Dr. Paul.

Nutrition: Dr. Toteja informed that the Division is mainly carrying out research on Government advised/directed agenda. He also mentioned about on going multicentre interventional study on "Role of Diet and Life Style in relation to Hypertension", besides studies on fluorosis. The committee felt that besides, Government advised/directed programmes, the Division should work on low birth weight, anaemia, under weight malnutrition and adolescent's health.

Health System Research (HSR): The committee was informed that this is an important activity and a new Unit has been set up two and half year back. Prof. Tandon said that though the area is important, good coordination is required between DHR and DGHS. He also mentioned that at many places in document 'non- applicable' is written, but most of them are applicable. He suggested to revise the document and especially mentioning how various efforts should be made to arrive at logical conclusions. Dr. Gourie Devi felt that among the DHR 9 functions the most important is to take technologies to the people and this unit can do a lot in this direction.

RMRC, Belgaum and Medicinal Plant Unit of ICMR Hqrs: The committee felt that except for Guggul, Ksharsootra in past many studies on Herbal products have been done and nothing concrete has emerged. Prof. Tandon highlighted the activities of the CDRI and CIMAP in this field and suggested that repetition of these efforts should be avoided. Dr. S K Joshi was of the view that drug development from plant based materials has not been useful so we need to stop this kind of activities. Shri Sanjiv Datta informed that these activities are being done on the recommendations of the Parliament. Dr. Gupta informed the group that Herbal Drug Research is a scattered matter and there is no clarity hence, consolidation of activities

is needed. Prof. Tandon added that even AYUSH was created only for this kind of activity and there are many more agencies which are engaged in plant based research. Dr. Nath gave the example of China which is having a multi-million dollar industry and felt that our marketing strategy is poor and tight regulations on alternative medicine are required. Prof. Tandon advised that if program is to be continued, total new strategy will be required. Dr. Katoch briefed the group about the Golden Triangle programme among CSIR, ICMR and AYUSH. Dr. Handa informed that globally during 1981 to 2000, 60% of the drugs have come from plants. He further added that ICMR has been the pioneer in this area and monograph on quality standard brought out by ICMR are now being used as a reference sources for developing official pharmacopial monographs by United States Pharmacopial, British Pharmacopial and European Union, besides Indian Pharmacopial and Ayurveda Pharmacopial of India. Dr. Katoch clarified that our primary objective is to do work which has direct impact so that to save lives. On reacting to the activities of the RMRC, Belgaum, Prof. Tandon informed that survey of medicinal plants and museum for ethnomedicinal plants have already been maintained by the CIMAP and others. It was suggested that activities of the centre should be complimented/supplemented with the institutes in the region. On the ongoing activities of the Medicinal Plant Unit, the committee felt that knowledge generation, developing quality monographs, review monographs should be continued, however duplication should be avoided.

Socio-behavioural Research Unit: Dr. Kundu briefed about the work of the Unit which came into existence three years ago only. Dr. Vinod Paul mentioned the role of social science in Maternal and Child Health research, especially related to public health importance. Dr. Katoch informed the group about the recent collaboration of ICMR with ICSSR. Tandon said that no doubt that this is extremely important area of research, but expressed his unhappiness with presentation of documents. It was suggested that the present document may be revised with the help of Dr. Nayar.

Recommendations:

1. NICED, Kolkata will revise the document based on suggestions made by members and will make a presentation in next meeting scheduled for 5th March 2013.
2. Division of Health System Research will revise the document keeping in view the suggestions made by the experts. Division of Socio Behavioural Research will also revise the document in consultation with Dr. K R Nayar, JNU, New Delhi. Similarly, Division of Reproductive and Child Health will revise the document in consultation with Dr. L Dhaliwal, PGI, Chandigarh and Dr. H P S Sachdev and Dr. Vinod Paul.
3. The comprehensive document on Cancer will be prepared by NIOP, New Delhi involving ICPO, Noida; NCDIR, Bangalore and RMRC, Dibrugarh.
4. Testing and screening of herbal and plant preparations in general should be discouraged and these studies may only further be taken, if there is any lead. However, ICMR's RMRC, Belgaum which was set up to promote research work on herbal medicine can continue such programmes with stress on complimentary/ supplementary research activities with the institutes in the region.
5. Medicinal Plant Unit of ICMR Hqrs can take up the studies related to knowledge generation, development of quality standard monographs and review monographs. Duplication of work should be avoided.
6. NIOP, New Delhi will discontinue studies on toxicology, metabolic (diabetes) and chronic diseases.
7. Vector borne disease is an important area of research and situation analysis with broader goals including disease dynamics and the effect of intervention should be undertaken.
8. NIMS, New Delhi should strengthen the existing Clinical Trials Registry of India with focus on recording and monitoring system of clinical trials.
9. The Division of Reproductive and Child Health should focus on deliverability and acceptability of technology and preparation and circulation of relevant Guidelines for clinicians.
10. Division of Nutrition should continue working on Government advised/directed programmes but also develop programmes with respect to low birth weight, anaemia, under weight malnutrition and adolescent health.

It was decided to have next meeting on 5th March, 2013 to discuss the activities of the NICED, Kolkata and remaining Divisions of the ICMR Hqrs and a meeting on 15th March, 2013 to discuss the finalization of report.

The meeting ended with a vote of thanks to the Chair.



(Prof. P N Tandon)
Chairperson

List of ICMR Officials who attended as observers

Smt Dharitri Panda, Sr Financial Advisor, ICMR

Shri T S Jawahar, Sr DDG (Admn), ICMR

Director's/Director-in-Charge their representatives: Dr. Sunita Saxena, Director, NIOP, New Delhi, Dr. S P Tripathy, Director, NJILOMD, Agra, Dr. R J Yadav, Scientist G, NIMS, New Delhi, Dr. Dipika Sur, Scientist F and Dr. Ranjan K Nandy, Scientist D, NICED, Kolkata, Dr. LK Yerneni, Scientist D, NIOP, Dr. S Rastogi, Scientist E, NIOP, Dr. Poonam Salotra, Scientist F, NIOP, Dr. Harsha Hegde, Scientist B, RMRC, Belgaum.

Heads of all Divisions/ Units at ICMR Hqrs : Dr. Rashmi Arora, Scientist 'G' & Head, Division of Epidemiology and Communicable Diseases, Dr. K K Singh, Scientist 'G' & Head, Division of Human Resource Planning & Development, Dr. G S Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur, Dr. D K Shukla, Scientist 'F', Division of Non-Communicable Diseases, Dr. Malabika Roy, Scientist 'F' & Head, Division of Reproductive & Child Health, Dr. Vijay Kumar, Scientist 'F' & Head, Division of Basic Medical Sciences, Dr. V K Srivastava, Scientist 'F' & Head, Division of P&I, Dr. Meera Singh, Scientist 'F' & Head Bioinformatic Centre, Dr. Neeraj Tandon, Scientist 'F' & Head, Medicinal Plant Unit, Dr. T P Ahluwalia, Scientist 'F' & Head, Health Systems Research, Dr. Mukesh Kumar, Scientist 'E' & Head, International Health Division, Dr. A S Kundu, Scientist 'E' & Head, Social Behavioural Unit.

Sh Sanjiv Datta, Former FA and Adviser to DG, ICMR.

Scientists of ICMR XII Plan Working Group: Dr. Chandrashekhar, Scientist F, RCH, Dr. R S Sharma, Scientist 'F', Dr. Rajni Kant, Scientist 'D', Dr. Nivedita Gupta, Scientist 'D', Dr. Tanveer Kaur, Scientist D, Dr. Manjula Singh, Scientist C.

Scientists of ICMR Hqrs: Dr. Nomita Chandhiok, Scientist F, RCH, Dr. Shiv Kumar, Scientist F, RCH, Dr. Anju Sharma, Scientist F, P&I, Dr. R S Dahriwal, Scientist E, NCD, Dr. Shalini Singh, Scientist D, RCH, Dr. Harpreet Sandhu, Scientist D, IHD, Dr. A K Bagga, Scientist D, Dr. Sadhana Srivastava, Scientist D.

MINUTES OF THE 5th MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF INDIAN COUNCIL OF MEDICAL RESEARCH HELD ON 5th MARCH 2013 AT ICMR HQRS, NEW DELHI

The following members attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Department of Neurosurgery, AIIMS, New Delhi **Chairperson**
2. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
3. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
4. Prof. Indira Nath, Raja Ramanna Fellow, Former Professor of Biotechnology, AIIMS, New Delhi
5. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad
6. Dr. Seyed E Hasnain, Former VC University of Hyderabad, Hyderabad Presently Prof. IIT, New Delhi
7. Dr. V M Katoch Secretary, DHR & DG, ICMR **Member Secretary**

Subjects Experts

Dr. V K Bahl, Prof. & Head, Dept of Cardiology, AIIMS, New Delhi, Dr. N K Mehra, Prof. & Head, Dept of Transplant Immunology & Immunogenetics, AIIMS, New Delhi, Dr. P K Julka, Prof. & Head, Dept of Radiology, AIIMS, New Delhi, Dr. P L Joshi, Former Director, NVBDCP, New Delhi, Dr. Dinakar Salunke, Executive Director, Regional Centre for Biotechnology, Gurgaon, Dr. R Saha, Former Director, TIFAC, New Delhi

Dr. M. Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore, Dr. W Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO, Prof. Jagan Mohan Tharakan, Senior Professor of Cardiology, SCTIMST, Thrivananthapuram, Dr. G K Rath, Prof. & Head, BR Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi, Dr. K Mohan Das, Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST, Thiruvanthapuram, Dr. Y K Gupta, Prof. & Head, Dept of Pharmacology, AIIMS, New Delhi, and Shri S K Srivastava, AS & FA, Ministry of Health & Family Welfare, GOI could not attend the meeting.

