

# Grant Writing Workshop

## Tips for Writing a Winning Grant Proposal

Detailed Project Submission to DST, DBT, ICMR & Peer review process-Overview

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# WHY ????? DO RESEARCH

## Why is the development of research within universities a must ?

- To maintain the quality of teaching programs.
- Provide the basis for undergraduate and graduate thesis research projects.
- Universities should be more than degree delivering institutions.
- Universities should be the basket for new knowledge and developments.
- **AND NOW THE ACADEMIC PERFORMANCE INDICATOR FOR YOUR CAS**  
( 30% Weightage for Research Projects)

## Why should this be in a competitive context ?

- Do universities have the financial capacity to support research activities ?
- Where can the money be found to develop and support research ?
- How can the society gets the highest return on investment ?

## Why a research proposal ?

- Convince others the project you have designed is important, worth the effort.
- Convince others that you have the ability to carry out the research design and report the findings.
- Generate funds to sustain the research units operation.



# Getting started

- ❖ **Know your subject.** The reviewers will look for an up-to-date knowledge of the research area.
- ❖ **Know your funder.** Be aware of the priorities and interests of the funder you approach, and know that funders are unlikely to support the same idea twice.
- ❖ **Consult colleagues.** Don't be afraid to discuss your proposal with colleagues, or even with the grants officer at the funding body. Early discussions can ensure that your proposal is targeted appropriately.



# What makes a good proposal ?

- A well-prepared application should require minimal effort on the part of the reviewer.
- Proposals must demonstrate high scientific quality.
- The requested funds must be in proportion to the proposed project (cost-effectiveness).

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# Commonly Accessible Indian Funding DST, DBT, ICMR

## ➤ Extramural Research Grant

### ➤ Individual Centric

- Career oriented- Early, Mid level, Senior Level
- Category oriented- Women, SEED,
- Region oriented- Northeast, State Specific, Country Specific, Society Specific

### ➤ Multicentric

- Twinning Programs ( Among States, Among Countries)
- Academia – Industry Partnership Programs

### ➤ Subject Centric

### ➤ Multidisciplinary

- Task Force Specific

## ➤ Travel Grant

- Exchange Program
- Conference Participation

## ➤ Seminar Grant

- National
- International

## ➤ Book Writing Grant- (Monographs, Atlas/ Registry)

## ➤ Teaching Module Grant

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# Department of Science and Technology (DST)

Link: <http://www.dst.gov.in>

## Scientific programs

### • Scientific and Engineering Research

- ✓ Mega Facilities for Basic Research
- ✓ Innovation in Science Pursuit for Inspired Research (INSPIRE) programme
- ✓ R&D Infrastructure (FIST, SAIFs, PURSE)
- ✓ Science and Technology of Yoga and Meditation (SATYAM)
- ✓ Programme for Science Students
- ✓ Swarnajayanti Fellowships
- ✓ National Science & Technology Management Information System (NSTMIS)
- ✓ Science and Engineering Research Board (SERB)
- ✓ Cognitive Science Research Initiative (CSRI)
- ✓ Impacting Research Innovation and Technology (IMPRINT)
- ✓ VAJRA (Visiting Advanced Joint Research) Faculty Scheme

### Technology development

- ✓ Technology Development and Transfer
  - ✓ Drugs and Pharma Research Program
  - ✓ Medical Instrumentation
- ✓ National Good Laboratory Practice Compliance Monitoring Authority
- ✓ Natural Resources Data Management System Climate Change Programme
- ✓ Joint programme on Electric Mobility and Technology Foresighting
- ✓ Interdisciplinary Cyber Physical Systems (ICPS) Division



# Department of Science and Technology (DST)

Link: <http://www.dst.gov.in>

- **International S&T Cooperation**

- ✓ Indo-French Centre for Promotion of Advanced Research (IFCPAR / CEFIPRA)
- ✓ Indo-US Science & Technology Forum (IUSSTF)
- ✓ Indo-German Science & Technology Centre (IGSTC)

- **S&T for Socio Economic Programme**

- ✓ National Council for Science & Technology Communication (NCSTC)
- ✓ Science For Equity Empowerment and Development (SEED)
- ✓ National Science & Technology Entrepreneurship Development Board (NSTEDB)
- ✓ State Science & Technology Programme

- **Technology Missions Division**

- ✓ Water Technology Initiative Programme
- ✓ Clean Energy Research Initiative
- ✓ Nano Science & Technology Mission
- ✓ National Super Computing Mission]

