3. Project proposal writing

A ***successful*** proposal for EU funding has to overcome many challenges ***to get the money***.

Writing a ***successful*** proposal needs the right ***philosophy*** to overcome those challenges.

The ***philosophy*** is the same for ***every*** proposal!

So, you aim to master the ***philosophy*** for *success*.

I prepared a detailed guide for writing project proposals (updated September 2013). Let me know if you want a copy.

Secrets to success with project proposals

Steve A Quarrie
Guest Professor Faculty of Biology, Belgrade University, Serbia
Visiting Professor Newcastle University Business School, UK
Head of Education and Training, Balkan Security Network, Belgrade

Preface

This guide is a development of a document "Secrets to success with FP7 REGPOT proposals", written whilst working for the Serbian former Ministry of Science and Technological Development as the Director, Consultative Bureau for International Projects from 2008 to 2011. It was put together specifically to help Serbian scientists improve the quality of their proposals for the FP7 REGPOT scheme, which at that time was the most popular sub-programme of FP7 for Serbian scientists.

This original document has now been modified to make it more general in its approach and philosophy for writing project proposals, though many of the examples come from the FP7 REGPOT sub-programme. The advice is based on experiences of reading proposal drafts written by Serbian scientists, discussions with them and evaluation summary reports (ESRs) for their submitted proposals.

The approach of this document is to focus largely on the philosophy needed for success rather than just advice on how to fill in the application forms. It aims to help put the applicants within the minds of the proposal reviewers and the funding programme managers to ensure that what is written is what ***they want to read*** and not what the ***applicant wants to write***!

This guide accompanies the Balkan Security Network (www.balkansecurity.net) European Project Proposal (EPP) training course PowerPoint™ presentation 'Excellence in EU Project Proposal Writing', also available as a YouTube video at www.youtube.com/watch?v=3jSQU-_tdA4. I hope you find the "Secrets to success ...." useful.

Steve Quarrie
steve.quarrie@bio.bg.ac.rs
Belgrade
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The *philosophy* is to know how to be *competitive*. EU-funded proposals are *very* competitive.

Your proposal will not be the only one submitted, so you need to learn how to ***compete*: to beat the rest**.

To be *competitive*, beating the rest, your proposal has to *the best* - up at the top of the list.

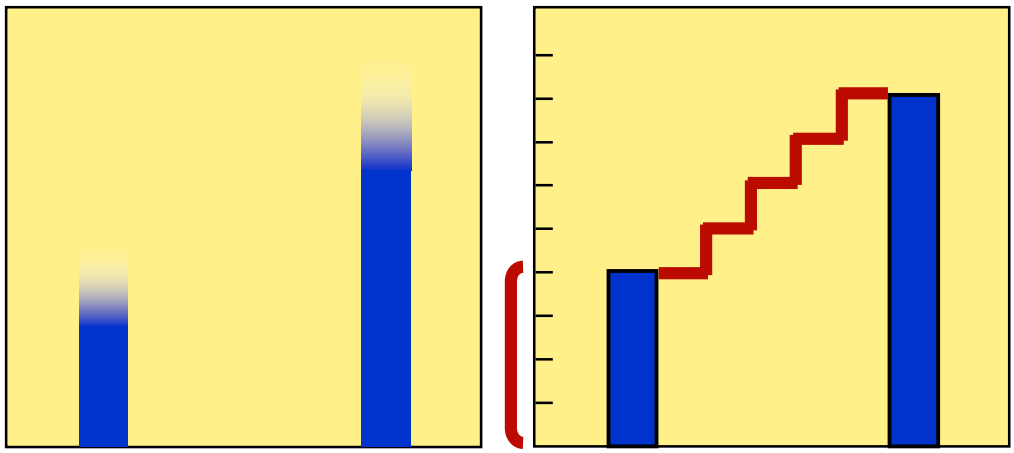
Only if you convince the funding source that your proposal is **the best** will they give ***you*** the money!

