



A National Center for Animal Alternatives in India: The Mahatma Gandhi-Doerenkamp Center for Alternatives to the Use of Animals in Life Science Education (MGDC)

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Summary

The Mahatma Gandhi-Doerenkamp Center for Alternatives to the Use of Animals in Life Science Education (MGDC) has been established as a national centre for alternatives in India at Bharathidasan University, Tiruchirappalli, Tamil Nadu, a renowned university under the University Grants Commission of the Government of India. The mandate of the centre is to introduce the Gandhian Philosophy of 'Ahimsa' or 'non-violence' into the teaching /research of life sciences. The centre was established with the generous financial support of the Doerenkamp-Zbinden Foundation, Switzerland, in conjunction with the establishment of the 'Gandhi-Gruber-Doerenkamp Chair' for Alternatives in Biomedical Science Education and in vitro Toxicology. The centre was established in the knowledge that promoting humane science is an imperative scientific, legal, psycho-social, ecological and economic need of the hour.

The MGDC will strive to create a strong positive presence of alternatives to the use of animals, thereby promoting quality and excellence in life science education, research and testing by way of continuous training programmes, an alternatives knowledge bank, library and certificate / diploma / post-graduate diploma programmes in animal alternatives and in vitro toxicology testing. The MGDC will also bring together stakeholders in the 3Rs – academia, scientific community, industry, government and animal welfare personnel from national / international levels – to raise the awareness / facilitate the exchange of information / ideas on alternatives to translate the vision of 3Rs into policy and curricular changes in India as relevant to education and research. The MGDC will help by way of funding research and development of environmentally friendly pedagogical tools and in vitro alternative methods for life science teaching and research. The approach will be to encourage the use of e-tools, help establish virtual learning centres, and to establish an in-house state-of-the-art cell culture laboratory for training in non-animal methods of research and product testing. The centre will be essentially a service provider in respect to non-animal methods in learning, research and testing. It is a joint venture of the Doerenkamp Zbinden Foundation, Bharathidasan University and People for Animals (Chennai), India.

Keywords: Mahatma Gandhi, life science, biomedical education, India, alternative methods, e-learning, Ahimsa

1 History

Very few men have done so much good for their fellow creatures, be it human kind or animal kind or enriching philosophy, as did Mohandas Karamchand Gandhi, who has been called the “Mahatma” (meaning the “great soul”) in India. His greatest philosophy was that of “Ahimsa” or “non-violence”. He said “non-violence is not a cloistered virtue to be practiced by the individual for his peace and final salvation, but it is a rule of conduct for society if it is to live consistently with human dignity and make progress towards the attainment of peace for which it has been yearning for ages past”. He went on to say, “We should not inflict cruelty on even the meanest of creatures. I also will have to answer for this in the court of the Almighty.”

Only few single persons have contributed so much wealth to the protection of animals as Hildegard Doerenkamp from Germany. Ms. Doerenkamp, together with the late Gerhard Zbinden, founded the Doerenkamp-Zbinden Foundation.

To honour their greatness, the Mahatma Gandhi-Doerenkamp Center (MGDC) carries the names of these two towering personalities in order to propagate the message “do not kill animals” in education, research and testing. The centre has been established at the Bharathidasan University, Tiruchirappalli, India, which is named after the great revolutionary Indian poet, Bharathidasan, who vowed “to create a brave new world”. The university’s affairs are now guided by M. Ponnavaikko, the vice-chancellor, according to whom “God is an invisible distributed energy; he resides in every human being, plant and animal; the human be-



ings are endowed with the sixth sense, which should be used in realising God; you will realise God only when you love, respect and care for His creations”.

It was a red letter day in the history of the University and the Doerenkamp-Zbinden Foundation, Switzerland, when these two parties entered into a Memorandum of Understanding to establish the “Mahatma Gandhi-Doerenkamp Center for Alternatives to Use of Animals in Life Science Education”, on 13th July 2009. The centre was launched on 15th July, 2009.

If William Russell and Rex Burch were the ones to revolutionise the approach to animal experiments with their book *The Principles of Humane Experimental Technique*, published in 1959, wherein they demanded a humane approach to animal experimentation and introduced the 3Rs concept (replacement, reduction and refinement), which has come to be known as the concept of “alternatives”, it was Jennifer Graham, a brave 15-year-old girl from California, who in 1987 refused to dissect an animal and sued her school district seeking an alternative study option, whereupon the state of California, USA, granted that right to all high school students, to be followed by other States in the US and later other countries as well, who revolutionised animal dissection and vivisection.