- **Women Scientists Programs**

- ✓ Women Scientist Scheme-A (**WOS-A**): Research in Basic/Applied Science
- ✓ Women Scientist Scheme-B (**WOS-B**): S&T interventions for Societal Benefit



# Department of Biotechnology (DBT)

Link: <http://www.dbtindia.nic.in>

## Scientific programs

- **Centres Of Excellence and Innovation in Biotechnology**
- **Research Resources, Service Facilities and Platforms**
- **Societal Development**
  - ✓ Agriculture and Allied Sector
  - ✓ Health, Nutrition & Sanitation
  - ✓ Biodiversity conservation
  - ✓ Rehabilitation and Restoration
  - ✓ Measures for Natural Calamity
- **Biotechnology Parks/Incubators In India**
- **Glue Grant**
- **Special Programmes-North-East region**
- **Public Private Partnerships**
  - ✓ Biotechnology Industry Research Assistance Council (BIRAC)
  - ✓ Bharat Immunologicals and Biologicals Corporation Limited (BIBCOL)
- **Women Scientist Scheme**
  - ✓ Biotechnology Career Advancement and Re-orientation Programme (Bio-CARe) for Women Scientists



# Indian Council of Medical Research (ICMR)

Link: <http://www.icmr.nic.in>

## Scientific programs

- ✓ Extramural Research Programme Of ICMR
- ✓ MD/MS/DM/MCH/MDS THESIS- Financial Support
- ✓ ICMR Chairs For Sr. Retired Medical / Biomedical Teachers/ Scientists
- ✓ Emeritus Medical Scientist Scheme
- ✓ Medical Innovation Fund
- ✓ Grants-in-aid For Organising Seminars/Symposia/Workshops

## • Fellowships

- ✓ Short Term Studentship (STS)
- ✓ Junior Research Fellowships (Division Of HRD)
- ✓ ICMR – Visiting Fellow Scheme
- ✓ ICMR Centenary -Post Doctoral Research Fellow (Scheme)
- ✓ ICMR scheme for MD/MS- Phd Programme
- ✓ ICMR International Fellowship Programme For *Indian Biomedical Scientists*



# Writing your proposal

- ✓ Allow plenty of time to prepare your proposal.
- ✓ A good starting point is to write a one-page summary of the whole project. This may take a while to get right, but once completed it will serve as an invaluable tool for writing your full proposal.
- ✓ Use your proposal to show the need and then fill the gap.
- ✓ Present your proposal in terms of the aims and objectives of the funder and not just your own – make it clear how you will be helping **them to fund their priorities.**
- ✓ Consider the questions the funder will be asking: Why fund you ? Why fund this ? Why now ? ... and make sure that the proposal answers them

# Writing your proposal

- Be aware that you will have limited to none opportunities to answer queries arising from a reading of your proposal.
- Consult the funders website and read clearly the call for research proposals as well as the criteria against which your proposal will be judged.
- Although it is the content that matters, good presentation is often crucial to making your proposal accessible to reviewers and keeping their interest.
  - Use diagrams and tables to add clarity;
  - Bullet points and sections can break up text;
  - Keep to page, word and font size restrictions; and
  - Activate the spell checker while writing.

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# How to structure your proposal ?

- Check guidelines carefully – failing to meet the funder’s format and specifications is one of the most common reasons for applications being returned.
- A common proposal structure normally consists of: title, abstract, background, aims and objectives, methodology, work program, resources, outcomes (outputs & dissemination), project management, reviewers.

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# How to structure your proposal ?

**Title:** This is the first impression the reader gets. The title should be short and clear, and the reviewer should be able to understand from the title the intentions of the research. A catchy title posing a question or including an apparent contradiction or acronym may be more easily remembered by a reviewer.

**Abstract:** Should be a concise summary of the WHOLE project. Use the abstract to identify the need for this research, state what you intend to do, and how you intend to do it. Do not include unnecessary detail; make each phrase count. And remember it is the first impression a reviewer gets of an applicant's worth!

