

**Department of Biotechnology
Ministry of Science and Technology
Government of India**

***India –Netherlands agreement of tailor- made biotechnologies*
First Call for Proposals**

Introduction

The Department of Biotechnology of the Ministry of Science and Technology of the Government of India and Institutes of Higher Education in The Netherlands signed a Memorandum of Understanding (MoU) in the field of *tailoring biotechnologies* at October 25, 2005.

The objective of the MoU is to develop a new type of research and technology development referred to as *tailoring*, in particular applied to traditional and modern forms of biotechnology and genomics. The leading mission of tailoring strategies is technology development *in society*, e.g. in close interaction with stakeholders, directed to develop products, techniques or processes that lead to sustainable developments. This approach is based on the acknowledgement that technology development is more than the application of 'pure science' and has to be regarded as a practise that comprises both technical and social components.

Tailoring Biotechnologies

Biotechnology is the integration of natural sciences and engineering sciences in social production systems in order to achieve the application of organisms, cells, part thereof and molecular analogues for products and processes. The development of new biotechnologies requires collaboration between experts from various backgrounds and stakeholders from various production systems. Interaction between the different actors from an early stage of research onwards is an essential and indispensable part of the development of practical technologies. This makes tailoring strategies more than a 'trick' for technology-transfer and extension. Tailoring strategies is to be defined as an elaborate and systematic plan of action for designing and redesigning artefacts (products, techniques and processes) for a particular use by social actors in particular production systems. The effort is strongly focussed on multi-local development processes that we refer to as endogenous developments.

The Call for Proposals

Senior researchers at research institutes and universities in India are eligible to participate in the call for proposals. In order to avoid non-productive efforts in writing proposals, applicants are required to submit a preliminary proposal (pre-proposal). The deadline for submitting proposals in the first call is **15th February** ,

2006 (deadlines for the second call will be June 2006). It is compulsory to submit a preliminary application: the first stage cannot be skipped.

Pre-proposals should follow the guidelines and use the electronic form that will be available on the DBT website (www.dbtindia.gov.in) and should specify how the proposed research will contribute to the thematic and strategic priorities of the TMBT programme (Agricultural Biotechnology, Food Biotechnology, Medical and Public Health Biotechnology, and Biopolicy issues).

The available grant is aimed at supporting high-quality research projects carried out by talented researchers from India and designed to support a Ph.D. research in the form of a sandwich or pick-nick formula (the difference is the duration of the stay in the Netherlands, which is longer in a sandwich than in a pick-nick formula), in which a fieldwork period in India is followed by a stay in the Netherlands, a completion in India and defence of the PhD thesis in the Netherlands. The academic degree will be provided by an institution for higher education in the Netherlands, in particular the Wageningen University (agriculture and food sciences) and the Free University of Amsterdam (medical and human health sciences). The programme is managed by Prof.Dr. Guido Ruivenkamp in collaboration with ir.Joost Jongerden of the Wageningen University and Dr. S.R.Rao, Department of Biotechnology. Inquires about the scope of the TMBT programme and tailoring strategies may be directed to joost.jongerden@wur.nl. Enquiries about DBT funding may be addressed to tmbtindia.dbt@nic.in

**The Tailor Made Biotechnologies India Fund
(TMBT India)
First Call for proposals**

December 2005

Instructions for Application

Introduction

The Tailor Made Biotechnologies Programme is a multi-local network coordinated by researchers from the Wageningen University and Free University Amsterdam in the Netherlands. The network is composed of internationally and horizontally organised task groups, dotted across the globe and linked to each other through an interactive hub that aims to facilitate the tailoring activities of the multi-local platforms. The Tailor Made Biotechnologies Programme represents a new type of research and technology development. The leading mission is technology development *in* society in close interaction with identified targets groups, resource poor farmers, households, and other social units performing agricultural, food processing and health-care activities. This approach is based on the acknowledgement that technology development is more than the application of

'pure science' and has to be regarded as a practise that comprises both technical and social components.

Tailoring Biotechnologies

Biotechnology is the integration of natural sciences and engineering sciences in social production systems in order to achieve the application of organisms, cells, part thereof and molecular analogues for products and processes. The development of new biotechnologies requires collaboration between experts from various backgrounds and stakeholders from various production systems. Interaction between the different actors from an early stage of research onwards is an essential and indispensable part of the development of practical technologies. This makes tailoring strategies more than a 'trick' for technology-transfer and extension. Tailoring strategies is to be defined as an elaborate and systematic plan of action for designing and redesigning artefacts (products, techniques and processes) for a particular use by social actors in particular production systems. The effort is strongly focussed on multi-local development processes that we refer to as endogenous developments.