While a humane approach to animals in education, research and testing has been taken up seriously in the developed countries, the developing countries are yet to fall in line, although they were also signatories of the *Three Rs Declaration of Bologna*, which was adopted in 1999 by the Third World Congress on Alternatives and Animal Use in the Life Sciences and strongly endorsed and reaffirmed the principles of the 3Rs. The situation in India, the country with the second largest population in the world, has been dismal.

In 1996, both the Central Board of Secondary Education and the Indian Council of Secondary Education stopped the use of animals in teaching life sciences in secondary schools in India. However, with regard to higher education and research there was an awakening only after the turn of the century when organisations like People for Animals, India (PFA), I-CARE and the CPCSEA (Committee For The Purpose Of Control And Supervision Of Experiments On Animals, Govt. of India), began a campaign for non-animal methods of teaching and learning in life sciences.

In February 2003, the CPCSEA sensitised the teaching and scientific community by conducting a 3-day national symposium on alternatives in New Delhi, India. Over 300 participants attended the same and renowned scientists from across the world were invited to speak. For the first time, the science of alternatives was officially introduced to the Indian scientific community. International speakers from Johns Hopkins University, USA, the Netherlands Center for Alternatives, FRAME, UK, HSUS, USA, InterNICHE and the Doerenkamp-Zbinden Foundation were invited. Their efforts came to be rewarded, since these organisations also enlisted in the service of academics and universities across India, including the first author, M. C. Sathyanarayana from AVC College, Mannampandal, Mayiladuthurai,

a college affiliated to Bharathidasan University, Ramakrishna, Professor of Veterinary Science from Chennai, R. Raveendran, a pharmacologist from JIPMER, Pondicherry, Dr. Syed Ziaur Rahman, another pharmacologist from Aligarh Muslim University, and others.

More importantly, they targeted the teachers, those who are the key role players in the academic curricular decisions, to bring about change. A workshop was conducted on the 25th Sep 2001 at AVC College, Mannampandal, Mayiladuthurai, Tamil Nadu, organised by M. C. Sathyanarayana, where the first author delivered the key note address. The participants, all college teachers, were introduced to the non-animal methods of teaching and learning anatomy in zoology class. From then on, many programs were conducted in different places throughout the country, but they were all piece meal basis, without a clear-cut direction.

In 2004, PFA in collaboration with InterNICHE and WSPA, UK organised one-day workshops in alternatives in education in 9 cities across India. The ‘First Indian Congress On Alternatives To The Use Of Animals In Research, Education and Testing’ was a national congress also conducted in Chennai by I-CARE in 2007, which attracted over 400 participants and the best international platforms of alternatives to India. In 2006, on the initiative of I-CARE and supported by the first author and the model curriculum of Bharathidasan University and the University Grants Commission, New Delhi, the Regulatory Authority of Higher Education in India, an epoch-making letter was sent to all universities in India, directing them to use alternatives and requiring the curtailment of use of animals in zoology teaching and learning. But little was done thereafter, since the efforts were made only by unorganised sectors and free-lancers.

The first author and his team approached the change from a different perspective as well. As senior teachers and researchers of zoology, they were members of the Curriculum Boards of several universities. Taking advantage of this position, they endeavoured to change the zoology curriculum such that animal dissection as an aspect of animal anatomy laboratory exercise was greatly reduced and even dropped in some universities / programmes.

The most exciting outcome was from Bharathidasan University, where all major dissections were dropped from the curriculum for undergraduate as well as post-graduate programmes, and in their place learning of animal anatomy using CD-Roms was introduced for the first time in the country. This came to be called the “Bharathidasan University Model” (Akbarsha, 2007). In 2003, CPCSEA again worked with the Pharmacy Council of India and brought about the decision that where alternative methods for pharmacological testing are available, *in vivo* testing protocols need not be practiced. Thus, the roles of I-CARE, People for Animals, Peta India, and InterNICHE are commendable. Yet, the vastness of the country, the variety in the higher education and the heterogeneity of the religious, linguistic and cultural heritage of the people made the task enormous and difficult for these organisations to handle.