# How to structure your proposal ?

- **Background:** This section should be used to put the work into context: what has been done before, and how will the proposed work add to it ? What is the innovative aspect in the research project ? Build your case by demonstrating your capability and familiarity in the area.
- **Aims and objectives:** The aims should describe what you intend to achieve by doing this piece of work. Your objectives are the small steps you need to reach in order to achieve your aim.
  - Aims and objectives should be **SMART -SPECIFIC, MEASURABLE, APPROPRIATE, REALISTIC, TIME BOUND**, and link them to methods, timetable, and outcomes.
- **Methodology:** Methods should be detailed and well thought through. Explain why you have chosen a particular method. Base your explanation on literature references. If your own experience of a methodology is limited, consider working with collaborators.

# How to structure your proposal ?

- **Work program:** Make use of a **Pert chart** to illustrate the building blocks – work packages of the research project. Be detailed in the description of the content of each work package (why, objectives, method(s), duration, when are you going to carry out each WP, partners involved in the realization, sequence of WP, etc.).
- **Work program:** This section contains also a diagrammatic work plan, called a **Gantt chart**. **The Gantt chart or diagrammatic work plan** should also be accompanied by a written description.

# Plan of Work

Provide clear and specific details of the methodology and techniques to be used in your study

- ✓ When, where, who, how, what, when, why?
- ✓ When will the study be undertaken?
- ✓ Where will the study be conducted?
- ✓ Who will be studied?
- ✓ How will they be recruited?
- ✓ What will they be asked to do?
- ✓ How will the data be collected, recorded and analysed?
- ✓ Why has the approach been chosen?

# Resources

- The proposal should contain a detailed budget.
- The budget asked should be in proportion to the volume and complexity of the work activities.
- Be aware that funders vary as to what they are prepared to pay in terms of direct project costs, such as staff and equipment, and indirect costs, such as overheads.
- The funder might request to approve beforehand own inputs or inputs from other institutions participating in the project.

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# Project management

- This might not be required for small projects.
- However, for projects in which several partners are involved sufficient information has to be provided on how the project will be managed (timescales, milestones, communication, criteria to measure progress, how crisis situations and conflicts will be handled, etc.).

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# Reviewers

- Often requested to suggest name of referees.
- Choose people who know you and your work;
- Don't use reviewers within your own institution;
- Use international reviewers; and
- Be aware that applicant's own referees write unfavourable reports.

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# Outputs (+ deliverables) and dissemination

- In this section one should describe the contribution to knowledge and importance for future research, the benefits to users, and the broader relevance to beneficiaries.
- Highlight how results will be disseminated (publications, conferences, commercial exploitation, websites, ....).
- Patents .....

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# The review process

- Expert assessment: Traditionally applications will be assessed by 2 to 3 reviewers selected from the pool of experts.
- Reviewers will make an independent assessment of the scientific quality of the proposal. To be selected for funding at least 2 of the 3 reviewers should provide a positive assessment.
- What are reviewers looking for ?
  - **High scientific quality;**
  - **Proposals that meet the funder's priorities or fill a knowledge gap;**
  - **Novelty and timeliness;**
  - **Value for money;**
  - **A clear and well thought out approach; and**
  - **An interesting idea – catch their attention!**

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# Allocation of funding

- Position in the ranking is important – it could mean the difference between success and failure. Proposals are often ranked into the following categories:
  - Fund;
  - Fundable;
  - Invite or
  - Reject.