They will often fund only ***up to one proposal*** per topic.

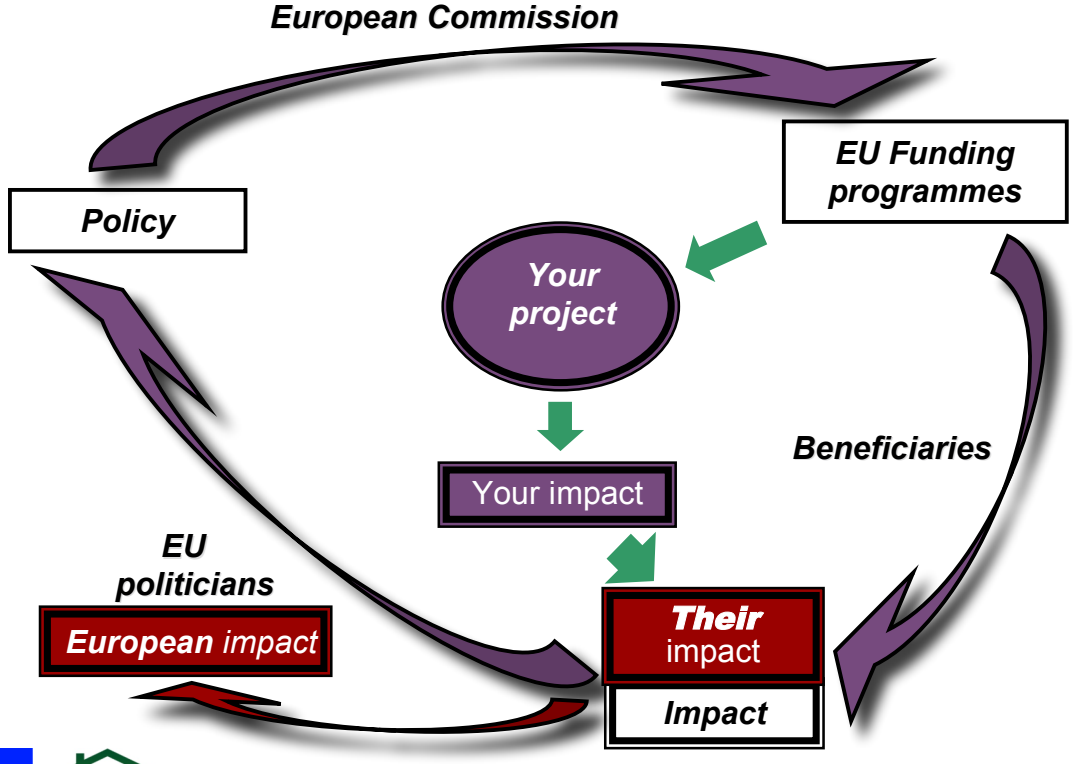
Your ***philosophy*** is to make your proposal ***the best***.

So, how do you make your proposal the best***?***

The answer is illustrated schematically in these two figures:



This is typical of how funding programmes work:



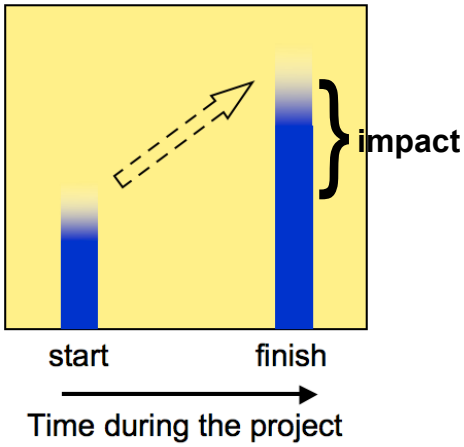
So, your project needs to have significant ***impact***.