Dr. Shekhar Chakrabarti, Director-in-Charge, NICED, Kolkata and Heads of the Divisions of ECD, NCD, BMS, BIC, IPR, IHD, P&I and HSR and other Senior Officials of ICMR Hqrs also attended the meeting to answer to the questions/ comments of the Committee (List annexed).

Dr. Katoch welcomed the members to 5th meeting of High Power Committee and briefed about the aims and objectives and discussions held in previous meetings. He also informed the group about the preparation of diseases specific documents. Dr. Katoch said that in today's meeting research activities of NICED and extramural activities of Divisions of ICMR Hqrs. will be taken up. He requested Prof. Tandon to chair the meeting and conduct the proceedings.

Prof. Tandon thanked the members and appreciated the efforts of all those who were associated in making the revised documents as well as disease specific documents based on discussions and recommendations of earlier meetings of High Power Committee. He said that now we have better understanding of the ongoing programmes and future plans. He then requested Dr. Chakrabarty to present the activities of NICED, Kolkata.

Dr. Chakrabarti highlighted the main activities of the Institute particularly those related with the research on Salmonella and Shigella and informed the group that Institute has added community based studies in addition to the earlier Hospital based studies. He further informed the group about establishment of ICMR rotavirus surveillance network that will cover many diverse aspects of the disease with different partners. Dr. Chakrabarty also briefed about the vaccine trials mainly cholera vaccine Shanhkol provided by IVI,

Korea. Committee also enquired about the progress of Indian vaccine and it was informed that it is in Phase II stage. The committee suggested that if any lead has emerged from the completed studies or if there is any offshoot there of that should be clearly indicated and efforts should now be made for translational work and cited the example of azithromycin and enquired why this study has not gone to the program. It was felt by all that since diarrhoea continue to remain a serious national problem the Institute should keep a track of diarrhoeal diseases in the country and provide necessary tools, new techniques so that whole nation is benefited. Prof. Tandon said that NICED, in National Interest, should focus their research work on some major problems such as diarrheal diseases and typhoid. NICED should also commit for release on improving the diagnostic tools. Prof. Tandon further said that NICED should mention in their documents, the priority research areas which Institute will be able to address by the end of 12th Plan.

Dr. S K Joshi said that cholera is a major health problem in the country so cholera should be the major area of research for NICED. Research in other areas could be supplementary in nature. He also said that while working on research programmes with International agencies, Institutes should not loose its focus and there is a need to have an adequate balance of basic, clinical and epidemiological research.

Dr. Raghunath pointed out that Institute is doing a large number of studies and besides studies on the focus areas of the Institute, NICED being the major biomedical research institute in the eastern region should also meet the requirements of various agencies as well as of local needs.

NICED was asked to revise the document keeping in view the various suggestions made by experts. The Institute should clearly mention in their revised documents, the deliverables at the end of 12th Plan.

Division of NCD: Dr. Shukla presented the work of the Division of Non-Communicable Diseases (NCD) and highlighted the work of Cancer Registry which has provided valuable data. Prof. Tandon said that individual driven adhoc projects could be from any field of medical science, but task forces should be multicentric, goal oriented and time bound. Centres of excellence/advance centres should be for five years with specific goals. He said that NCD should focus on task forces and centres of excellence while adhoc projects will continue and if any leads have been identified from these they can be taken forward in 12th Plan. Prof. Tandon further said that while finalizing report of High Power Committee, we should only mention about number of adhoc projects sanctioned in 11th Plan and number of projects likely to be considered during 12th Plan. Dr. Indira Nath suggested that for each Registry there should be a consolidated statement indicating what has been achieved in XI Plan and the proposed commitments for the XII Plan. Dr. Julka commented that cancer registry data are useful and biobanking is extremely important.

Dr. SK Joshi appreciated the idea of setting up a National Institute of Health Economics and Policy Research and Dr. Katoch briefed him about the details of the other new proposed institutes in XII Plan.

The committee suggested that during the 12th Plan Division should focus on developing guidelines for management of various non communicable diseases. Dr. Bahl suggested that several cardiovascular diseases are very low priority for developed countries and India needs to develop its own guidelines for management of these diseases like unstable angina, Thrombolytics in AMI, Use of Penicillin and its alternatives in RHD, etc. The Committee suggested that a 2-3 page write-up on the thrust areas for cardiovascular diseases and neurology may be submitted by the division for circulation to all the members. It was suggested that a compact document highlighting the major areas and activities of the division can be prepared. A detailed review of the proposed Bio-bank facility, in light of the new regulatory, bio-safety and bio-ethical issues, should be undertaken before initiation of this activity. Some of the general areas suggested by the Committee were Health consequences of time management, Health consequences of nano-particles, Age related morbidities and its prevention, Regenerative medicine, Preventive medicine, Dental health, Human cognition at various stages of life, adolescent health especially of girls, fetal medicine as examples.

Division of Basic Medical Sciences: Dr. Vijay Kumar presented the work of the Division. He informed about the Centre for Advanced Research and other ongoing projects.

Dr. Joshi wanted to know if there is any significant association between Yoga and improvement in mental and physical health. Dr. Bahl informed that Dr. Manchanda did some studies on the impact of yoga, diet on CAD, but added that most of the studies have been subjective and not objective though added that now FMR is also being used. Overall, the Chairman & experts opined that Yoga has positive impact on mental health. The work of the Centre for Advanced Research on Yoga was also discussed.

Division of Human Resource Planning and Development: Dr. K K Singh informed that HRD activities are being expanded with specialized training programmes/fellowship in cutting edge areas in Life Sciences and also in Social Sciences including Operational Research. He explained ICMR efforts for award of JRF, PDF, MD/Ph.D., international fellowship to provide support to junior and senior level biomedical researchers to attend a conference/workshop; financial assistance for MD/MS/MCH/DM Thesis; short term training programme for ICMR as well as Non-ICMR scientists and ICMR awards and prizes. The Committee observed that the positions for JRF may be increased from 150 to 500 as there is very tough competition and only one person gets selected out of 400 candidates. Seats for Post-Doctoral Fellowship may also be raised from 50 to 250 and it should also include medical colleges as well. It was also discussed that financial assistance to MD/MS/MCH/DM Thesis may also be increased from present 50 to 200 and the committee recommended that since the amount of ICMR awards varies from Rs. 10,000/- to Rs. 1,00,000/- which needs a revision and number of awards may also be enhanced to cover more areas. It was felt that there is a need to review the on-going programme of MD/Ph.D.

Bioinformatics Centre (BIC): Dr. Meera Singh informed that 9 Bioinformatics Centres started during XI Plan and also briefed about the databases creation and management and linkages with NIC. Prof. Tandon expressed concern about ICMR undertaking bioinformatics related activities. To this, Dr. Salunke informed that the activities of Bioinformatics Centre such as Task-Forces, ICMR Computational Genomics Centre etc. are immediately required for data intensive discovery in disease biology. He informed that analysis of large-scale Epidemiological, Clinical and Biomedical data would lead to conversion of useful information to knowledge which can be translated into products. He further informed that he has seen improvement in the quality of research in NIRRH, Mumbai after a Biomedical Informatics Centre was setup there. Prof. Hasnain informed the committee that Bioinformatics experts like Prof. Alok Bhattacharya, Prof. B Jayaram, Dr. Dinkar Salunke etc. and he himself are Chairman and members of various expert committees of BIC and activities of BIC are being periodically evaluated, and the program is highly commendable. He further said that there is a need of further strengthening of the Bioinformatics Centre of the ICMR. Prof. Tandon suggested that all databases should become part of the network.

Intellectual Property Right Unit: Dr. Sadhana Srivastava made a brief presentation of the activities and achievements of the IPR/Translational Research activities and achievements during the XI Plan period. Dr. Srivastava told the Committee that the main activities of this unit are: processing new inventions for patenting, filing and maintenance of patents, technology development, transfer and commercialization. In addition, all the NDAs, MTAs and other MoUs/Agreements of the Council are examined to protect Council's interest. The Unit also actively promotes ICMR technologies through showcasing these in various meetings/exhibitions and provide inputs for Govt. policies and Human Resources Development.

During XI plan period, a total of 50 new inventions were reported and of them, 38 patent applications were filed from intramural and 12 from extramural research. A total of 20 patents were granted (international and national) during this period. A total of 30 technologies are under various stages of processing for product development. Four technologies viz., RDB Kit (NIIH, Mumbai); Magnivisualizer (ICPO, Noida); Fertility assessment kit (NIRRH, Mumbai); Bti based larvicide (VCRC, Puducherry) have been transferred to the industry for product development. Few old technologies like Thrombinase (VCRC, Puducherry); Bti biopesticide (VCRC, Puducherry); Cyclosporine (VCRC, Puducherry); Redesigned cycle rickshaw (ROHC [E], Kolkata); and Vijaysar (IIIM, Jammu) have been revived for commercialization. Two promising technologies developed by independent inventors viz., herbal antiviral (anti-rabies) product is undergoing evaluation while another anti-cancer product is being considered for support. Five women scientists were trained during the XI Plan period and some workshops on IPR and technology transfer were organized.

Dr. Mehra wanted to know about the Material Transfer Agreement (MTA) procedure if any material is to be sent outside India. It was informed that 10% is the limit and quality control is also to be maintained. Dr. Mukesh added that it has also to be approved by the HMSC. Dr. Saha advised that General Financial Rules (GFR) need to be followed on how to manage assets. He further added that only 5 workshops were held during XI Plan which is not adequate and suggested that once a year each institute should be sensitized and people should be made aware as to how the research should lead to the market. He suggested that a Technology Transfer document needs to be prepared and should mention that in case of a lead which industry is ready to take up who will take care of the IPR. In respect of international programs with external funding the issue of ownership of IPR should be clearly defined. He advised to expand and strengthen the IPR Unit. Discussions were also held on the Repository of Pathogens.