2 The Mahatma Gandhi-Doerenkamp Center

At this time, there was an initiative from the Chennai chapter of PFA to upscale the campaign for non-animal methods in life science and biomedical science education in India. Since Bharathidasan University had already made its mark, spearheaded by the first author and M. C. Sathyanarayana, it was proposed that a National Center for Alternatives be established at this university, with the first author at the helm of affairs. Before funding agencies in India could be approached, the Doerenkamp-Zbinden Foundation (DZF) heard of the campaign and offered to participate in the venture, deciding for the first time to expand its activities outside Europe and the USA. It was proposed that a National Center for India be established in a tripartite collaboration between the DZF, Bharathidasan University, and PFA, Chennai, wherein the DZF bears the entire cost, including an academic chair and a building proposed in a budget, PFA renders moral and counselling support and Bharathidasan University houses and runs the MGDC. This initiative culminated in the signing of the Memorandum of Understanding on July 13th, 2009.

The centre is named after Mahatma Gandhi and Ms. Hildegard Doerenkamp. Mahatma Gandhi was the great leader of India during the most gruesome period of Indian history. Central to Mahatma Gandhi's vision was an impassioned conviction that at the heart of all life there is 'Truth' which sustains all creation; a 'Truth' which demands a personal response from each individual. He saw 'Truth' as a truth present in every person. In particular, he held non-violence as a basic tenet of this 'truth', a positive force that can bring about fundamental change at all levels. For Gandhi 'non-violence' was the discovery of a new kind of power. It is a well known fact that Gandhi not only played a major role in India achieving its independence but also taught a philosophy which has universal applicability. The core of that philosophy is the search for truth through non-violence – "Ahimsa". Gandhi taught respect for animals as well as humans, a non-exploitative relationship with the environment, the elimination of poverty, the limitation of personal wealth and possessions, and non-violence applied at all levels of relationships, be it man to man, man to animal or man to environment. According to him, "The greatness of a nation and its moral progress can be judged by the way its animals are treated". He said "I hold that the more helpless a creature, the more entitled it is to protection by man from the cruelty of man", and "I abhor vivisection with my whole soul. All the scientific discoveries stained with innocent blood I count as of no consequence."

Ms. Hildegard Doerenkamp dedicated her entire wealth towards the cause of animal protection, and, together with Gerhard Zbinden, founded the DZF. This foundation began by extending support to the discovery of alternatives and conferring awards for outstanding work on alternatives. Later, it started to establish academic chairs for alternative methods. It has Chairs at Johns Hopkins University, USA, University of Geneva, Switzerland, University of Konstanz and University of Erlangen, Germany, and Utrecht University, The Netherlands. The Foundation is also member and main sponsor of the society ALTEX

Edition, which publishes the journal on alternatives to animal experimentation and testing, ALTEX.

Mohammad A. Akbarsha, a teacher of zoology and animal science for more than three decades and a scientist who uses *in vitro* tools, has been declared Director of the MGDC and also holder of the Gandhi-Gruber-Doerenkamp Chair for Alternatives in Life Science and *In Vitro* Toxicology.

The mandates of the MGDC are:

1. The MGDC will endeavour to advance the concept of "humane science" and implement the concept of the 3Rs in education, research and testing in accordance with Indian legislation, the international 'Declaration of Bologna' and international advances in the science of alternatives.
2. The MGDC will work to create a strong and positive presence for alternatives to the use of animals in experimentation / testing in India and pro-actively work to blend life science education with the Gandhian philosophy of non-violence.
3. The MGDC will evolve a national programme for humane education in teaching and research.

The MGDC will work to:

1. Develop a national humane education programme for all universities/ colleges/ national research institutes as part of their life science curriculum/ research, which will seek to blend the Gandhian philosophy of non-violence with life science education/ research
2. Develop a strategy for the implementation of the 3Rs in academic and research/testing laboratories
3. Conduct courses on Humane Science and Alternatives in the Use of Animals in Education and Research in affiliation with other renowned universities like the Oxford University Centre of Animal Ethics, UK and CAAT, Johns Hopkins University, USA, etc., for both Indian and international students
4. Support by way of funds and expertise high-quality research that advances the 3Rs for development of pedagogic tools, computer modelling for teaching, drug development, basic bio-medical research, product testing, etc.
5. Provide expertise and guidance on the 3Rs and laboratory animal welfare to the teaching/ scientific community by developing a range of resources, including guidelines and training material (e.g. CDs), organising working groups, workshops, symposia, etc.
6. Liaise with national education councils, like MCI, VCI, PCI, UGC, AICTE, etc., and state education departments for curricular developments to promote the use and knowledge of alternatives
7. Liaise with regulatory bodies for the acceptance of alternative methods in product testing
8. Establish a state-of-the-art tissue culture laboratory and library of alternatives to help train scientists in the use of alternatives. The former could also help generate revenue for the MGDC by way of product testing on a payment basis

The task is enormous. As already said, India is a vast country with a huge population.