Call for proposal

TMBT India does a call for proposals which aim is to apply tailoring strategies in the development of biotechnologies for the resource poor. In order to avoid non-productive efforts in writing proposals, applicants are required to submit a preliminary proposal (pre-proposal). Pre-proposals should use the electronic form that will be available on the DBT website and should specify how the proposed research will contribute to the thematic and strategic priorities of the TMBT programme.

Objective of the call

The objective of the call is to build and strengthen research capacity and programmes in India by means of networking with research institutes in the Netherlands. After a four-year research period the candidates have to defend their PhD thesis at one of the Dutch universities as well as at their university or research institution in India. The whole program is managed by prof.dr. Guido Ruivenkamp in collaboration with ir. Joost Jongerden from TMBT International support unit.

New Responsibilities

The research programme stimulates new responsibilities for (social) scientists. The acknowledgement that biotechnology development does not only take place in the 'scientific' domain, but is essentially a social process, comprising science, results in new responsibilities for scientists. An ongoing process of interaction with stakeholders is needed in the process of technology development, which is

different from disseminating the results in the final stage of the research project. It is needed to 'open' research activities for interaction with stakeholders already in the first stages. These new responsibilities imply new roles for all actors, such as from researchers, to farmers, processors, societal organizations, and politicians. This can be reflected in the research proposals in various ways, such as.

- Ø research projects are organized and carried out in cooperation with food-networks (horizontal interconnected system of actors, comprising farmers, processors, consumers) or societal organizations.
- Ø research projects are organized and carried out in cooperation with academic researchers from different academic backgrounds

Research Themes

Reflecting on experiences the TMBT network identified four thematic areas. These are:

1. Agricultural Biotechnology, dealing with the design and tailoring of biotechnologies to the needs of the resource poor farmers in collaboration with the stakeholders, assessing and using their knowledge systems in the technology development process.
2. Food Biotechnology, dealing with the design and tailoring of food processing in collaboration with the processors to the needs of existing multi-local networks, supplying foods for the urban resource poor.
3. Medical/health Biotechnology, dealing with the design and tailoring of health care products for particular groups of patients in collaboration with patient organizations.
4. Biopolicy issues, dealing with such issues as intellectual property rights, open source biotechnology, and common right, aiming at the availability of biotechnologies for an affordable price for resource poor farmers

Contact and Inquiries

Inquires about the scope of the TMBT programme and tailoring strategies may be directed to joost.jongerden@wur.nl

I. The Grant

The TMBT India project call is aimed at supporting high-quality Ph.D. research projects carried out by talented researchers from India.

The Scheme has two objectives, namely, to provide facilities necessary for obtaining a doctorate degree at an institution for higher education in the Netherlands, in particular the Wageningen University and Research Centre

(WUR) and the Free University of Amsterdam (VUA), and to strengthen the capacity in tailoring biotechnologies in India. The project is designed to support a sandwich or pick-nick formula (the difference is the duration of the stay in the Netherlands, which is longer in a sandwich than in a pick-nick formula), in which a field work period in India is followed by a stay in the Netherlands and a completion in India. The academic degree will be provided by an institution for higher education in the Netherlands, in particular the Wageningen University (agriculture and food sciences) and the Free University of Amsterdam (medical and human health sciences).

II. Applicant

A senior researcher of an Indian public institute or university must formally submit applications. Ph.D. students cannot apply for themselves. Project researchers should have obtained the appropriate degrees (MSc/MA or PhD) prior to the start of the project.

III. Application Procedure

The selection and evaluation procedure is split into two stages.

First Stage. The preliminary applications will be ranked by the International Support Unit of the TMBT-India program and be evaluated by the Joint Action Committee of the TMBT India Program who will take the final decision. Applicants meeting the formal criteria and having submitted promising pre-proposals will be invited to develop and submit a full proposal. All applicants will be informed about the outcome of the preliminary selection procedure in writing.

Second Stage. The final applications will be assessed on the basis of peer-review, the applicants' responses to these and the evaluation of judgements and arguments. The Joint Action Committee takes the final decision on funding.

The applications are evaluated on the scientific quality and originality.

It is compulsory to submit a preliminary application: the first stage cannot be skipped.

IV. Eligibility

Applicants. The main applicant should be a senior researcher employed by a research institution in India. For each of the projects within the programme, a senior researcher employed by a research institution at Wageningen University or the Free University in Amsterdam should be involved as supervisor of the Ph.D. projects. For information applicants may contact joost.jongerden@wur.nl

Joint programme formulation and execution. The research programme and proposal development must be the result of a collaborative effort of all research partners and other relevant stakeholders involved.