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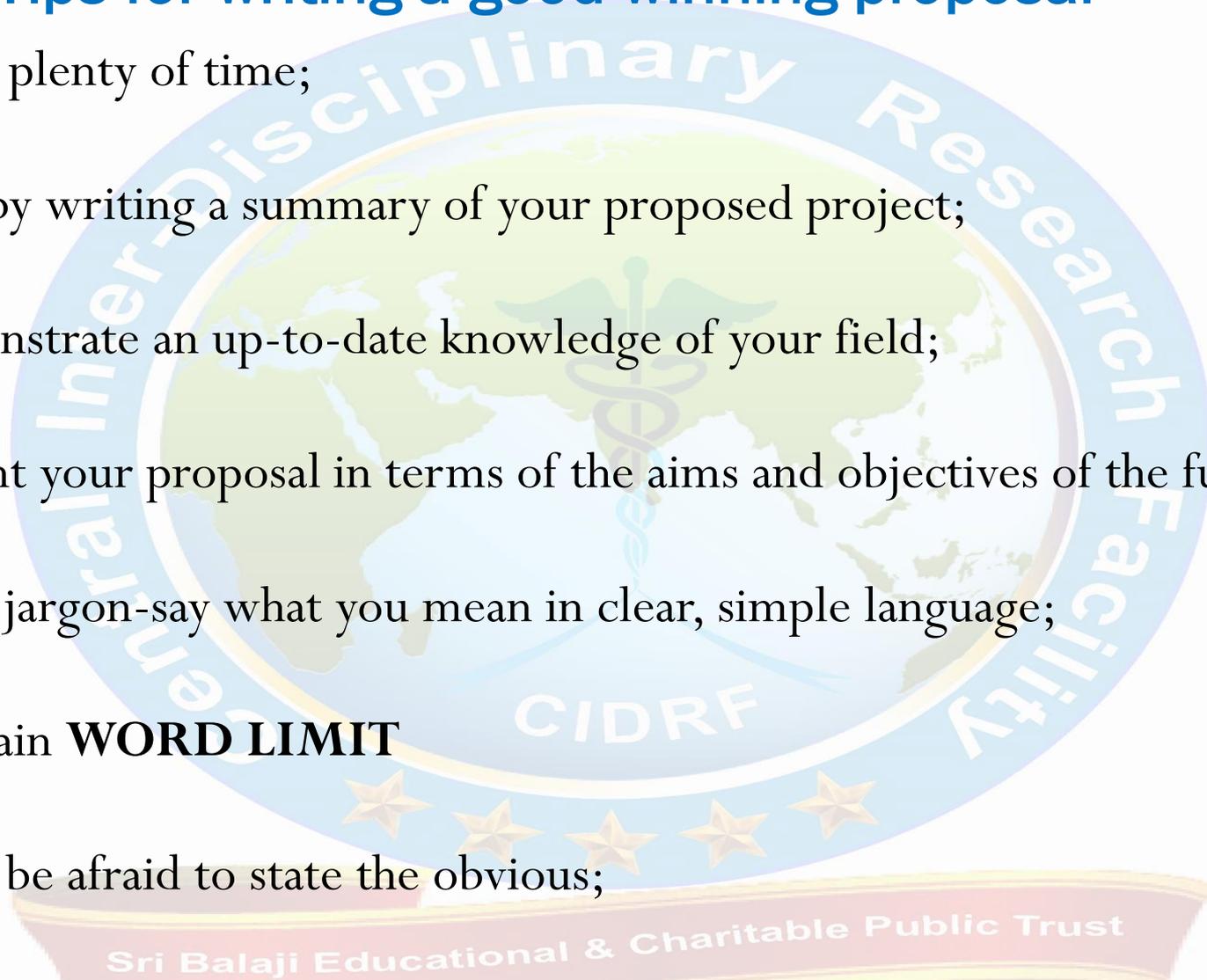
# What next ?

- If the project is retained for funding  OK.
- If the project is found fundable  ???
- If invited for resubmission  revise proposal  
 feedback from the reviewers panel.
- If rejected Can be very frustrating
- Do not give up, try to get feedback
- Remember it is a learning process !

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# Quick Tips for writing a good winning proposal

- Allow plenty of time;
- Start by writing a summary of your proposed project;
- Demonstrate an up-to-date knowledge of your field;
- Present your proposal in terms of the aims and objectives of the funder;
- Avoid jargon-say what you mean in clear, simple language;
- Maintain **WORD LIMIT**
- Don't be afraid to state the obvious;
- Allow a maximum of 4 charts (PERT, CHANNT,PROJECT ORGANIZATION and BUDGET);



## Simple but often overlooked errors in grant preparation

- Limit appendices to essential documents
- Do not exceed allowable word/page limits
- Use bold easy to read type
- Typos and grammatical errors indicate sloppy preparation or inattention to detail which may reflect upon the investigators' research skills
- Avoid bad xerox copies