So, you need to know how to convert ***this***:

The format for a proposal that is going to ***fail*** -

Vertical axis indicates ***progress***, *which determines final* ***impact***:

- Poor definition of the starting point (poor needs analysis).
- Poor definition of how to get to the finishing point (description of activities).
- Poor definition of the finishing point (poor impact analysis).



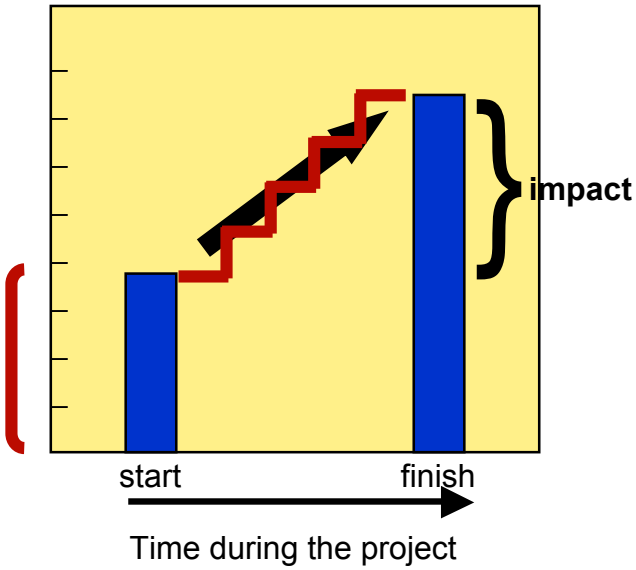
Into this:

The format for a proposal that is going to ***succeed*** -

Your proposal has got to be the one that gives the best definition of

- where you start from
- where you will get to
- how you will get there

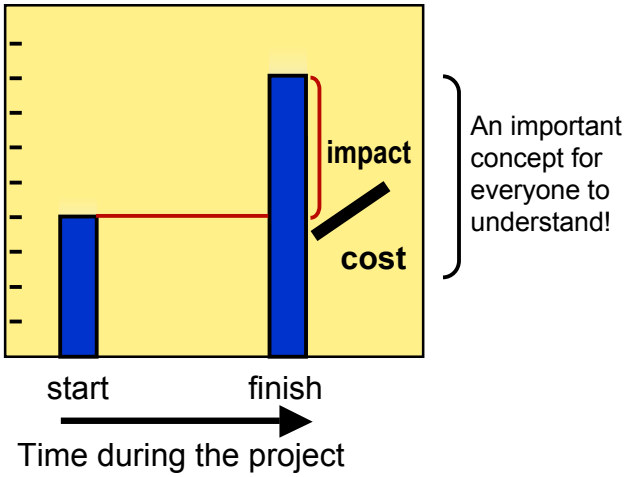
i.e. description of activities (the steps up the ladder) with **evidence of progress**.



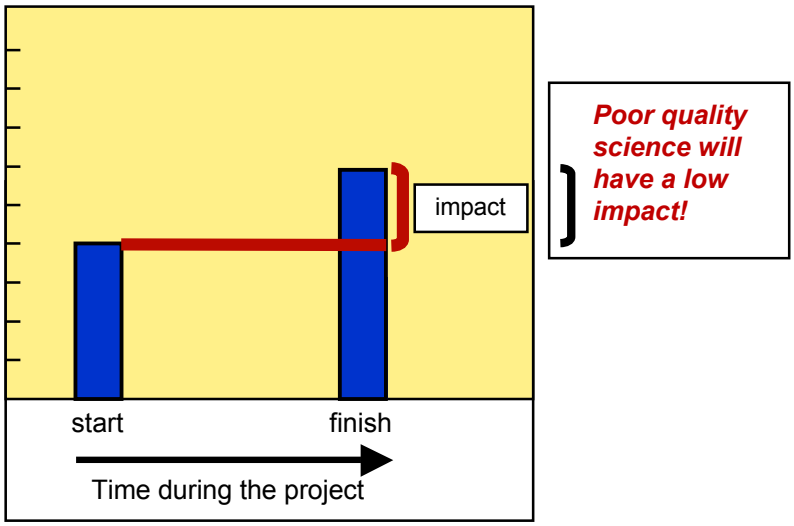
Here's another criterion you need to satisfy:

It also has to give the ***best value for money***!