The Committee appreciated the efforts but expressed concern about the lack of ICMR products in the market as so far only one technology was mentioned to have been marketed. After discussion, it was recommended that there is a need to strengthen the IPR/Translational Research activity at the ICMR Headquarters. The Committee recommended the need to hold regular IPR awareness workshops for all ICMR institutes/centres.

Division of Publication & Information: Dr. V K Srivastava informed the group about the ICMR publications including the 100 year old journal IJMR. Dr. Sharma informed the group about the new initiatives like inclusion of clinical images, most cited articles, IJMR Classics and special review articles to commemorate the centenary year of the journal. The committee was also informed about the initiatives of the online project submission and processing system as well as improvement in the library and information services and e-journals and e-consortia. Prof. Tandon appreciated the efforts and wanted to know about a book on the autobiography of Dr. CG Pandit. He was informed about the same and a copy of the book was provided to him. He said that it should be a compulsory reading by all the public health experts and suggested to bring out more such publications on the life of other Indian legends who are our Heroes.

International Health Division: Dr. Mukesh Kumar, informed about the following activities/achievements of International Health Division (IHD) of ICMR during 2008 – 2012. (i) The international programmes through ICMR have helped the Indian scientists to develop collaborative links. At present, there are 20 partnership programmes (MoU/LOI/Joint Statements) which are signed and coordinated by ICMR and are working very well. Half of MoUs have been signed in last 5 years and are focussed on translational research. The IHD has represented ICMR in 22 JWGs and 30 workshops of ICMR, additionally in 48 bilateral/multilateral programmes of MOHFW and 38 JWGs of DST, wherein the activities of ICMR and DHR were presented and progress was highlighted. Approx. 300 exchange visits were processed under international exchange (ii) Regular and periodic organization of HMSC meetings (19 meetings organized during 2008 – 2012) have resulted into increased research capacity through enhanced number of collaborative research projects by Indian PIs. (559 projects were approved by HMSC). (iii) In order to strengthen Indian researchers' capabilities and to learn new techniques, 88 ICMR International Fellowships were awarded during 2008 to 2012. (iv) The Secretariat of SAFHeR for enhancing regional cooperation was transferred to ICMR in 2011 from Nepal Health Research Council (NHRC), Kathmandu and 4th regional meeting of SAFHeR was successfully organized in February, 2012 with participation of all member countries. A 'Delhi Declaration' was signed by the member countries and the areas for regional cooperation were identified. (v) For transfer of biological material for commercial purposes (Approx. 200 cases were considered) during several meetings and permission granted by a Committee as per the guidelines. (vi) The Indo-German Science Centre for Infectious Diseases (IGSCID) has provided greater interaction and opportunities to the scientists of India and German through collaborative research.

Dr. Joshi wanted to know if there is an activity for African Region. He was informed that the progress under MEA's Africa – India Forum have already been made by identifying training programs to be organized at National Institute of Malaria Research (NIMR), New Delhi (for Malaria) and Vector Control Research Centre, Puducherry (for Filariasis). The matter is under consideration of MEA.

Prof. Tandon opined that there should be a National Policy for bilateral programmes. He was informed that by and large these programmes are part of broad S&T Agreements and other arrangements signed at the Governmental level. The implementation of health research part under these arrangements is taken care of by ICMR as per approved norms.

General Discussion

Prof. Tandon raised an issue that a lot of extramural funding have been given by the ICMR to its own institutes and there should be some clarity on this. The committee suggested that though it is a policy decision and only ICMR can decide but recommended that in XII Plan extramural funding to ICMR Institutes should be given only when there is a linkages with any other non-ICMR Institute/agency. The project may be in line of but not a part of ICMR Institute. Dr. Katoch informed that earlier ICMR institutes did not have enough funds to enhance the quality and competitiveness this steps was taken and now they compete for national objectives and goals, however he welcomed the idea and assured to address it.

Recommendations:

1. NICED should revise their documents, mentioning focus areas of research as per mandate of the institute which translate into services to society. They should clearly mention research goals which institute is likely to achieve at the end of 12th Plan.
2. The committee suggested that during the 12th Plan, Division of NCD should focus on developing guidelines for management of various non communicable diseases.
3. Number of fellowships and ICMR Awards needs to be increased along with enhancement in prize money.
4. Activities of Bioinformatics Centre need to be further strengthened with networking of the databases.
5. IPR Unit may be strengthened and IPR awareness workshops should be organized for all ICMR institutes/centres.
6. Division of P&I will bring out documents on the life of legendary Indian biomedical researchers.
7. Extramural funding to ICMR Institutes may be given only/preferentially if any non-ICMR institute/ medical college/agency is also involved with the proposed study.

The meeting ended with a vote of thanks to the Chair and it was decided that the next High Power Committee meeting of the core group members will be held on 15th March, 2013 to prepare a framework for the report of High Power Committee to be submitted.



(Prof. P N Tandon)
Chairperson

List of ICMR Officials who attended as observers

Smt Dharitri Panda, Sr Financial Advisor, ICMR

Shri T S Jawahar, Sr DDG (Admn), ICMR

Heads of Divisions/Units at ICMR Hqrs : Dr. Rashmi Arora, Scientist 'G' & Head, Division of Epidemiology and Communicable Diseases, Dr. K K Singh, Scientist 'G' & Head, Division of Human Resource Planning & Development, Dr. G S Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur, Dr. D K Shukla, Scientist 'F', Division of Non-Communicable Diseases, Dr. Vijay Kumar, Scientist 'F' & Head, Division of Basic Medical Sciences, Dr. V K Srivastava, Scientist 'F' & Head, Division of P&I, Dr. Meera Singh, Scientist 'F' & Head Bioinformatic Centre, Dr. T P Ahluwalia, Scientist 'F' & Head, Health Systems Research, Dr. Mukesh Kumar, Scientist 'E' & Head, International Health Division.

Sh Sanjiv Datta, Former FA and Adviser to DG, ICMR.

Scientists of ICMR XII Plan Working Group: Dr. Rajni Kant, Scientist 'D', Dr. Prashant mathur, Scientist 'D', Dr. Nivedita Gupta, Scientist 'D', Dr. Tanveer Kaur, Scientist 'D', Dr. Manjula Singh, Scientist 'C'.

Scientists of ICMR Hqrs: Dr. S K Dey Biswas, Scientist 'F', BIC, Dr. Anju Sharma, Scientist F, P&I, Dr. R S Dahriwal, Scientist 'E', NCD, Dr. Rajni Kaul, Scientist 'E', BMS, Dr. Meenakshi Sharma, Scientist 'D', NCD, Dr. Geeta Jotwani, Scientist 'D', BMS, Dr. Harpreet Sandhu, Scientist 'D', IHD, Dr. Sadhana Srivastava, Scientist 'D', IPR Unit, Dr. Roli Mathur, Scientist 'C', BMS, Dr. Geeta Menon, Scientist 'B', NCD, Dr. Harpreet Singh, Scientist 'C', BIC.

MINUTES OF THE 6th MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF INDIAN COUNCIL OF MEDICAL RESEARCH HELD ON 15th MARCH 2013 AT NATIONAL INSTITUTE OF MEDICAL STATISTICS, ICMR HQRS CAMPUS, NEW DELHI

The following members attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Department of Neurosurgery, AIIMS, New Delhi
Chairperson
2. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
3. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
4. Prof. Indira Nath, Raja Ramanna Fellow, Former Professor of Biotechnology, AIIMS, New Delhi
5. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
6. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad
7. Dr. V M Katoch Secretary, DHR & DG, ICMR
Member Secretary
8. Shri S K Srivastava, AS & FA, Ministry of Health & Family Welfare, GOI

Dr. Seyed E. Hasnain, Former VC University of Hyderabad, Hyderabad, Presently Prof. IIT, New Delhi, Dr. W. Selvamurthy, Chief Comptroller & Distinguish Scientist, DRDO, Prof. Jagan Mohan Tharakan, Senior Professor of Cardiology, SCTIMST, Thrivananthapuram, Dr. G K Rath, Prof. & Head, BR Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi and Dr. K Mohan Das, Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST, Thiruvanthapuram, could not attend the meeting.

From ICMR Smt Dharitri Panda, Senior Financial Advisor; Shri T S Jawahar, Sr DDG (Admn), Shri Sanjiv Datta, Former FA and Adviser to DG, ICMR; Dr. G S Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur; Dr. Rajni Kant, Scientist 'D' and Shri R K Sharma, Consultant (Finance) also attended the meeting.

Dr. Katoch welcomed the members and summarized the proceedings of the last five meetings. He then requested Prof. Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon thanked all the members and subject experts for their valuable contribution. He also appreciated the efforts made by Institutes and divisions of ICMR in making the required revised documents on the intramural and extramural activities of the ICMR as per earlier discussions. Prof. Tandon said that ICMR is now a hundred years old organization and has contributed immensely in solving health problems of the nation through research, knowledge generation and disease control programmes. He gave the recent example of successful malaria control in silk industry area of Kolar, Karnataka by use of *Guppy* and *Gambusia* fishes where people were against the use of insecticides and now the state government has taken over this technology. He also gave the examples of Kheda malaria project in Gujarat, Malaria control in tribal area of Mandla, MP, Goa and elsewhere.

The committee felt that many a times good work done by the ICMR has not been translated into public health measures or did not reach to policy makers and programme managers. Dr. Katoch informed that State Governments of Orissa, Kerala, Tamil Nadu and Bihar are closely working with ICMR. He further added that in Orissa three ICMR institutes viz., NIMR, Delhi, VCRC, Puducherry and RMRC, Bhubaneswar are working in close collaboration with the state government for monitoring the dynamics and control of vector borne diseases.

The committee also cited the important contributions of EVRC, Mumbai in Polio Eradication program of India and also appreciated the ICMR efforts in the area of leprosy, tuberculosis, leishmaniasis, guineaworm eradication etc.