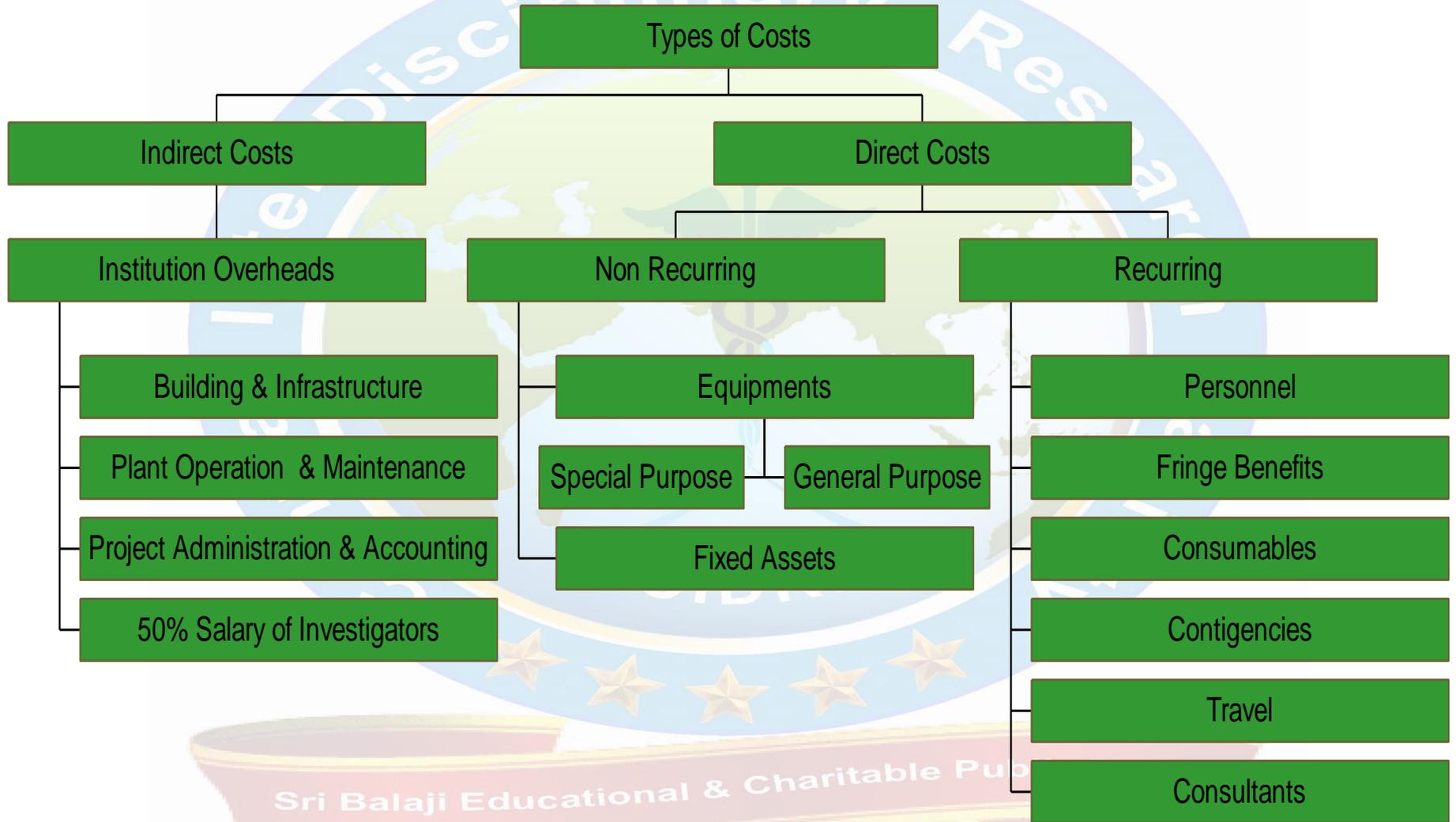
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# Budget Preparation for Sponsored Projects

- A budget represents the PI's best estimate of the costs of doing the work described in the proposal.
- The proposal budget is a plan for expenditure of project funds by specified cost categories.
- A budget should include all costs necessary to achieve the aims & objectives of the project in a cost effective manner.
- Budgeting details and requirements vary depending on the sponsor and type of proposal.
- Cost Principles in budget development-
  - Reasonability
  - Allocability
  - Consistency
  - Allowability
  - Conformity

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# Budget Categories



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# Budget Justification

- Most important non technical sections of the proposal often required by the sponsor.
- Additional details for expenses within each budget category is emphasized and articulates the need for the items/expenses listed.
- Provide justification for some unusual expenses. Explain year to year fluctuations in the budget.
- Provide sufficient quotations or on-campus rates or off-campus rates for analytical charges/ facility utility.

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# Tips for Budget Preparation

- Budget items should be formulated and cost estimates obtained.
- A realistic budget should be formulated to avoid underestimated or overestimated project costs. A “padded” budget may be unfavourable.
- Go through the sponsors project guidelines since, budget formats will be outlined .
- Rates for project preparation has to be obtained for proper calculation of the project cost.
- Multi year project budgets must include an appropriate inflation factor to allow for wage and price increase (5% generally).
- Budget justification should briefly explain the need for the direct costs. The justification should be consistent with the proposal narrative.