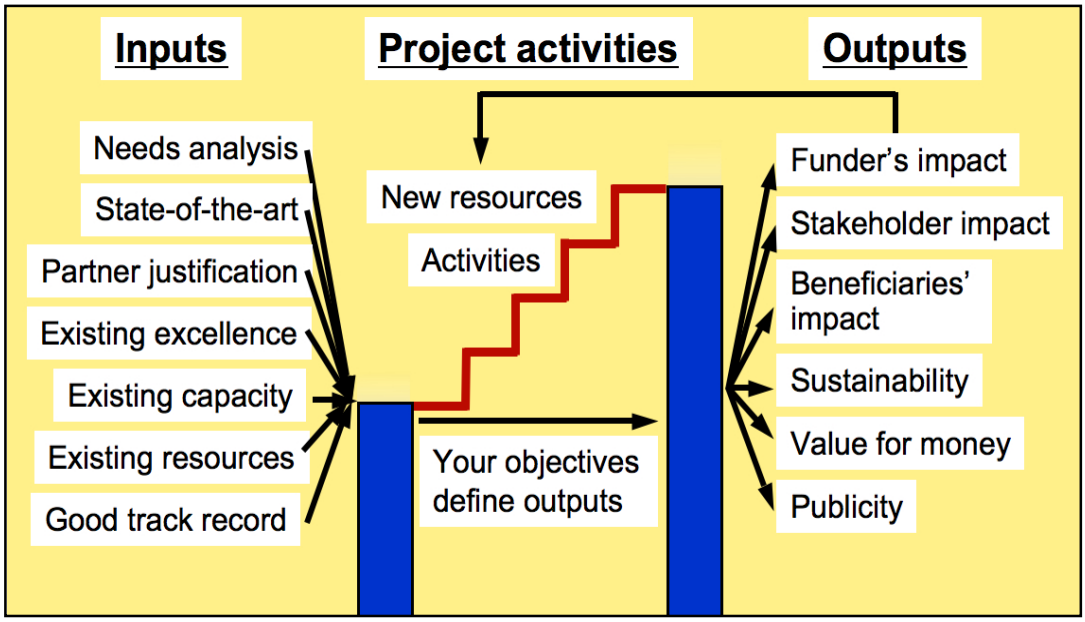
If two proposals claim the same impact, the cheaper one will get funded!



And another criterion if you plan to write a research project proposal is illustrated below ....
It must also be ***world class competitive research!***



The EU will not fund poor quality research! So, you must know that your research is *good* (M21 journals)! Only *you* can judge this!
How do you get rid of the *fog* in the bars?



Describing clearly all the Inputs defines the height of the first bar.
That allows you to define the objectives (because you know where you are starting from).
Then you think about and describe all the Outputs that are needed.
The description of the Outputs tells you how much taller your second bar will be than the first.
The difference between the two bars is achieved by doing activities in the project.
Once you have described all the activities needed to reach the second bar, then ***this*** **is your project proposal!**

But how do you make it the ***best*** (to get the money)?

Four major problems have been evident in proposals I have reviewed for projects in Serbia:

- ❖ Irrespective of how intelligent they are, scientists are **unable to read and implement instructions!** [Not a problem unique to Serbian scientists!]
- ❖ Statements are made without any supporting **evidence** so evaluators are not convinced.
- ❖ **Insufficient details** are given of activities planned to be carried out to convince evaluators of **impact**.
- ❖ The text of different parts of a proposal **is not consistent** so evaluators get confused..