Area:	3.3 million sq km
Number of States:	28
Number of Union Territories:	7
Population:	1,186.2 million
Ethnic Groups:	Indo-Aryan 72 %, Dravidian 25 % Mongoloid and others 3 %
Number of languages spoken:	about 40
Number of Central Universities:	39
Number of State Universities:	131
Number of Deemed Universities:	127
Number of Colleges:	6,289
Number of Science Colleges:	1,868
Number of Medical Colleges:	274

Yet, the MGDC is optimistic. The goal of non-animal methods in teaching, research and testing as a national policy and practice is expected to be reached soon.

With means of the DZF the MGDC will be built in the next month. The first step is fully paid by DZF, and for the second step additional sponsors are sought (see fig. 1 and fig. 2).

3 The MGDC Board

To better fulfil its obligations to bring modern teaching methods to Indian bio-medical education a governing council and an advisory board have been elected by the chancellor of the Bharathidasan University. The members meet at least once a year and give the director strategic impulses for his way forward. One of the outstanding board members is David Dewhurst, Professor for e-learning methods at the University of Edinburgh, UK, well known as a specialist in modern biomedical education (Dewhurst, 2004; Gruber and Dewhurst, 2004).

Governing council:

1. H'ble Vice-Chancellor, Bharathidasan University, Tiruchirappalli –Chairman
2. Registrar, Bharathidasan University, Tiruchirappalli