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# Overview of Funding by Indian Agencies

There is **no dearth of funds** for good proposals. However, there are some limits in the various categories.

- **Ministry of Health and Family Welfare**

- ICMR - 10-50 Lakhs
- AYUSH/CCRAS - 30-70 Lakhs

- **Ministry of Science & Technology**

- UGC - 5 to 30 Lakhs
- CSIR - 10 to 80 Lakhs
- AICTE - 5 to 25 Lakhs
- DST - 10 to 100 Lakhs and more for specific programmes
- DBT - 10 to 100 Lakhs and more for specific programmes
- ICAR - 10 to 50 Lakhs and more for specific programmes
- MoES - 15 to 100 Lakhs and more for specific programmes

- **Ministry of Ocean Development**

- DOD - 10 to 50 Lakhs
- OSTC - 5-25 Lakhs

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# Thumb rules of Budgeting for Indian Government Funding Agencies

- Equipments - Not more than 30%
- Manpower - upto 50% of the project cost
- Contingency - 10% to 15 % of Recurring cost
- Consumables - 20% to 25 % of project cost
- Travel - 10 % of the project cost

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# Overhead Charges of Various Sponsors

- UGC - 10%
  - CSIR - 10%
  - AYUSH/ICMR - 10%
  - ICAR - 10%
  - AICTE - 10%
  - DOD - 15%
  - MoES - 15%
  - DBT - 20% or 5 Lakhs
  - DST - 20% or 5 Lakhs
- whichever is less

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# Grant Writing Cannot be a

- **Hobby**
- **Once in a while job**
- **One Time Only**
- **Careless- “Set it and forget it”**
- **Reckless Cheat- “Get the money and run off”**

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# Secret of Getting a Research Grant

- Meet goals of grant giving agency or **YOU DON'T GET MY MONEY**
- The grant managers are under the gun to give away the grant monies (You are doing a favour for them to disburse the money)
- Try to develop a rapport with the funding agency scientists
- **SAME STRING** (agency) **DIFFERENT YOYO**(projects)
- **DIFFERENT STRING** (agency)**SAME YOYO** (project)
- **DIFFERENT YOYO** (project) **SAME STRING** (agency)

**Best Wishes for a**

**Planned,  
Well Structured,  
Winning & Surplus,  
Research Grant Proposal  
for a successful and fruitful career.**

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DST  
ICMR  
AYUSH  
UGC  
DBT



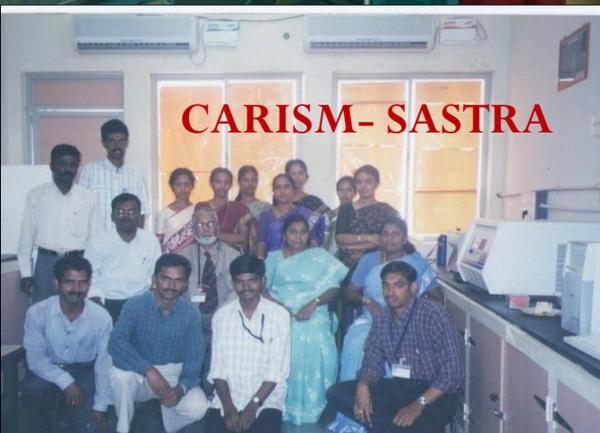
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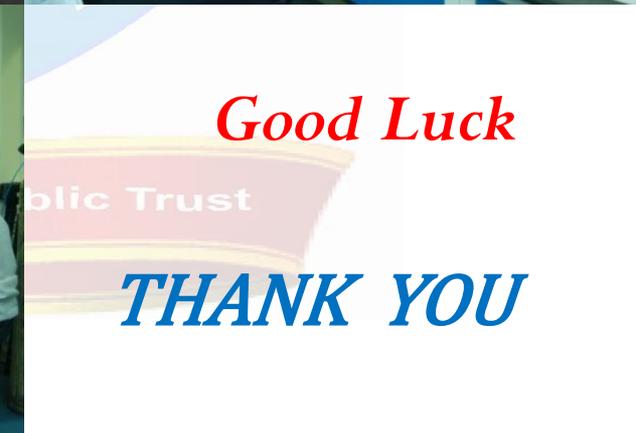
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CARISM- SASTRA



Good Luck

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THANK YOU