***Not reading and implementing instructions*:**

The first rule is - **keep them happy!**
That means - **do what they ask!**
Ensure you do what ***they*** want you to do by reading carefully ***every word*** of the background documentation and instructions (***every page - however boring it is***)!
Read the eligibility criteria, policy objectives and impact expected for projects as well as any Guide for Applicants, and then ***do exactly what they want.***
If it says maximum length 1 page for a particular section, don't write 2 pages! [Excess pages ignored in Horizon 2020 project proposals!]
The instructions should be so easy to implement.
The large majority of people don't do this!
Some funding sources (***including H2020***) say they will tell evaluators to ignore any pages they receive over the stated limit!
For electronic submissions it is often impossible to exceed character limits [check if this includes spaces.]

Here is the expected ***impact*** in a policy document for an EU research institution capacity-building project:

- ❖ Better integration of the selected research entities in the European Research Area as a whole (long lasting partnership, with research groups elsewhere in Europe);
- ❖ ....;
- ❖ Improvement of participation of the applicant entity in EU FP7 projects.
- ❖ Improved research capacity for increased contribution to regional economic and social development.

Ignore any of these (**implicit instructions for**) any of these **impacts**, then **you don't get *maximum score*** (5/5)!

No evidence for statements:

Be intelligent in implementing the instructions. Every word of the policy document has a meaning.

Here's an example from an EU FP7 Work Programme:
"Bla, bla, bla [We want] … *close cooperation with at least 3 European outstanding …. partnering organisations*". [Their *italics*, not mine!]

"**outstanding"** - so you **must** provide the ***evidence***!

So do not write "Our three European partners are outstanding" and expect evaluators to believe you!

Not sufficient detail:

Give sufficient detail to define the histogram bars. Here are two examples....

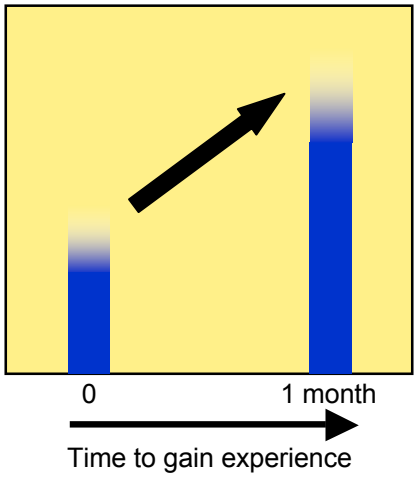
"One of our young R&D scientists will spend one month in project year 1 at Institute X in Paris to be trained in how to use an ABC machine."

So, what are your thoughts about this description of work above?

It is a typical example of lack of detail:

The y-axis is not defined.
Where they ***start*** from is not defined.
Where they ***get to*** is not defined, because ***how*** they get there is not defined!

So, make sure you define the y-axis sufficiently.



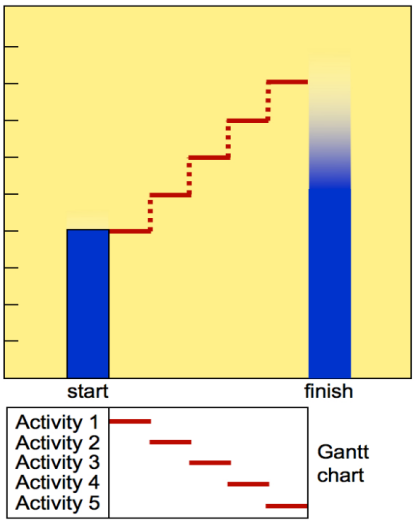
This example gives more detail to quantify the y-axis:

Needs analysis	"Our institute currently has no ABC machine, though we plan to buy one in project Year 1, as it is essential to develop the diagnostic tests of Objective 4. Thus, 1 of our talented scientists will work in the institute of Dr X in Paris for 1 month immediately before commissioning the ABC machine. Dr X has used ABC since 1998 and she has two machines, one of which is regularly used to train visiting workers. Upon return to our institute, the young R&D scientist will help commission the new ABC machine and give training in its use to others to ensure dissemination and sustainability of the newly-acquired expertise."
Activity description	
Impact analysis	

So, make sure you define the activities sufficiently to give the evidence that objectives will be achieved.