Knowledge Exchange. In the full proposal the formulation and execution of joint activities directed at enhancement of integration and exchange and dissemination of results must be part of the programme outline.

Themes The research should focus on one or more of the following themes:

Agricultural Biotechnology
Food Biotechnology
Medical/ Health Biotechnology
Biopolicy issues

Duration: The duration of a programme is no longer than five years. The duration of a Ph.D. research project should be min. 3 and max. 4 years.

Researchers. Project researchers should have obtained the appropriate academic degree at the start of the project (M.A. or M.Sc. for Ph.D. project).

Budget. The research budget of the programme execution should meet the administrative guidelines.

Format. The application should be made on the right programme and project application form (complete the forms given in ANNEX I and ANNEX II) and fulfil all criteria with respect to format, length of text, signatures, etc.

Submission. At least two versions of the proposal must be submitted to the TMBT bureau: an electronic version of the application (using e-mail) and a signed hardcopy. The electronically submitted application should reach the TMBT bureau before the deadline. Electronically submitted applications are only taken into account in case the signed (no electronic signatures) hardcopy is received within a week after the deadline. Final applications must be accompanied by (a) letter(s) of support of the research partner(s) involved.

The deadline for submitting proposals is January 31, 2006 (the deadline for the second call is June 1, 2006). All applications are screened for compliance with the formal criteria. Applicants will receive a written confirmation of receipt within one month after the deadline, which will state whether the application has been accepted or refused. The applicants who have their proposals accepted will be invited to submit a full proposal.

V. Evaluation and selection

The applications are evaluated and ranked by an expert pool composed of senior researchers from various disciplines.

All applications are evaluated according to a fixed set of criteria concerning the

scientific quality of the proposals. Preliminary applications are evaluated using a limited set of criteria.

Evaluation criteria for preliminary and final applications:

- Integration of scientific research questions within the programme; coherence of the projects; projects relevant and necessary to achieve the aim; will the programme yield more than the individual projects (more knowledge, better applicability of results, or higher efficiency in the research); is there a common end-product; is there a common research question aimed at one of the four TMBT themes.
- the degree of multi-disciplinarity and cooperation between researchers from different institutions; range and relevance of the disciplines; will the combination of and interaction between disciplines yield more than individual disciplinary projects (impact of results, new methods/instruments, new theories).
- originality in research question and/or methodology (such as development of new theories or methods, or innovative work on existing insights using new data); scientific relevance or impact of proposed research.
- clarity in problem definition/hypothesis; clarity in outline of programme and projects (relevance, delineation); projects represent recognisable elements of the overall theme of the programme.
- level of collaboration with the research partners.

Additional evaluation criteria for final application:

- Adequacy/effectiveness of the research design: suitability of methodology; quality/efficiency of the work plan; preliminary studies performed.
- feasibility: quality of the research groups; managing capacities of the coordinator; research facilities/infrastructure probability of obtaining interesting/successful outcome
- Relevance for tailoring biotechnologies: contribution to capacity and institution development in tailoring biotechnologies, societal relevance of the research topic.
- Clarity of methodology

As the Advisory Committees are multidisciplinary in character, applicants are thus advised to write the application for a broad scientific audience; proposals should be clear and comprehensible for colleagues with different scientific backgrounds.

VI. Budget Guidelines

See annex 3

VII. Administration and management

The main applicant and grant beneficiary:

- must assure the scientific interaction and synergy within the programme and
- is formally responsible for the proper execution of the approved plan,

including personnel matters, scientific progress and output, financial management and administration.

A formally approved thesis is the minimum requirement for the successful completion of a Ph.D. project. TMBT India must receive three copies of the thesis.

The final report must reach the office within 3 months of the programme period expiring. Failure to comply with the aforementioned requirements may result in sanctions such as exclusion from future TMBT support.

VIII. Explanatory notes for completing the preliminary application form

General remarks

- The form must be completed in English, using the Times New Roman 11 pt font;
- For some items on the form a maximum number of words is stated. Do not exceed this number and include a word count. Your application may be disqualified if you exceed the maximum number of words stated;
- The application must be submitted in duplicate: an electronic form using email and a posted signed hard copy;

Submission

The TMBT Office must receive the electronic application including the completed form no later than **15th February 2006 (for first call)** and **1 June 2006 at 17.00 hrs.(for second call)** The signed hard copy may follow later, but must arrive within one week of the deadline.

The email address for submission is: joost.jongerden@wur.nl

Explanatory notes for each question on the application form are provided below (numbers refer to questions on the application form).