While discussing the activities of NIOH, Ahmedabad, the committee noted that the Institute is burdened with a lot of government directed responsibilities, and as a consequence has contributed little to research. It was suggested that the Institute should be given additional manpower so as to have designated staff to carry out the science component and work requisitioned by Govt/Court etc.

Lt Gen Dr. Raghunath stated that the ICMR network has been strategically spread across the country so that it can have appropriate linkages with State Government and can get involved in National programmes. However, he mentioned that it is important for each of the institute to have balance between their research component and support to National programmes. Shri Datta informed that 10 schemes of the DHR has now been merged and reduced to 6 schemes and ICMR is considered as a technical arm of DHR. Committee felt that programmes of ICMR can be considered as scheme but ICMR as an entity should not be evaluated as a scheme.

Dr. Gourie Devi emphasized on the need to strengthen research component in medical colleges. Dr. Katoch informed the members that one of the initiatives of DHR is upgrading research in medical colleges. He further added that earlier only 30 out of 350 medical colleges were involved in research but now trend is changing and this number has now increased to 120 and it is being planned that now every ICMR Institute should develop a link with medical colleges.

Prof. Tandon suggested that there are certain statutory activities of ICMR which cannot be treated as schemes and need to be strengthened. Besides, there are projects where grants have already been given or the projects committed which cannot be discontinued. He said that the mission mode programmes need to be linked with the state health departments. In respect to any connectivity with other science agencies and overlapping areas, Prof. Tandon informed that every department has its own mandate and have different programmes and felt that certain degree of overlap is desirable though linkages can be established where necessary. Dr. Katoch informed the Committee that a Group of all Secretaries meet periodically and review the areas of possible collaboration and complementing each others research activities. He also gave the example of ICMR-ICAR panel on Food Safety.

The committee suggested that ICMR with DHR can participate in the national mission/challenge and support in the eradication of Leishmaniasis, Filariasis and Leprosy. While discussing new areas of research during XII Plan committee felt that Road Traffic Injuries including Trauma and Disabilities should be given special attention and its prevention and management issues including social issues should also be taken care off. Lt Gen Raghunath suggested that NIE, Chennai can be given a task of preparing a comprehensive document/status paper on this. Prof. Ayapati suggested that a task force on surgical methods may be created which will also include the technology innovations. Other areas which were discussed to be given more emphasis in XII plan were antimicrobial resistance, women health, diabetes, hypertension, Coronary Artery Disease (CAD), pyrexia of unknown origin, new mission mode projects on NCDs, repositories/biobanks, etc. It was also discussed that ongoing efforts for HPV, cholera, rotavirus vaccines should be speeded up and Flagship programs of the ICMR and medical ethics should also be strengthen. Dr. Katoch informed that many of these areas have already been covered and initiatives in the area of Health system, gender and health issues and social and behavioural research have already been planned.

The committee also felt need for improving communication of research findings to the public at large and Prof. Tandon suggested to bring out a comprehensive document on the Achievements of ICMR. It was also discussed that a slot at Doordarshan can be taken for dissemination of information. Dr. Katoch said that a Communication Group can be set up at ICMR.

Prof. Tandon stated that since the committee has gone through the documents of each institute as well as divisions of the ICMR and discussed in detail about the completed, ongoing and proposed activities of each institute of the ICMR, a draft report should be prepared based on the discussions to fulfill the mandate given to the committee. He proposed an outline of the report and all members discussed it. After discussion at length, members agreed that the report should include the major achievements of XI Plan which may include creation of new institutes, Centres for Advanced Research (CAR), Task Forces (TF), laboratories established, total number of extramural projects sanctioned, number of fellowships awarded, papers published, patents field, technologies transferred, etc. He suggested that for XII Plan proposals, details may be given of the ongoing statutory research projects, consolidation of multi-institutional disease based research programmes, new centres, CAR, task forces and promoting research in medical colleges through extramural grants. The committee also recommended to include in the report the broad goals to be achieved during XII plan in terms of Filariasis eradication, control of malaria/dengue/HIV, development

of vaccines for cholera, typhoid, JE, etc, expand disease surveillance system, strengthening biomedical research, create health databases and microbial/viral banks, etc. Besides activities which are a continuation of committed activities from XI Plan those proposed to be discontinued will be listed.

He suggested that a draft report based on above guidelines may be prepared and should be discussed with the Chairman on 26th March, 2013 and on 1st April, 2013 before circulating to all the members. The next date for the HPC meeting was fixed for 23rd April, 2013 to discuss the draft report.

Recommendations:

1. A draft report highlighting the major achievements of XI Plan, XII Plan proposals and those activities of XI Plan which were proposed to be continued in XII Plan, but needs to be discontinued to be discussed with the Chairman on 26th March and 1st April, 2013 will be prepared. It will then be circulated to all members for discussion in the meeting scheduled for 23rd April, 2013 so as to finalize the report.
2. A communication group may be constituted at ICMR Hqrs to disseminate the knowledge generated to the public through various means and modes.
3. ICMR should increase its collaborative research activities with health and related departments of State Governments.
4. ICMR should accelerate its efforts on improving the research in medical colleges.
5. A comprehensive document on the achievements of ICMR may be brought out.
6. ICMR being a 100 year old organization should not be considered as a scheme though the scientific programmes of ICMR may be taken up in scheme mode.

The meeting ended with a vote of thanks to the Chair.



(Prof. P N Tandon)
Chairperson

MINUTES OF THE SEVENTH MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF INDIAN COUNCIL OF MEDICAL RESEARCH, HELD ON 23rd APRIL, 2013 AT ICMR HQRS, NEW DELHI

The following attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Neurosurgery, AIIMS, New Delhi **Chairperson**
2. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
3. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
4. Prof. Indira Nath, Raja Raman Fellow, Former Professor of Biotechnology, AIIMS, New Delhi
5. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
6. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad
7. Prof. Jagan Mohan Tharakan, Senior Professor of Cardiology, SCTIMST, Thiruvananthapuram,
8. Dr. K Mohan Das, Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST, Thiruvanthapuram
9. Dr. W. Selvamurthy, President, ASTIF & Chair Professor for Life Sciences, Amity University, Noida
10. Dr. V M Katoch Secretary, DHR & DG, ICMR **Member Secretary**
11. Shri S K Srivastava, AS & FA, Ministry of Health & Family Welfare, GOI
(Represented by Shri Ravinder Pattar, Director IFD)

Dr. Seyed E Hasnain, Former VC University of Hyderabad, Hyderabad Presently Prof. IIT, New Delhi and Dr. G K Rath, Prof. & Head, BR Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi could not attend the meeting.

From ICMR Smt Dharitri Panda, Senior Financial Advisor, Shri T S Jawahar, Sr DDG (Admn), Shri Sanjiv Datta, Former FA and Adviser to DG, ICMR, Dr. G.S. Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur and Dr. Rajni Kant, Scientist 'D' also attended the meeting.

Dr. Katoch welcomed the members to 7th meeting of High Power Committee and said that the first draft of the report of HPC was circulated to all the members for discussion in today's meeting. He requested Prof. Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon appreciated the efforts made to prepare the draft report. He informed that there are three components of the report: (1) Achievements of XI Plan; (2) Activities of XI Plan spilled over to XII Plan and (3) XII Plan. He further said that the XI Plan is well written but some changes/rearrangements would be required in the chapter given for XII Plan.

The committee felt that the budget asked, allocated and actually given should be indicated clearly and funding to ICMR institutes should also be provided. The committee also suggested that phasing expenditure in XII Plan for each component of the scheme and setting of physical and financial milestones/targets for the XII Plan for each component should be mentioned in the report. The committee felt that there are many essential, activities such as HRD activities like JRF/SRF, long term projects, funding to investigator driven adhoc projects etc which need to be continued and should be mentioned clearly. It was suggested that chapter of XII Plan in the report may begin with committed ongoing activities and which need to be continued, such as task forces, centre of excellence, support to medical colleges, mission mode projects etc as well as identified areas of low priority. Lt Gen Raghunath mentioned that paragonomosis (lung fluke) should also appear under broad goals to be achieved and an introductory para needs to be added

in the chapter with the mention of Research to Support National Health Program in areas of public health importance so as to achieve elimination of diseases of public health importance. It was also discussed that programmes for translating leads based on research also need to be budgeted. The HPC also suggested to include the enhancing capabilities of the Institutes in terms of building, infrastructure, equipments, posts etc. It was also discussed to include to enhancing capacity building of BSL-IV at NIV, Pune in terms of Infrastructure and Staff. Dr. I Nath suggested the new areas such as bio-safety, food security, food safety, biomedical technology, etc also need to be focused in XII plan.

The Committee recommended to include the key areas of the social and behavioural research in the chapter of XII plan in the report. The HPC appreciated the consolidation of efforts for disease specific programmes which lead to preparation of disease specific documents. The committee also felt that there will also be need for new positions to carry out such a huge amount of work particularly for newly created BSL-IV lab at NIV, Pune which is of national relevance. Dr. Katcoh informed about the already sanctioned positions and highlighted that these are also mentioned in the XII plan document.

The HPC also deliberated on the issue of ICMR being considered as a scheme. The committee felt that with the creation of Department of Health Research (DHR) and ICMR being the oldest medical organization and effective arm of DHR should be considered as an autonomous organization like other Government funded autonomous organization and be equated as CSIR-DSIR and ICAR-DARE. It was recommended that appropriate modifications may be made and activities of the ICMR may be reviewed five yearly with outcome related parameters. It was also suggested to mention whether ICMR is considered as line item or multi-line item.

It was decided that report will be revised in the light of the discussions and suggestions and will be circulated to members before 18th May, 2013 when next High Power Committee will meet to finalize the Report.