Not sufficient detail (2):

Even if you define the first bar well, without sufficient detail for the activities you still have fog in the second:



***Not consistent*:**

Ensure ***consistency*** in what you say throughout your proposal. Thus:
If you refer to improving research management skills as a project objective, **make sure you describe activities somewhere in the rest of the proposal to achieve this!**
If you refer to a website dissemination activity at the end under project impact, **make sure your project website is already described in a previous section of the proposal!**
It is ***very easy*** to make mistakes in consistency because you write the text bit by bit, but evaluators read your whole proposal in just a few hours.

Your project will be a series of activities to achieve your project goals.

How much detail is needed to convince evaluators?

Answer: I don't know! It will depend on many factors.

Here are some of those factors:
Your evidence of previous experience
The importance of the activity to achieve project objectives
Other supporting information given elsewhere in the form
The space available on the form (any page limit)
Whether there is a text character limit or not

If in doubt, give more details, if space allows.

Because, if you don't describe these activities **(the steps up the ladder from the first to the second bar)** with enough detail, how will evaluators know that:

- you know what to do
- you have identified and planned to overcome problems
- your methods are appropriate, and so on .....

Adjust the amount of detail you give to describe the work/ tasks to be done according to the project scale and type.

Description of work/Description of activities or tasks:

Adjust the amount of detail you give to describe the work/tasks to be done according to the project scale and type.

A small-scale project for your first proposal (e.g. a staff training visit) would need more description of day-to-day activities than a large international collaborative project by experienced staff.

"We plan two stakeholder conferences to discuss the issues."

"We plan a 3-day international stakeholder conference in Belgrade in year 1 and another 3-day event in Milan in year 2 …"

"We plan to invite key Ministry representatives and EU experts."

"We plan to discuss key problems with methods on day 1 and to present potential solutions implemented in EU states on day 2..."

You have to decide which level of detail is appropriate, but you must convince evaluators that objectives will be achieved.

Describing work to be done for a research project:
- it must be realistic
- it must have sufficient detail for the evaluator to judge whether you know what you are doing
(do not assume the evaluator will accept that ***you*** know how to regenerate plants from callus just because ***other people*** in the lab have been doing it for the past 20 years!)

Remember that any reviewer from the 'West' will be looking for any mistakes in your plan [anything that would prevent you identifying the ***truth***]. They will inevitably be questioning and sceptical because that is the way they have been trained within their own research environments. ***However, they will also get pleasure from and acknowledge a good idea when they see it.***

Projects to do **research** have to convince the evaluators that the research will be competitive.

The philosophy for success that I am giving you is not subject-specific, so **it is up to you** to ensure that your planned research subject is good enough quality.

One of my recent proposals failed because the evaluators did not believe that the science would work. I did not agree but ***their decision is final*****:**

> *ESR: "The quality and effectiveness of the scientific methodology and the associated work plan are very good. However, the number of lines used in the QTL analysis and association mapping is considered sub-optimal and will seriously limit the achievement of the project's goal. The establishment of new screens for root development under different environmental conditions provides an excellent tool."*

Make sure you format the text to make it easy for reviewers to read (see the examples below):
• use bullet points and emboldened text for clarity and emphasis
• ensure consistency of style in each section
• it should tell a story in a logical sequence

It is very important to format your text to make it easy for the evaluators to read.
I find that Arial 11 point is easier to read and understand than Times New Roman 11 pt.
Use sub-headings, indents, and break up text with tables or pictures occasionally:

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- drug-induced recombination between wheat and alien chromatin
- detailed gene-based marker mapping of a yield QTL on 7AL
- testing a candidate gene for the 7AL yield QTL effect
- association mapping of yield QTL effects on 7AL in common and durum wheats
- testing a candidate gene for *Lr19* in durum wheat
- transfer of *Lr19* alien resistance gene to other wheats using cisgenics
- allelic variation in *Yp* genes amongst alien species
- effectiveness of particle bombardment as a vehicle for alien gene transfer
- effects of *H. chilense* introgressions on durum wheat pigment contents

Other spin-out publications on techniques and integrative aspects of the science are expected.

