Dear Sir or Madam,

I am grateful to have the opportunity to outline my views that can hopefully contribute to improve our science system and in particular how CRI's work. There are several challenges that I have been facing and which in my opinion are required to be addressed.

To first introduce myself and my current situation, I am at the transition of early- to mid-career scientist working for the past five years at GNS Science. The positive aspect of being scientist at a CRI is the relatively high job security. NZ seems to be a unique place where a scientist can get a long-term future, something that is rare in science all over the world. It comes with many benefits because NZ can win outstanding researchers due to the possibility of a "stable, balanced life" and scientists can plan longer-term projects that gain major benefits instead of focusing on new work contracts, applications/proposals, and moving in between countries, which would ultimately lead to many of us leaving science sooner or later.

Another advantage being here is that I have a unique expertise, so I can develop a new research stream that is unique to New Zealand and therefore provides the opportunity for new, innovative solutions to problems and to help New Zealand and its people in completely new ways.

Institutions

Despite these positive aspects, I struggle in New Zealand because of the following factors.

Design of institutions

In my experience at GNS Science, it could be better designed to support capability, skills and workforce development.

The CRI's have a strict, multi-level hierarchical structure that makes it difficult for new, promising scientists to get established and to "have a say". It creates many barriers that prevent the professional development of the younger workforce and often inhibits them to gain momentum for their research.

The new idea of "Early Career Networks" are supposed to help, but managers do not support the development of early and mid-career researcher with what they need and especially powerful principal scientists commonly treat younger researchers inappropriately, because they feel threatened and bullying policies do not seem to protect affected staff.

Staffing

Another aspect of insufficient support comes from the high ratio of managers and administrative workforce relative to scientists, which has further increased since our recent restructure at GNS. Taken my own experience, my administrative workload has approximately doubled during the last five years, and I work after hours and weekends to try and keep up.

Scientists are burdened with additional tasks rather than getting the support from support staff and managers. Instead, I must get along with excessive administrative workloads including managing a whole lab and its team members, do all tasked related to H&S requirements, repair instruments, etc, all by myself, which distracts me from my research which I was hired to do.

To keep up with the administrative workload, I typically spend large amounts of my free time working to buffer away the endless tasks that I am required to do in addition to my actual research.

Technical and infrastructure support

Having technical staff to support laboratory-based technician work and laboratory administration would be a huge help. However, it is difficult to get a technician approved with extremely tight budgets that we are forced to cope with, and are discouraged when seeking managerial support.

SSIF is the major income for some of our labs and I am grateful that we have this support. I would not know how to cope without this funding resource. SSIF (or similar funding) should be increased because it is difficult to function with the amounts that we get.

Compared to other countries where I worked before (Germany, Switzerland, France, Australia), it is even more difficult to be successful in research bidding. This is because the funding success rates are low but also because CRI's have a strategic approach where staff is not allowed to participate in research bids without manager approval, another reason why it is hard to even get over the CRI barrier to obtain research funding.

On top of all these challenges, it is difficult to get new research equipment, because Capex cases need to be justified, which is difficult if we have limited research funding and also no or very little income through commercial work. CRI's need to always demonstrate how to "make money", because without a clear revenue stream, we keep working with outdated equipment. Management does not help staff to make successful Capex cases. Instead they are only the decision-makers whereas all details in Capex proposals are populated by scientists.

Infrastructure

The above factors have caused several challenges to me personally. I have set up a laboratory, the first in the country of this kind. We get increasing interest nationally and internationally for the work we do and have an increasing number of team members to the point where we struggle with space and equipment.

However, over the past five years, I had repeatedly lost time and funding because of insufficiently maintained and old/outdated equipment, had problems to set up a well-equipped lab, which is still well below international standards because of insufficient resources.

I cannot make a case for a new instrument because I have not been allowed to apply for major research grants, but if I was allowed to, did not win the grants, mainly because I have not published sufficiently over the past five years.

This is not really a surprise, because CRI's always have a business, "money-making" focus and all the other tasks that scientists are required to do, we are less productive in paper-writing and therefore less competitive than university staff, which has to change, so many scientists "get stuck" at CRI's because they are not competitive for science jobs elsewhere.

I think careful consideration of science systems in other countries leading science innovation would also help to improve the NZ science system, which is rather unique compared to other countries.

Suggested solutions

In summary, I think we need the following:

- Higher investment in SSIF and new funding streams to enable scientists to get a sufficient level of laboratory equipment to do quality work/research.

- Less management/administration for scientists but instead resources to get more technical support staff.
- Increased focus of CRI's to research instead of working on a business model where we need to bring in revenue.
- More support to early and mid career researchers by developing new funding streams that are exclusive to these groups and independent on CRI management.

I hope you find my explanations and suggestions useful. I thank you for reading and considering the content of this document. Thank you for your attention.