Recommendations:

1. ICMR being the oldest organization and now a part of DHR should be considered as government run autonomous organization and equated with the arrangements as for CSIR-DSIR and ICAR-DARE. Though Schemes and the scientific programmes of ICMR may be subjected to five yearly review with outcome related parameters.
2. Broad areas of Social and Behavioural Research issues may be included in the chapter given for XII plan.
3. Lung fluke (paragonimosis) may be included for its management and control among the broad goals to be achieved as a national health problem.
4. Draft Report prepared may be revised with the inclusion of budget for permanent institutes of ICMR, Infrastructure Development, new positions, Human Resource Development activities, etc.

The meeting ended with vote of thanks to the Chair and it was decided that the next High Power Committee meeting will be held on 18th May, 2013 to discuss and finalize the report.



(Prof. P N Tandon)
Chairperson

Annexure VIII

MINUTES OF THE EIGHTH MEETING OF HIGH POWER COMMITTEE (HPC) TO EVALUATE THE ONGOING ACTIVITIES OF INDIAN COUNCIL OF MEDICAL RESEARCH, HELD ON 18TH MAY, 2013 AT NIMS, ANSARI NAGAR, NEW DELHI

The following attended the meeting:

1. Prof. P N Tandon, President, National Brain Research Centre and Former Prof. & Head, Dept of Neurosurgery, AIIMS, New Delhi **Chairperson**
2. Dr. S K Joshi, Former Secretary, DSIR & DG, CSIR, New Delhi
3. Lt. Gen. (Retd) D. Raghunath, Former Director General, Armed Forces Medical Services, Bangalore
4. Prof. Indira Nath, Raja Ramanna Fellow, Former Professor of Biotechnology, AIIMS, New Delhi
5. Dr. M Gourie Devi, Former Vice Chancellor & Director, NIMHANS, Bangalore
6. Dr. Dharma Rakshak Ayapati, Director-Vice Chancellor, Nizam Institute of Medical Sciences, Hyderabad
7. Dr. Seyed E Hasnain, Former VC University of Hyderabad, Hyderabad, Presently Prof. IIT, New Delhi
8. Dr. W. Selvamurthy, President, ASTIF & Chair Professor for Life Sciences, Amity University, Noida
9. Dr. V M Katoch Secretary, DHR & DG, ICMR **Member Secretary**

Prof. Jagan Mohan Tharakan, *Senior Professor of Cardiology, SCTIMST, Thrivantapuram*; Dr. G K Rath, *Prof. & Head, BR Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi*; Dr. K Mohan Das, *Vice Chancellor, Kerala University of Health Sciences, Former Director SCIMST, Thiruvanthapuram*; Shri S K Srivastava, *AS & FA, Ministry of Health & Family Welfare, GOI and could not attend the meeting.*

From ICMR Shri Sanjiv Datta, Former FA and Adviser to DG, ICMR; Dr. G.S. Toteja, Scientist 'G' & Head, Nutrition and Director DMRC, Jodhpur and Dr. Rajni Kant, Scientist 'D' attended the meeting.

Dr. Katoch welcomed the members to 8th meeting of High Power Committee and then requested Prof. Tandon to Chair the meeting and conduct the proceedings.

Prof. Tandon appreciated the efforts made by ICMR to revise the draft report incorporating the suggestions made in the previous meeting and especially thanked Dr. Indira Nath for her inputs while revising the report. He then requested members to give their views on the draft report, version-3.

Lt Gen Raghunath emphasized the need to highlight the BSL-IV laboratory facility developed at NIV, Pune and include recommendations for enhancing capabilities of the same in terms of building, infrastructure, equipments, manpower etc.

Further, the HPC noted that though providing health care at tertiary level is not a function of ICMR, however, Bhopal Memorial Research & Referral Hospital has been handed over to ICMR in January, 2012 with the mandate to cater to the health needs of gas victims. The committee was of the opinion that having been given this responsibility, ICMR should devise a mechanism to ensure that the hospital is provided with adequate funding to ensure drug supply and to keep equipments in good condition. Further, this would be an important institute for expanding research of ICMR into such area.

The committee suggested that to avoid duplication, chapters on major changes suggested and low priority areas identified may be merged with the Table on 'Observations of the Committee'. The Committee also recommended that Chapter on vision for XII Plan highlighting the challenges and strategies may be given as Annexures.

While referring to terms of reference on Physical and Financial milestone, the HPC felt that instead of giving details of research achievements only numbers of activities which would be completed along with

budget required may be given year wise. The HPC also desired that Table on observation of the committee may be split into Part A and Part B indicating activities to be dropped and activities recommended for modification and continuation respectively.

The chapter on the ICMR to be considered as an autonomous organization at par with ICAR-DARE and CSIR-DSIR was also discussed and finalized as per the suggestions and recommendation of the Committee.

Dr. Selvamurthy discussed management, technical and industry interface issues including ICMR leads that have emerged through research. He also suggested to include some good quality pictures of BSL-4 lab and new technologies of ICMR in the report.

Prof. Tandon informed that today is the last meeting of the High Power Committee and suggestions/recommendations given by members will be incorporated in the final Report.

Recommendations:

1. The HPC suggested that to avoid duplication, chapters on major changes suggested and low priority areas identified may be merged with the Table on Observations of the Committee.
2. The HPC felt that as Bhopal Memorial Hospital & Research Centre (BMHRC) has unique function than other ICMR institutes, it should be given special focus in terms of budgetary requirement and infrastructure for patient care and relevant research on such injuries.
3. The HPC desired that Table on observations of the committee may be split in to Part A and Part B indicating activities to be dropped and activities recommended for modification and continuation respectively.
4. It was suggested to include some good quality pictures of BSL-4 lab and new technologies of ICMR in the final report.
5. The Committee also recommended that Chapter on vision for XII Plan highlighting the challenges and strategies may be given as Annexure.

The meeting ended with vote of thanks to the Chair.



(Prof. P N Tandon)
Chairperson

Major Research Activities/Programmes of ICMR

1. Virology Network
2. Antimicrobial Surveillance Network
3. Influenza Network
4. Vaccine Probe Studies on Bacterial Meningitis
5. Vector Borne Disease Science Forum
6. Tribal Health Research Forum
7. ICMR Repositories
8. Translational Research/Intellectual Property Rights
9. JE/AES Task Force
10. Indo-US Joint Statement on HIV & STDs
11. Research Programs/Activities in North-East
12. Long Term Projects (IDVC, Parasite Bank, JE Project, HRRC, NNMBs)
13. Rotavirus Network
14. Vaccine Research/Centre
15. Extramural Programmes of different Technical Divisions including Centre for Advanced Research (CAR), Adhoc Projects, Task Force Studies, and Fellowships etc.
16. Programme on Oncology
17. Environmental & Occupational Health
18. Programme on Cardiovascular Diseases
19. Programme on Neurology
20. Programme on Ophthalmology
21. Programme on Diabetes
22. Programme on Gastroenterology
23. Programme on Mental Health
24. Programme on Orthopaedics
25. Programme on Obesity
26. Programme on Oral Health
27. Programme on Otorhinolaryngology
28. Biomedical Engineering
29. Programme on Urology
30. Medical Innovation Fund
31. Bioethics
32. Programme for promotion of research attitude among medical under graduates (STS)
33. Centre for Biomedical Informatics
34. Cochrane Library
35. Maternal Health

36. Fertility Regulation, Sexual & Reproductive Health, Expanding Contraceptive Choices, infertility including ART
37. Child Health
38. Diabetes and Indo-foreign Projects
39. Programmes on RTI,STI including Preventive options for HIV (microbicide barrier method)
40. Review Monographs on Indian Medicinal Plants
41. Developing Quality Standards of Indian Medicinal Plants and preparing monographs
42. Generation of Phytochemical Reference Standards and Development of Repository
43. Integration of data from ancient knowledge/wisdom/concepts/Allopathic system of Medicine and Scientific Data Generated
44. Knowledge Base Development/Database
45. Retrieval and dissemination of information related to medicinal plants, plants based drugs/products
46. Online Web-based Project Submission and Processing Management System
47. Bringing Periodical and non-periodicals including Annual Reports and Hindi Publications
48. Indian Journal of Medical Research (IJMR)
49. Dissemination of Biomedical Information
50. Scientometric Studies
51. ICMR Puraskar for Popular Medical Books in Hindi
52. ICMR e-consortia
53. National Database of Indian Medical Journals
54. Library & Information Network
55. Human Resource Development :ICMR – JRF
56. ICMR-Centenary Post-Doctoral Fellowship
57. Travel Grant to non-ICMR scientists visiting abroad to present papers
58. ICMR MD-Ph.D Programme
59. ICMR supports to organizing seminars/symposia & conferences in the country
60. MD/MS/DM/MCH Thesis Programme
61. ICMR Awards and Prizes
62. ICMR Short Term Training Programme
63. ICMR short Training Programme for ICMR Scientists
64. ICMR-BMBF, Germany
65. ICMR –Helmholtz Association (HGF), Germany
66. ICMR – INSERM, France
67. Indo-US Joint Statement on HIV/AIDS & STDs between Ministry of Health and F.W., Govt. of India and DHHS, USA
68. Indo-US Joint Statement on Maternal and Child Health between Ministry of Health and F.W., Govt. of India and DHHS, USA
69. Indo-US Joint Statement on Environmental and Occupational Health, between Ministry of Health and F.W., Govt. of India and DHHS, USA
70. ICMR –University of Minnesota, USA
71. Indo-US Joint Statement for Establishment of International Centre for Excellence Research (ICER)
72. ICMR – Canadian Institutes of Health Research, Canada