Aspects of the science developing during the project will also be presented at scientific meetings and through existing EU dissemination platforms, such as the COST Action Tritigen.

We expect aspects of the SMARTWHEAT science to impact beyond the immediate confines of research on wheat. The alien gene transfer technologies using drug-mediated induction of homologous pairing and recombination and particle bombardment are likely to have application in other crop species, not just within the gramineae, where alien gene transfer has a potentially major role to play in improving the crop.

The research proposed for SMARTWHEAT is strongly aligned with several goals of the European Technology Platform 'Plants for the Future' strategic research agenda 2025:

- 1.2.1 Develop and produce sufficient … plant raw materials,
  - deliverable 1.1 – *Diverse and affordable raw material for food*
  - deliverable 1.2 – *Plant raw materials with improved characteristics for producing nutritionally enhanced and more attractive food*
- 3.2.1 Improve plant productivity and quality
  - deliverable 1.1 – *Identify key drivers of plant yield productivity and stability*
  - deliverable 1.3 – *Climatic changes and plant tolerance to non-biotic factors*
- 3.2.2 Reduce and optimise the environmental impact of agriculture
  - deliverable 2.2 – *Improve tolerance and resistance to pathogens and other biotic factors*
  - deliverable 2.4 – *Reduce the utilisation of water resources and fertilisers*
- 3.2.3 Enhance biodiversity
  - deliverable 3.4 – *Improve crop and tree biodiversity through the introgression of traits from wild relatives*
  - deliverable 4.1 – *Creating segregating populations from core collections and mapping agronomic traits through QTL analysis*
  - deliverable 4.1 – *Introgression of specific loci into elite varieties*
  - deliverable 4.1 – *Perform conventional breeding for yield and agronomic performance*
- 5.2.1 Public and consumer involvement
  - deliverable 1.1 – *Knowledge of plants*
  - deliverable 1.2 – *Improve mutual trust between the public and plant sector community*

P3 has staff on the ETP Steering Council and is well placed to ensure dissemination of SMARTWHEAT's science through the 'Plants for the Future' technology platform.

Economic impact

With the dramatic doubling in grain prices during 2007 and subsequent fluctuations that have been a feature of the grain markets so far this season, it will be difficult to quantify the precise European economic benefit of the project. However, the economic consequence of increases in yield delivered through just one of the targeted traits for improvement, disease resistance, would be expected to be significant. A recent CIMMYT quotation [Plant Breeding News, 1 Oct 2006, 1.12] sums it up:

"Every dollar spent on *all* wheat research at the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, has generated $27 in benefits when measured *only* from the resistance it has produced for *one* disease (leaf rust) in *one type* of wheat (spring bread wheat). This is a benefit of $5.36 billion (in 1990 dollars)."

Assuming the same prices and disease incidence/control approaches against leaf rust each year in Spain, employing SMARTWHEAT advances would thus deliver potential annual savings of around €76 million. The same calculations could be done for other European countries where leaf rust is a problem, and for which *Lr19* would provide effective natural resistance. Therefore an effective source of resistance to leaf rust for European wheat varieties could potentially provide economic benefits of *hundreds of millions of euros* every year – a major, and guaranteed impact on Europe's economy.