ANNEX 1 Format application form for preliminary proposals

1. Project Area

Indicate one or more project areas covered by the proposal: I Agro-Biotechnology, II Food-Biotechnology, III Medical-Biotechnology, IV Bio-Policy

2. Title of the project

Full title and work title and/or abbreviation

3. Applicant(s)

Institution(s) (name, address)

Programme leader (name, institution, department, position, postal address, tel., e-mail)

4. Number of Ph.D. students

Indicate how many Ph.D. students (maximum 4) will obtain a degree within the project and indicate their disciplines (please note that in case multiple Ph.D.s are included in the project these have to cover different disciplines. No projects are accepted with more than one Ph.D.s from the same discipline. This is to encourage multi-disciplinary approaches).

5. Project summary (maximum 250 words)

Summarize the main research problem, objectives and scientific approach of the project.

6. Problem statement and research questions (maximum 500 words)

Indicate the research problem and questions.

7. Programme description

Describe in general lines the programme (not more than 3 pages A4, Times New Roman font 11). The description has to include objectives, activities (including number of PhD and MSc students), expected research outputs, delivered products (or techniques or processes) for poverty reduction and improved health security, location of the programme activities, and starting date and duration. Also indicate the type of research (policy-study, product-development, pilot-study e.g.) Applications that exceed the stated maximum will be refused.

8. Co-funding

Has this application been submitted elsewhere for co-funding? If so, to whom?

9. Description of the research plan (max. 600 words)

Describe the methods and approaches for research.

Describe the activities to integrate the results of the individual PhD projects in approaches to tailor or redesign biotechnologies.

10. Time frame

Describe the planning of activities in time (timetable).

11. Roles and Responsibilities

a. Participants

- Main partner in India (full name, affiliation, address etc.)
- Main partner in the Netherlands (full name, affiliation, address etc.)
- Other partners involved (full name, affiliation, address etc.)

b. Description of the roles of the participants

Describe the overall organisation of the programme and particularly the programme team to be formed (programme leader, members) in terms of persons involved, responsibilities, tasks, relation with and involvement of partners, management (incl. financial administration, procedures, logistics/infrastructure, legal aspects etc.) of the programme. What is the strategic value of the partnership for tailoring biotechnologies?

c. Equipment and facilities

Describe the relevant equipment and facilities already available at the institutes and necessary for the project.

12. Relevant professional linkages

Indicate affiliation to academic networks, professional bodies, particular currents or schools in research, or partnership in other research projects that may be relevant for this project. Also include past or present international collaborations.

13. Relevant educational linkages

Indicate the possibilities of linking this research project to educational activities within the institutions that compose the partnership.

14. Key publications of the applicants (10 in total)

ANNEX II Budget format application form for preliminary proposals

Here information in main budget items should be given and divided as follows:

- Total budget
- Number of years
- Contributions of partners involved
- (Estimated) contributions of third parties (internal and external funding), leverage function of the programme

Budget Form

Please specify the requested budget and use the table below to break down the costs into personnel costs, material costs, societal interaction and other costs.

Funding requested from TMBT fund

See “guidelines on emoluments for research personnel participating in R&D projects/programmes of the Central Government Departments/Agencies” (included at the end of this document and available at the DBT website).

Budget (In Rupees)

A. Non-Recurring (e.g. equipments, accessories, etc.)

S. No.	Item	Year 1	Year 2	Year 3.....	Total

Sub-Total (A)

B. Recurring

B.1 Manpower (See guidelines at Annexure-III)

S. No.	Position No.	Consolidated Emolument	Year 1	Year 2	Year 3.....	Total

Sub-Total (B.1) =

B.2 Consumables

S.	Item	Quantity	Year 1	Year 2	Year	Total

No.					3.....	

Sub-Total (B.2) =

<i>Other items</i>	Consolidated Emolument	Year 1	Year 2	Year 3.....	Total
B.3 Travel					
B.4 Contingency					
B.5 Overhead (If applicable)					1
Sub-total of B (B.1+B.2+B.3+B.4+B.5)					
Grand Total (A + B)					

Note : Please give justification for each head and sub-head separately mentioned in the above table.

Financial Year : April - March

In case of multi-institutional project, the budget estimate to be given separately for each institution.

ANNEX III

GUIDELINES ON EMOLUMENTS FOR RESEARCH PERSONNEL PARTICIPATING IN R&D PROJECTS/PROGRAMMES OF THE CENTRAL GOVERNMENT DEPARTMENTS/AGENCIES. (Effective from 1.04.2002)

Attention is invited to the O.M. No. SP/S9/2-23/97 dated 24.2.98, issued by the Department of Science & Technology, Government of India, on the above subject. The matter has been further considered by the Government and the following revised guidelines have been approved. These revised guidelines are applicable to the research personnel working on R&D programmes funded by the Central Government Departments / Agencies.