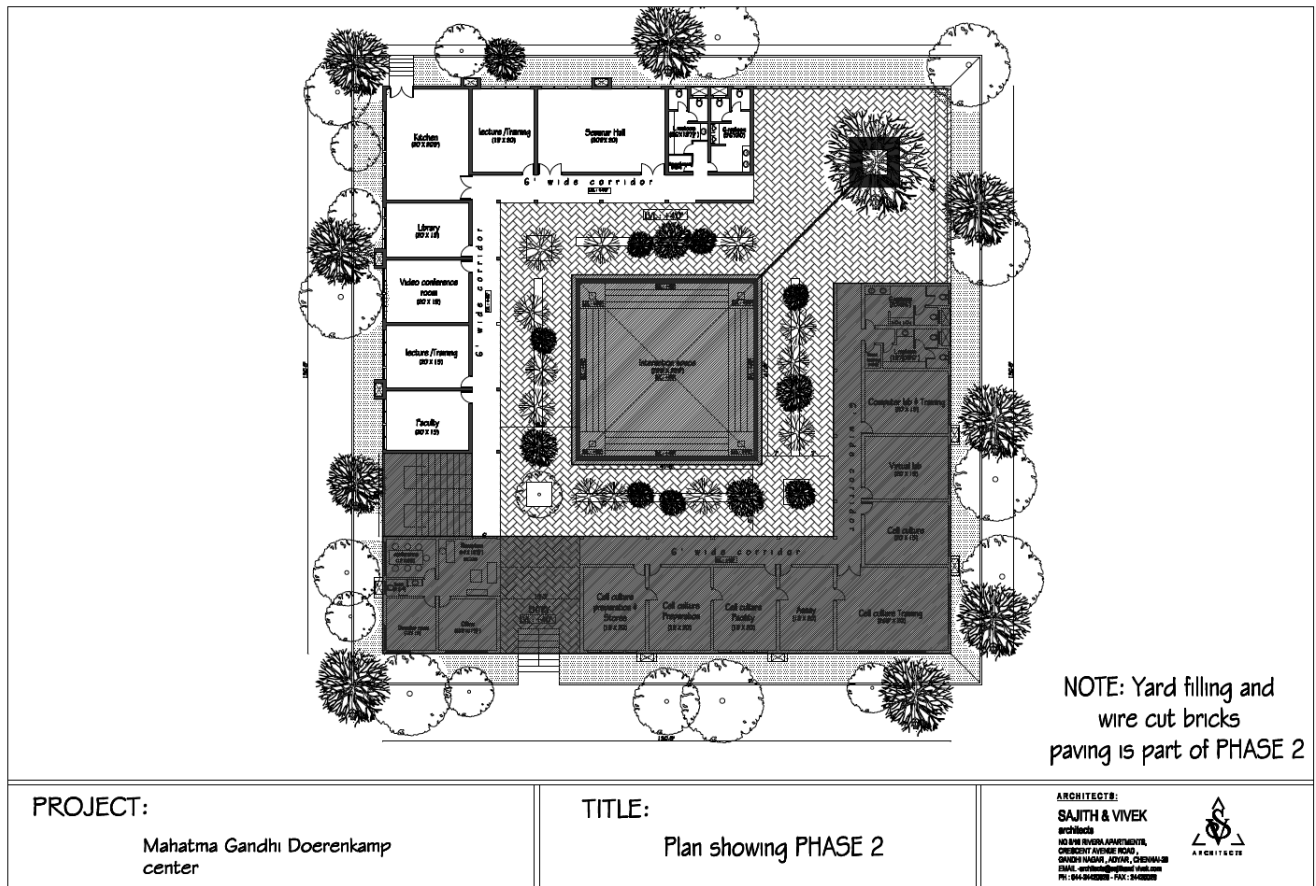


Fig. 2



3. Director, Mahatma Gandhi-Doerenkamp Center & Gandhi-Gruber-Doerenkamp Chair, Bharathidasan University, Tiruchirappalli – Secretary.
4. Dr. David Dewhurst, Professor of e-Learning, Director of Educational Information Services, College of Medicine & Veterinary Medicine, University of Edinburgh, UK – (DZF Nominee).
5. Dr. (Mrs). Shiranee Pereira, Chennai - Nominee of PFA
6. Dr. N. Tajuddin, Bioscientist Member in Syndicate, Bharathidasan University, Tiruchirappalli-
7. Dr. T. Madhan Mohan, Director, Department of Biotechnology, Govt. of India, New Delhi – Member.
8. Dr. R. S. Sharma, Deputy Director General, ICMR, New Delhi
9. Dr. B. Manivannan, Asst General Manager, Regulatory Office, A-27/B1 Extn, Mohan Corporative Industrial Estate, Madhura Road, New Delhi
10. Dr. Oommen V. Oommen, Professor of Zoology & Coordinator, UGC-SAP, University of Kerala, Thiruvananthapuram
11. Dr. S. Vincent, Member Secretary, Tamil Nadu State Council for Science and Technology, Chennai
11. Dr. Michael Aruldas, Professor & Head, Dept of Endocrinology, ALPGIBMS, Chennai
12. Dr. K. Dharmalingam, Professor & Head, School of Biotechnology, Madurai Kamaraj University, Madurai
13. Dr. Gopinath Ganapathy, Professor & Head, Dept of Computer Science, Bharathidasan University, Tiruchirappalli
14. Dr. M. Krishnan, Professor & Head, Dept of Environmental Biotechnology, Bharathidasan University, Tiruchirappalli
15. Dr. S. Parthasarathy, Reader & Head, Dept. of Bioinformatics, Bharathidasan University, Tiruchirappalli
16. Dr. P. Ilango, Professor & Head, Dept of Social Work, Bharathidasan University, Tiruchirappalli – 620 024
17. Dr. (Mrs).Radha Chellappan , Emeritus Professor, Bharathidasan University, Tiruchirappalli
18. Dr. T. Thirunalasundari, Coordinator, sixth year M.Tech Courses, Bharathidasan University, Tiruchirappalli
19. Dr. B. Kadalmani, Lecturer, Dept. of Animal Science, Bharathidasan University, Tiruchirappalli

Advisory Board:

1. H'ble Vice-Chancellor, Bharathidasan University, Tiruchirappalli – Chairman
2. Registrar, Bharathidasan University, Tiruchirappalli
3. Director, Mahatma Gandhi-Doerenkamp Center & Gandhi-Gruber-Doerenkamp Chair, Bharathidasan University, Tiruchirappalli – 620 024 - Secretary.
4. Dr. David Dewhurst, Professor of e-Learning, Director of Educational Information Services. College of Medicine & Veterinary Medicine, University of Edinburgh, UK – (DZF Nominee).
5. Dr. (Mrs). Shiranee Pereira, Chennai, Nominee of PFA,
6. Dr. Massimo Tettamanti, I-CARE, 33, Athivakkam Village, Red Hills, Chennai
7. Dr. R. Raveendran, Professor, Dept. of Pharmacology, JIPMER, Pondicherry
8. Dr. Zia-ur-Rahuman, Reader in Pharmacology, Aligarh Muslim University, Aligarh
9. Dr. Oommen. V. Oommen, Professor of Zoology & Coordinator, UGC-SAP, University of Kerala, Thiruvananthapuram
10. Dr. V. R. Muthukarruppan, Aravind Eye Hospital, Madurai

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