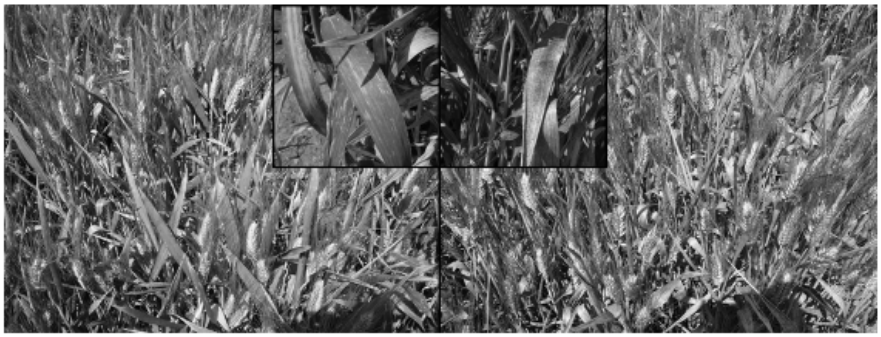

Fig. B3.1.1. Plots of a durum wheat line having a 7Ag terminal segment carrying *Lr19* (left), and the corresponding line without *Lr19* (right). Inset images show typical leaves from the two plots.

The effectiveness of *Lr19* in providing protection against leaf rust is illustrated in Fig. B3.1.1, for trials by P2 in 2007. The year 2007 was a bad year for leaf rust in several regions of Italy, associated with generally high summer temperatures which encourage pathogen development. In the absence of chemical fungicide protectants, micro trials conducted around Italy on advanced breeding lines carrying *Lr19* delivered yields, on average, 66% greater than controls (Table B3.1.1) under heavy rust epidemic (West coast). No yield penalty was observed under mild or absent leaf rust pressure (East coast and North).

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Table B3.1.1. Yield performance of *Lr19*-carrying durum wheat recombinant lines compared to adapted varieties used as controls (2-3 per locality; control means = 100).

	Localities		
	West-Coast	East-Coast	North
Lr19+ lines vs. controls	166**	101^{ns}	102^{ns}

Nevertheless, these economic impacts would be present only if resistance to the disease is not readily overcome by the pathogen. A major problem for breeders, which discourages many from turning to alien species for sources of disease resistance is the speed and frequency with which single gene resistance can be overcome by the pathogen. Although an average time for disease resistance genes to remain effective is difficult to give, breeders agree that around 5-20 years is a realistic range. However, a strategy to extend the useful

Then finally, when you think you have finished:

Get your wife/husband/girlfriend/mother/cousin/man-next-door to read through the proposal because ***they*** will actually read the words that you you wrote, whereas usually ***you*** will read what you expect to read!

Competition for research funds, especially EU and other international research funds, is usually very/extremely high.

Success rates, even for good proposals, are often only 1 in 10, so don't be surprised if your first attempt at proposal writing doesn't succeed. The REGPOT-2009-1 success rate was only 5.2%!

For FP7 collaborative research proposals they say that they expect to fund "**up to one proposal** for each research topic"!

Make sure your proposal satisfies all the ***evaluation criteria***!
If you don't satisfy all the evaluation criteria ...
Easy! .... ***You don't get the money***!

So, to summarise your *philosophy* …

1. Read and implement all the instructions
2. Get rid of the fog in the two bars
3. Check all the Evaluation criteria are implemented.
4. If it's research - make sure it is World class!!
5. Ensure your significant impact covers all Europe
6. Make sure it is good value for money
7. Make sure you keep the evaluators happy, and

Then, your proposal will be the best, and .....

When your proposal gets to the evaluators …

by the end of the proposal the evaluator (assessor/referee/reviewer) needs to be saying -
'This looks a good quality proposal, with very competitive science from proposers **following all the instructions.**'
'This is an excellent project concept, clearly justified and implemented with a **convincing amount of detail**.'
'It looks as if the proposed project will be managed competently, and will have a ***significant*** **impact**.'
'It also looks **excellent value for money**! Indeed, ...'
'**It looks the *best* proposal that I have reviewed. So ...**'
'**I shall give it *maximum score* in every section, and ..**'

'I recommend they are given the money!'