1. **Emoluments:**

2.

i)	Junior Research Fellow (JRF)	Senior Research Fellows (SRF)	Fellow	(JRF)/
		JRF		

	1st and	2nd	Year
		(subsequent years/SRF)	

A Graduate degree in engineering disciplines & post-graduate degree in science disciplines

Rs. 8000/-
(Existing Rs.5000/-)

Rs. 9,000/-
(Existing Rs.5600/-)

B In medical and engineering subjects

MBBS/BDS/MVSc/M.Pharma.
ME, M.Tech; and BE/B.Tech,
BVSc, B.Pharma or equivalent
with 2 years experience

Rs. 9,500/-
(Existing Rs.6000/-)

Rs.10,000/-
(Existing Rs.6400/-)

The local institution should review after two years whether JRF/SRF should continue for the third year. Similarly, at the end of the third year the local institution should review his case whether extension for another year should be given. The Guidelines for selection of JRF/SRF will be done as per DST Office Memorandum No.12(1)/76-GRS dated 30th July, 1990. In programmes where there is a need to engage research personnel at a level higher than JRF/SRF

and such need has been accepted by the funding agency, the remuneration for such personnel may be fixed as indicated below.

ii) **Research Associates :**

Research Associates may be fixed at a consolidated amount at one of the 3 pay levels given below, depending upon the qualifications and experience. The Institute / Organization concerned may decide the level in which a particular associate should be placed.

Essential Qualifications (EQ)

In Science, Medical and Engineering subjects (PhD/MD/MDS and MVsc/Mpharm/ME/MTech with 3 years research/teaching/Design and development experience.

Category

SL. No Existing Pay Revised Pay

- i) RA-I Rs. 8000/- Rs.11000/-
- ii) RA-II Rs. 8800/- Rs.11500/-
- iii) RA-III Rs.10500/- Rs.12000/-

iii) **Research Scientists :**

The existing scales as under will continue.

SL. No Scales

- 1. Rs. 8000-275-13500
- 2. Rs.10000-325-15200
- 3. Rs.12000-375-16500
- 4. Other scales below Rs. 8000-13500 as recommended by the 5th Pay Commission and approved by the Central Government

Service Conditions :

1. **DA and CCA :** JRFs, SRFs and Research Associates will not be entitled to these allowances. The Research Scientists will get D.A. as per rates of Central Government and CCA as per rules of the local institutions where they are working.

2. **House Rent Allowance and Medical Benefits:** As at present, HRA and Medical benefits may be allowed to all categories viz., JRF/SRF, Research Associates and Research Scientists as per rules of the institutions where they are working. For this purpose the fellowship amounts, for JRF/SRF and Research Associates will be taken as Basic Pay.

3. **Leave and other service benefits:** The existing policy is to continue. Under this, JRF/SRF are eligible only for casual leave while Research Associates / Scientists are entitled to leave as per rules of the institutions. However,

participation by any of these categories in any scientific event in India or abroad will be treated as on duty. Maternity leave as per Govt. of India instructions would be available to all categories.

4. **Bonus & L.T.C:** Not admissible to any category.

5. **Retirement Benefits:** These will not be applicable to JRFs / SRFs / Research Associates. Research Scientists who are appointed for the duration of the project in regular scales of pay as mentioned above may be allowed to be members of the Contributory Provident Fund of the institution.

6. **Encouragement for pursuing higher degree:** Students, selected as JRF/SRF may be encouraged to register for higher degrees and the tuition fees to undertake this may be reimbursed to the student from the contingency grant sanctioned under the project grant.

7. **Benefits to Host Institutes:** Towards meeting their costs for overhead expenses including infrastructural facilities, an amount of : i. 20% of the total project cost with an upper limit of Rs. 5.0 lakh for educational institutions and Rs. 3 lakh for laboratories and institutes under S&T agencies/departments, will be provided as a part of the project, and ii. On projects costing more than Rs. 50 lakhs, the quantum will be decided on a case to case basis.

8. **Date of Effect:** The revision in emoluments under these orders will be applicable w.e.f. 1.4.2002 for all categories of JRF/SRF and Research Associates. In the case of Research Scientists, the existing scales will continue, till further orders. 9. Central Government Departments / Agencies are requested to ensure that the above guidelines are followed in regard to the remuneration and other benefits to the research personnel engaged in R&D projects funded by them. They are also requested to circulate these orders to their attached and subordinate offices and also to the autonomous institutes funded by them.

9. The above may be used as guidelines by CSIR etc.