73. ICMR – George Institute for International Health/University of Sydney, Australia
74. ICMR – Karolinska Institute, Sweden
75. ICMR and London School of Hygiene and Tropical Medicine, London, United Kingdom
76. ICMR-Medical Research Council, United Kingdom
77. ICMR and Global Alliance for Chronic Diseases (GACD)
78. Letter of Intent (LoI) between ICMR and European Union
79. ICMR and Foundation for Innovative New Diagnostics(FIND), Switzerland
80. ICMR International Fellowship Programme (Sr.+Jr.+from developing countries)
81. IG-SCID - Indo-German Science Centre for Infectious Diseases (IG-SCID)
82. SAFHeR - South Asian Forum for Health Research (SAFHeR) for regional cooperation.
83. Health Ministry's Screening Committee (HMSC)
84. Transfer of Human Biological Material for research and commercial purposes
85. Bioinformatics
86. ICMR Genomic Centre
87. FM service
88. Video Conferencing
89. Delivery & Utilization
90. Gender Issues
91. Reproductive Health and Social Issues
92. Adolescent Behaviour
93. Diseases with Stigma
94. Life Style associated Diseases
95. Health Equity
96. Social Determinants of Health
97. Behaviour Change Communication
98. Ageing related issues
99. Public, public-private and NGO partnership for improving RCH services
100. Health insurance for population living in rural areas and urban slums
101. Strengthening research capacity and effective knowledge utilization
102. Reduction of gap in the health system manpower & service delivery.
103. Reducing gender discrimination & improving adolescent health
104. Task Force projects for addressing the health care issues of migrant population living in urban slums and un-authorized colonies.
105. Fixing maximum residues limits for pesticide residues in carbonated water
106. Afltoxins in stored paddy/rice PAU-201 variety
107. Developing Capacity building among primitive tribes
108. Formulation of Guidelines
109. Food Safety
110. Fluorosis

Affordable Technologies for Public Health: Ongoing Translational Programmes of ICMR/DHR

1. **Test reagents/strips for diabetes:** Two simple and affordable technologies for glucose monitoring devices and testing strips- Suchek and QuickcheQ were launched on 13th January, 2014 by the Hon'ble Union Minister of Health & Family Welfare. These two technologies were developed by Nanobios Lab, Indian Institute of Technology, Mumbai and BITS, Hyderabad respectively.

NIV, Pune

2. **Development of killed vaccine for Japanese Encephalitis (JE):** The first indigenously developed Japanese Encephalitis vaccine (JENVAC) under Public Private Partnership was launched on 4th October, 2013 by the Hon'able Health Minister. The indigenous virus strain was isolated and characterized by the ICMR's National Institute of Virology at Pune and the strains were transferred to Bharat Biotech for further vaccine development.
3. **Recombinant protein-based assay for diagnosis of hepatitis E:** The assay has been developed up to the Laboratory Scale however this HEV ORF2 protein based in house ELISA needs to be improved to ready to use kit format by addition of stabilizers and preservatives for better shelf-life. The modified ELISA will again require evaluation against defined panels of serum samples to reconfirm the assay cut off, criteria for reactive and non-reactive controls, and re-determine and re-confirm the diagnostic sensitivity and specificity.
4. **ELISA for Rotavirus, major cause of diarrhoea in children :** Validated in CMC, Vellore. However, verification of reactivity of inactivated rotavirus and long term stability of reagents is being pursued.

NIN, Hyderabad

5. **ELISA for Ferritin as marker for assessing bioavailability of iron using Caco-2 cell line-** This Indigenous "Elisa kit for Ferritin estimation" was launched on 20th February, 2014 by the Hon'ble Union Minister of Health & Family Welfare.
6. **Dried Blood spot (DBS) – collection kit for sub-clinical deficiency of Vit.A-** This Indigenous "Dried Blood Spot (DBS) collection kit for Vitamin A analysis" was launched on 20th February, 2014 by the Hon'ble Union Minister of Health & Family Welfare.
7. **Development of PCR based method to detect food borne pathogens-** Diagnostic kits were developed in joint collaboration with Bioserve Biotechnologies Pvt. Ltd., Hyderabad. This Indigenous "PCR Based Food Pathogen Detection Kit" was launched on 20th February, 2014 by the Hon'ble Union Minister of Health & Family Welfare.

NIRT, Chennai

8. **Rapid diagnosis of TB (Pot method for detection of acid fast bacilli {AFB})-** Pot method has been fully validated and is ready to be commercialized. Further a modified 'pot – method' of staining AFB using phenol ammonium sulphate basic fuchsin tablets has been initiated in collaboration with Dept. of pharmacy, Vel's university, Chennai. This is a rapid diagnostic method in which Carbol fuchsin stain will be formulated as a tablet. Formulation and standardization of these tablets is being done which will be followed by its evaluation.

NIOP, New Delhi

9. **Development of DOT ELISA for diagnosis of sequalae to *Chlamydia trachomatis* infection using cHSP60-** cHSP60 has been synthesized and is being further characterized in the laboratory. After its characterization, validation of the test will be initiated.

- 10. Development of Monoclonal Antibody to *Chlamydia trachomatis*-** This is a monoclonal antibody based indigenous diagnostic assay for detection of *C. trachomatis* in women which is being licensed to M/S Accurex for commercialization. MoU has been signed. Once the kits are ready, validation of the prototypes kits will be initiated.
- 11. Species specific PCR assay for detection of *L. donovani* in clinical samples-** The assay has been developed, validated and is currently in use in referral labs. Loop mediated isothermal amplification is a molecular assay which is superior to regular PCR for field applicability. Therefore a new LAMP assay applicable for detection of multiple *Leishmania* species, including *L. donovani* and *L. Tropica* that are relevant in Indian context has been developed. The assay has shown sensitivity of 97.1 and 97.5% for diagnosis of kala-azar and post kala-azar dermal leishmaniasis respectively. The assay is currently being validated in endemic area. Further, for the purpose of field applicability of LAMP assay the current assay will be optimized using the commercially available RealAmp instrument, a simple and portable battery operated device. In preliminary experiments using this instrument, the results could be obtained in just 10 mins.

NIOH, Ahmedabad

- 12. Designing of a Personal Cooling Garment (PCG) system-** Modular design of the PCG has been developed and tested in simulated environment in climatic chamber for various high levels of heat stress loads with electrically made motor pump. But now a lightweight 12 V Lithium-ion battery operated PCG system has been developed so that the mobility of the subject is not restricted. The efficacy & utility of the developed PCG is being tested on construction workers and iron foundry workers.

NIRRH, Mumbai

- 13. Diagnostic method for *Chlamydia trachomatis* -** Third party validation has been completed with 100% sensitivity and specificity. The Kit is ready for diagnosis of Reproductive tract infections in women
- 14. Resazurin Reduction Test (RRT) for assessment of metabolically active sperm-** Evaluation trial has been completed indicating 100% concordance of the results with the conventional microscopic method. The RRT Kit is ready and can be used by the patients at home.

NIIH, Mumbai

- 15. Rapid Diagnostic kit (RDB) for the detection of β - thalassemia syndromes; inherited blood disorder-** This Indigenous "Thalassemia Detection Kit" was launched on December 17, 2013 by the Hon'ble Union Minister of Health & Family Welfare.

VCRC, Puducherry

- 16. A cyclic lipopeptide of *Bacillus subtilis* subsp. *subtilis* (VCRC B471) with potential to kill mosquito stages-** A cost effective aqueous formulation medium using the mosquitocidal metabolite has been designed and production upscaled to pilot scale level. Preliminary field testing of this formulation in polluted habitats breeding of *Cx. quinquefasciatus* indicated pupal reduction of more than 70% and adult emergence inhibition of 100% at 900 m/m² for up to 4 days. The formulation is being improved to reduce the field application dosage and the improved formulation will be taken up for dose fixing trials.
- 17. A process for diagnosis of infective (L3) stage specific RT-PCR for detection of *Wuchereria bancrofti* in vector mosquito *Culex quinquefasciatus*-** Laboratory scale evaluation of the assay using larger number of coded samples was carried out and it was found to be highly specific and sensitive. 3rd party evaluation as a multicentric field trial has been **completed**. **The results** are in concordance with the existing detection methods further Validation of the assay in Transmission Assessment Surveys (TAS) of LF elimination programme will be done.
- 18. B 426 - A bacterial metabolite from *Pseudomonas fluorescens* showing pupicidal activity-** The culture filtrate of a bacterial isolate, *Pseudomonas fluorescens* (VCRC B426) was found to have pupicidal activity against mosquito vectors. Preliminary field trial of its formulation against *Cx. quinquefasciatus*

showed > 90 to 100% reductions in pupal density for 9 days at 90 ml/sq.m. Field trials are being conducted to reconfirm these results and for fixing field dosages.

- 19. A process for the preparation of mosquito larvicidal formulation from *Bacillus thuringiensis* var. *israelensis*** - A multicentric trial to establish dosage of *Bacillus thuringiensis* var. *israelensis* has been completed and a copy of the report has been submitted to National Vector Borne Disease Control Programme for needful.

ICPO, Noida

- 20. Development of magnifying device for screening cervical cancer**- Non-Disclosure agreement has been signed with M/s Smart Sciences for commercialization. This Indigenous device "AV Magnivisualizer" for Detection of Cervical Cancer was launched on December 23, 2013 by Hon'ble Union Minister of Health & Family Welfare

RMRIMS, Patna

- 21. Identified plant's extracts as replacement of fetal calf serum/Blood/Blood products free media for propagation of Leishmania parasites**- 3rd party Validation has been completed. The results indicated that both the products are comparable. Commercialization is being explored.
- 22. Development of PCR based diagnosis for visceral leishmaniasis from Urine samples**- The process of the third party evaluation and validation of the study is in process.
- 23. Novel noninvasive method for diagnosis of visceral leishmaniasis by rK39 testing of sputum samples**- The process of the third party evaluation and validation of the study is in process.

RMRC, Bhubaneswar

- 24. Development of a LAMP assay for diagnosis of human malaria**- The technique has been optimized using Loop Amp DNA Kit for the amplification of *P. falciparum* and *P. vivax* DNA. The LAMP assay from direct finger prick blood sample is being standardized which will be followed by 3rd party validation.

RMRC, Port Blair

- 25. Development of a latex based agglutination technique for the detection of leptospiral antibodies during acute stage of the disease**- This diagnostic test can be used as a screening procedure for leptospirosis. The kit is ready.
- 26. Development of recombinant IgM ELISA for the diagnosis of Leptospirosis**- This diagnostic test can be used as a confirmatory test for leptospirosis. The kit is ready.

RMRC, Dibrugarh

- 27. Test/ Reagents for lung fluke useful for differential diagnosis from lung TB**-This is an ELISA based diagnostic kit for detection of human lung fluke infection to be used as a tool for differential diagnosis of pulmonary tuberculosis in cough and or haemoptysis cases in places where pulmonary tuberculosis & lung fluke infections are co-endemic. Sensitivity and specificity of this test is very high. The kit is ready.

CRME, Madurai

- 28. Expanded Polystyrene Beads based application in Tamil Nadu rural sector as an adjunct to Mass Drug Administration (MDA) to reduce and sustain vector density and transmission rates in filariasis**- Improved process technology for application of expanded polystyrene beads demonstrated a long term control of the filarial vector, *Culex quinquefasciatus*, as well as reduction in disease (*mf*) transmission, thereby impacting the incidence of disease in the community. The "improved process technology" is ready and negotiations are going on for transfer of Technology to Department of Public Health, Tamil Nadu.

- 29 **Development of multiangular viewer for identification of mosquitoes-** 3rd party validation is completed. The “Multi-angular viewer” prototype is available with the Centre.

ROHC(E), Kolkata

- 30 **Evaluation of Occupational Health Problems of Cycle Rickshaw pullers and Re-design of Cycle Rickshaw on Ergonomic Principles-** Redesigned model is already patented. Now, activity of popularizing the rickshaw is being undertaken at different localities through 5 ICMR Institution at those places to familiarize the models among the rickshaw pullers, passengers and manufacturers and obtain their views after which technology transfer procedures could be initiated.

Annexures XI-XXV: Disease Specific Documents

Documents on Vector Borne Diseases

- Annexure 11. Malaria
- Annexure 12. Lymphatic Filariasis
- Annexure 13. Leishmaniasis
- Annexure 14. Japanese Encephalitis (JE)/Acute Encephalitis Syndrome (AES)
- Annexure 15. Dengue/Chikungunya

Documents on other Diseases/Disease Conditions

- Annexure 16. Leprosy
- Annexure 17. Tuberculosis
- Annexure 18. Cancer
- Annexure 19. HIV/AIDS
- Annexure 20. HPV
- Annexure 21. Chlamydiasis
- Annexure 22. Dirrhoeal Diseases
- Annexure 23. Viral Diseases (other than mosquito borne diseases)

Documents on Nutrition/Environmental Health

- Annexure 24. Nutrition
- Annexure 25. Environmental & Occupational Health

(Soft Copy enclosed in CD as PDF, hard copies are available as separate documents)

Challenges and Strategies for the XII plan

HPC was informed that the Working Group set up by Planning Commission for XII Plan endorsed the proposal that while the ICMR would continue to focus on active research programmes for the generation of new knowledge, the DHR would concentrate on: Governance, Development of infrastructure and manpower in medical colleges, state health systems, universities etc; Promote the translational and implementation research through Central & State Govt, Institutions through optimum use of knowledge management & National Knowledge Network backbone and by partnering with professional bodies, NGOs/ private sector and other stake holders, Strengthen and augment international collaborations in health, Create mechanisms for management of epidemics/ pandemics etc.

Key Challenges Identified for XII Five Year Plan by the Working Group set up by the Planning Commission

- Increase in drug resistance among various infectious agents due to misuse of drugs as well as laxity in the safety precautions in the Hospitals
- Genetic disorders that are becoming more evident due to availability of new diagnostic tools but are largely preventable due to improvement in technology
- Increase in injuries due to accidents/trauma due to high urbanization
- Significant neonatal mortality despite increase in hospital deliveries
- Deaths due to childhood pneumonia, diarrhoea
- Morbidity and mortality due to pyrexia of unknown origin
- Lack of adequate progress on gender related issues in health care
- Inadequate delivery of adequate health care to marginalized section including tribes and growing increase in health inequities.
- Increase in diseases due to unsafe drinking water (communicable as well as non-communicable)
- Slow progress in the developing of the areas like disease burden studies specially vaccine preventable diseases
- Inadequate efforts/capabilities in health system research, health economics and socio-behavioural aspects
- Sub-critical qualified/trained human resource in many critical and currently relevant areas of health research
- Twin problems of under nutrition and increasing percentage of childhood obesity, micronutrient deficiencies, toxicity due to arsenic and fluoride, pesticides, etc
- Adequate availability of drugs and devices at affordable prices.

The Strategy for Health Research in the Twelfth Plan

Address national health priorities: The key outcome of the efforts of DHR would be to generate intellectual capital, which may have a public health impact. DHR/ICMR would, therefore, prioritize its research to find cost-effective solutions for health priorities and health system issues facing the country, as mentioned below:

Priority Areas for Health Research

1. Maternal and child nutrition, health and survival.
2. High fertility in parts of the country.
3. Low child sex ratio and discrimination against the girl child.
4. Prevention, early detection, treatment, rehabilitation to reduce burden of diseases-communicable, non-communicable (including mental illnesses) and injuries (especially road traffic related), congenital malformation and disorders of sex development.
5. Sustainable health financing aimed at reducing household's out-of-pocket expenditure.
6. Health Information System (HIS) covering universal vital registration, community based monitoring, disease surveillance and hospital based information systems for prevention, treatment and teaching.
7. Measures to address social determinants of health and inequity, particularly among marginalized populations.
8. Suggest and regularly update Standard Treatment Guidelines which are both necessary and cost-effective for wider adoption.
9. Public Health systems and their strengthening and
10. Health regulation, particularly on ethical issues in research.

*Twelfth Five Year Plan :2012-2017, Social Sectors, Vol.III, Planning Commission, GOI, Health, P.42

Besides focus will also be on following:

- Reorganization and strengthening of existing institutes of ICMR and setting up new centres in deficit areas to achieve the above listed goals.
- Building Research Coordination Framework.
- Developing efficient research governance, regulatory, ethical issues and evaluation framework.
- Autonomy coupled with accountability in research.
- Utilize available research capacity by promoting extra-mural research.
- Human Resource Development.
- Cost-effectiveness studies to frame Treatment Guidelines.
- Stationing multi-disciplinary research teams at different levels, so that practical, relevant and area specific solutions to problems are suggested to programme managers.
- Up-gradation of existing Government Labs for diagnosis of viral and other infectious diseases.
- Development of existing medical colleges and Research Centres in to Specialized subject Areas.

New Initiatives in the XII Five Year Plan

HPC took note of new initiatives in the relevant area of Health Research :

1. Infrastructure Development for Health Research

Establishment of modern biology laboratories and animal house facilities in medical colleges and institutions, the development of Model Rural Health Research Units in various states with emphasis on **Strengthening of Health infrastructure at periphery level in the country** through funding in extra-mural mode.

2. Setting up a Laboratory network for research on viral and other infectious diseases and Scheme for Managing Epidemics and Natural Calamities

Establishment of about 160 laboratories of three grades on infectious pathogens which will work under the overall guidance of apex institutions like NIV, NCDC through appropriate linkages and networking.

3. Impact of climate change on human health

Particularly in vector borne diseases, diarrhoea and non-communicable diseases will also be studied. Emphasis will also be given to Address matters related to major health problems pertaining to epidemics, natural calamities and other emerging causes of morbidity and mortality.

4. Creation of efficient mechanisms for inter-sectoral coordination and national/international collaboration

This is among the high focus action areas in XII Plan. This would include development of mutually acceptable systems/mechanisms for collaborative action among departments, institutions and other stake holders in the country and other countries.

5. Focus on Elderly Population

With the increase in life expectancy, elderly population is increasing like never before and they are faced with many old age related health problems. Hence special focus will be given on Geriatrics/ mental health/bone health/oral health/Reproductive health and Social Behavioural Research.

6. Establishment of efficient mechanisms for the selection, promotion, development, assessment and evaluation of affordable technologies: Plan to develop and adopt affordable & easy to use technologies, information and human research to diagnose infections

We need to create our own products and processes, if we have to ensure affordable health care for our population; even to address the infections like TB, malaria, HIV/AIDS *etc.* that largely come under the public health system. While efforts are made to promote basic and applied research, establishment of efficient mechanisms is essential for the selection, promotion, development, assessment and evaluation of affordable technologies and their judicious application needs attention. For this purpose structures like Technology Development Board/ Technology Assessment Boards *etc.* have been envisaged.

7. Maternal and child health & Gender Issues as well Research on Population Stabilization

During the XI Five year plan, there has been gradual improvement in the percentage of under 5 mortality rates, maternal mortality rates as well as birth rate. However, the progress has not been as targeted and intense. Operational research is required to accelerate the pace for achieving the desired results. Research on Population stabilization will be geared up.

8. Nutritional problems

The problems of under nutrition and increasing childhood obesity continue to be worrying. Micronutrient deficiencies, toxicity due to arsenic and fluoride, pesticides and other harmful materials (additives) are important problems which need to be addressed.

9. Urban Health, Trauma & Traffic Injuries

Urban health has emerged as a major health issue in the recent time, especially migration from rural and tribal areas is on the rise. Accidents and injuries now constitute a major cause of concern as over 2.0 lakh people die in India due to accidents. This 'triple burden' of communicable, non-communicable and injuries need to be considered for both research and health care.

10. New Research Programmes

New research initiatives are proposed in the areas of mental health, oral health, dental health, bone health, transplantation immunology, allergies as well as immune deficiency disorders *etc.*

Establishment of New Centres

Specialized centres on Zoonoses, Pesticides; food safety, clinical research, mental health, neurological disorders, human genetics, influenza and other gap areas are proposed to be started.

The centres are also proposed in the areas of vaccine preventable and other chronic diseases, health economics and health systems research, social and behavioural sciences, ageing, oral health, Clinical Pharmacology, centre for quality standard of Indian Medicinal Plants, centre for Policy Research for Non Communicable Diseases; Translational Research Centres, Centralized bio-bank facilities, National Centre for Cardiovascular Diseases, Diabetes and Stroke; National Animal Resource Facility for Biomedical Research; Centre for testing of Drugs & Devices as well as drug resistance, Institute for Research on Ageing; Centre on Climate Change and Health, Centres on : Allergy, Transplantation Immunology etc: Regional Medical Research Centres to deal with the local health problems.

Modern clinical/public health oriented set-ups are needed to work on cutting edge science like stem cells, molecular medicine, nano medicine etc. Development of Apex Drug Testing Laboratory is also proposed.

Budget Projection for XII Plan

HPC was apprised that a budget of Rs. 16000 Crores was proposed for DHR including ICMR in XII Plan and an outlay of Rs. 10,029 Crores has been allocated for DHR by the Planning Commission.

12th Plan Outlay for DHR

- Proposed 12th Plan Outlay: Rs.16,000 cr.
 - DHR: Rs. 7500 cr. & ICMR: Rs. 8500 cr.
- Allocation: Rs.10,029 cr.
 - DHR: Rs.5259 cr. & ICMR: Rs.4770 cr.

Schemes of DHR

HPC noted the following schemes under 12th Plan to fulfill its mandate:

1. *Establishment of Multidisciplinary Research Units in Govt. Medical Colleges*
2. *Establishment of Model Rural Health Research Units in the States*
3. *Establishment of Network of Research Laboratories for Managing Epidemics and Natural Calamities*
4. *Human Resource Development for Health Research*
5. *Grants in Aid scheme for inter- sectoral convergence & promotion and guidance on research governance and Governance and departmental Charges*
6. *Programmes of Indian Council of Medical Research*

Indian Council of Medical Research (ICMR)

<i>Year-wise phasing (Rs. in Cr)</i>						
Activity	2012-13 (RE)	2013-14*	2014-15	2015-16	2016-17	Total
Intramural research including ICMR Institutional Network	176.50	356.00	391.00	430.00	473.00	1826.50
Extramural research	163.50	200.00	220.00	240.00	206.00	1029.50
New Institutes/Centres/ Upgradation of existing ones	90.00	476.00	524.00	390.00	250.00	1730.00
Outbreak/ disaster response fund	10.00	54.00	50.00	40.00	30.00	184.00
TOTAL	440.00	1086.00*	1185.00	1100.00	959.00	4770.00
<i>*Actual Allocation Rs. 531 Cr only</i>						

The HPC suggested that new areas such as Dental Health, Adolescent Health, Foetal Medicine, Age related morbidities, consequences of climate change etc need special focus. HPC noted the plans to address key challenges by adopting a multi-pronged strategy including strengthening of research infrastructure, strengthening of human resources and creating enabling environment for health research, efficient research governance including e-governance & regulatory framework, development of centres on policy related areas, translational and implementation research, Establishment of efficient mechanism for selection, promotion, development, assessment and evaluation of affordable technologies and their judicious application, creation of efficient mechanism for inter-sectoral coordination and national/ international collaboration, strengthening of ICMR Institutions, establishment of specialized centres, optimum use of Information Technology using National Knowledge Network as a back bone for health research and research priorities will be guided by focused approach on problems of tribal and marginalized communities. HPC stressed that a healthy proportion of extramural activities may be maintained.

STRENGTHENING OF HUMAN RESOURCES AND CAPACITY BUILDING

- HPC noted that in order to strengthen the administrative, technical and scientific infrastructure in the DHR as well as in ICMR, 61 key positions in the administration, 120 in scientific and technical cadre for Regional/State/district level infectious diseases laboratories; 250 scientific and technical posts for Model Rural Health Research Units; 210 scientific and 400 technical posts for Dedicated Research Cadre in the DHR, 10 posts each for the Regulatory Structure Frame Work being set up through Medical Technology Assessment and Medical Technology Development Boards are proposed. HPC recommended that these essential positions may be considered favourably by the government.
- HPC was also apprised that for the new activities of the ICMR, 376 scientific posts, 500 Technical Officers, 105 Scientific and 315 Technical Assistants to handle the highly sophisticated and bio-terrorism related activity; 580 scientific, technical and administrative posts for the new long term (permanent) research infrastructure being established for research on Vector Control Programmes including malaria control & reproduction; 201 posts in different categories for National Institute for Research in Environmental Health, Bhopal and around 700 posts in Bhopal Memorial Hospital and Research Centre, Bhopal; 16 scientific posts for the proposed Deemed University and 10 posts for the Directorate of Recruitment and Assessment Board are proposed. HPC agreed to the need of these posts and recommended their due favourable consideration.
- Continuous capacity building of staff needs to be supported in order to steer forward the new research programs and strengthen the ongoing activities.
- HPC was informed that newly developed labs and Institutes such as BSL-4 lab at NIV, Pune, NIREH, Bhopal, NCDIR, Bangalore and others as proposed during XII Plan will also have to be strengthened in terms of Infrastructure and human resources. HPC supports these proposals.
- Strengthening of ICMR Hqrs in terms of Infrastructure and human resources to carry out smooth functioning of proposed work may also be given due importance.
- HPC emphasized that adequate capacity building will also be required for successful running of the major Flagships Programs of the ICMR like Vector Borne Disease Science Forum, Tribal Health Forum, Translational Research, etc.

ICMR Permanent Institutes/Centres

1. National JALMA Institute for Leprosy and Other Mycobacterial Diseases
P.B.No.101, Dr. M. Miyazaki Marg
Taj Ganj
Agra 282001
2. National Institute of Occupational Health
Meghani Nagar
Ahmedabad 380016
3. National Institute of Epidemiology
R-127, 3rd Avenue
Tamil Nadu Housing Board
Ayapakkam
Chennai 600077
4. National Institute for Research in Tuberculosis
No. 1 Sathiyamoorthy Road
Chetput
Chennai 600031
5. National Institute of Malaria Research
Sector 8, Dwarka
New Delhi 110077
6. National Institute of Nutrition
Jamai Osmania, Tarnaka
Hyderabad 500007
7. Food and Drug Toxicology Research Centre
National Institute of Nutrition
Jamai-Osmania
Hyderabad 500007
8. National Centre for Laboratory Animal Science
National Institute of Nutrition
Jamai Osmania
Hyderabad 500007
9. National Institute of Cholera and Enteric Diseases
P-33, CIT Road Scheme XM
Beliaghata
Kolkata 700010

10. Centre for Research in Medical Entomology
4, Sarojini Street
Chinna Chokkikulam
Madurai 625002
11. Enterovirus Research Centre
Haffkine Institute Campus
Acharya Donde Marg
Parel
Mumbai 400012
12. Genetic Research Centre
National Institute for
Research in Reproductive Health
Jehangir Merwanji Street
Parel
Mumbai 400012
13. National Institute for Research in
Reproductive Health
Jehangir Merwanji Street
Parel
Mumbai 400012
14. National Institute of Immunohaematology
13th Floor, New Multistoreyed Building
K.E.M. Hospital Campus
Parel
Mumbai 400012
15. National Institute of Medical Statistics
ICMR Head Quarters Campus
Ansari Nagar
New Delhi 110029
16. Institute of Cytology and Preventive Oncology
I-7, Sector-39, P.O.Box.No.544
Near Government Degree College
Opposite City Centre
NOIDA 201301
17. National Institute of Pathology
Safdarjang Hospital Campus
Post Box No. 4909
New Delhi 110029
18. Rajendra Memorial Research
Institute of Medical Sciences
Agamkuan
Patna 800007

19. Vector Control Research Centre
Medical Complex
Indira Nagar
Puducherry 605006
20. Microbial Containment Complex
Sus Road
Pashan
Pune 411021
21. National AIDS Research Institute
G-73
MICD Complex, Bhosari
Pune 411026
22. National Institute of Virology
20-A, Dr.Ambedkar Road
P.B. No.11
Pune 411001
23. ICMR Virus Unit (Regional Infectious Disease Laboratory)
GB4, 1st Floor , ID & BG Hospital Campus
57, Dr. S.C. Banerjee Road, Beliaghata
Kolkata 700010
24. National Institute for Research in Environmental Health
Kamla Nehru Hospital Building
Gandhi Medical College Campus
Bhopal 462001
25. National Centre for Disease Informatics and Research
Nirmal Bhawan-ICMR Complex (II Floor)
Poojanhalli Road, Off NH-7
Adjacent to Trumpet Flyover of BIAL
Kannamangla Post
Bangalore 562110
26. Bhopal Memorial Hospital & Research Centre
Raisen Bye Pass Road
Karond
Bhopal 462 038
27. Regional Medical Research Centre
Nehru Nagar
National Highway No. 4
Belgaum 590010
28. Regional Medical Research Centre
Nandankanan Road
P.O. Chandrasekharapur
Bhubaneswar 751023

29. Regional Medical Research Centre
N.E.Region, East-Chowkidinghee
Post Box No. 105
Dibrugarh 786001

30. Regional Medical Research Centre for Tribals
Medical College Campus
Nagpur Road
P.O.Garha
Jabalpur 482003

31. Desert Medicine Research Centre
P.O.Box No. 122
New Pali Road
Jodhpur 342005

32. Regional Medical Research Centre
Post Bag No.13
Dollygunj
Port Blair 744101