Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: October 05, 2011 Screener: Thomas Hammond

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I. PIF Information *(Copied from the PIF)*
FULL SIZE PROJECT GEF TRUST FUND
GEF PROJECT ID: 4634
PROJECT DURATION : 4
COUNTRIES : Ukraine
PROJECT TITLE: Conserving, Enhancing and Managing Carbon Stocks and Biodiversity while Promoting Sustainable Development in the Chernobyl Exclusion Zone through the Establishment of a Research and Environmental Protection Centre and Protected Area
GEF AGENCIES: UNEP
OTHER EXECUTING PARTNERS: Ministry of Ecology and Natural Resources (MENR) of Ukraine
GEF FOCAL AREA: Multi Focal Area

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Major revision required**

III. Further guidance from STAP

The Chernobyl accident, resulting in the vast release of radionuclides, was a first magnitude nuclear incident. In the years since the accident, enormous social, economic and environmental damage to the former USSR and its successors, Belarus, Russian Federation and Ukraine created a significant management burden for local authorities. In reviewing this document, STAP understands the desire of the Government of Ukraine to reduce this burden and begin revitalizing the Chernobyl Exclusion Zone (ChEZ), and eventually to welcome it back into a state of economic production and social security.

According to [1] after 2015 about 55% of the territory around the Chernobyl Nuclear Power Plant (NPP) could be considered for release from radiological limitations according to Ukrainian legislation. However, from a scientific standpoint, the STAP identifies several issues raising concerns about the aims and global benefits to be generated by this project, and the utility of allocating GEF resources to the activities proposed.

EBRD reports that the New Safe Confinement (NSC) (or Shelter) at Chernobyl, a structure designed to replace the structurally unsound and deteriorating Sarcophagus that was temporarily put in place shortly after the accident, will be finalized only in mid 2015 [2]. Further, in February 2003 a group of 8 UN agencies (IAEA, FAO, UNDP, UNEP, UNOCHA, UNSCEAR, WHO and The World Bank) together with Belarus, Russian Federation and Ukraine established the Chernobyl Forum [3] in order to "generate authoritative consensual statements on the environmental consequences and health effects attributable to radiation exposure arising from the accident as well as to provide advice on environmental remediation and special health care programmes, and to suggest areas where further research is required."

Some of the key conclusions of the Forum, inter alia [4]:

- "In the Chernobyl Exclusion Zone and in some limited areas of Belarus, Russia and Ukraine some restrictions on land use should be retained for decades to come."

- "Particularly high 137Cs activity concentrations have been found in mushrooms, berries, and game. These high levels have persisted for two decades, and this can be expected to continue for several decades."

- "Irradiation caused numerous acute adverse effects on the plants and animals living up to 10-30 kilometers from the release point. A few years were needed for recovery from major radiation-induced adverse effects in populations of plants and animals. Due to removal of human activities, the Exclusion Zone has paradoxically become a unique sanctuary for biodiversity. There is nothing that can be done to remedy the radiological conditions for plants and animals residing in the Exclusion Zone that would not have an adverse impact on plants and animals."

- "Priority for Ukraine should be the decommissioning of the destroyed Chernobyl Unit 4 and the safe management of radioactive waste in the Chernobyl Exclusion Zone, as well as its gradual remediation."

In addition, the Chernobyl Forum Report [5] also highlights the envisaged future of the Exclusion Zone for the next hundred years:

- Construction and operation of the NSC and relevant engineering infrastructure for the reactor 4 of the NPP;
- De-fuelling, decommissioning and dismantling of Units 1, 2 and 3 of the NPP and the Shelter;
- Construction of facilities for processing and management of radioactive waste, in particular a deep geological repository for high-activity and long-lived radioactive material;
- Development of natural reserves in the area that remains closed to habitation; and
- Maintenance of environmental monitoring and research activities.

STAP supports one of the key Report's recommendations stating that "A coherent and comprehensive strategy for rehabilitation of the Exclusion Zone is needed with particular focus on improving safety of the existing waste-storage and disposal facilities. This will require development of a prioritization method for remediation of the sites, based on safety-assessment results, aiming at decisions on which sites from which waste will be retrieved and disposed, and at which sites the waste will be allowed to decay in situ."

STAP is mindful of the â€˜precautionary principle' which states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is harmful, the burden of proof that it is not harmful falls on those taking the action. In the case of ChEZ, application of the principle would suggest that no action is preferable at this stage. The PIF notes that flora and fauna diversity has increased spectacularly. Therefore, the ChEZ is effectively bringing about the aims of the intended project without the need for intervention. Interventions would run the risk of disturbing the activation products of radionuclids including the isotopes of plutonium, neptunium and curium. Although the best-available scientific evidence is that overall doses from these activation products are expected to remain low, compared with the doses from caesium-137, it is just not known what effects they may have on health of visitors to the EZ and any projected PA. The PIF's only legitimate response to encourage action to create a managed PA is the observation that "experts are questioning the status and quality of biological diversity and the general health of ecosystems. STAP cannot find the source of this observation and it is not referenced in the PIF. It would also appear counter-factual in that nature is repairing the ecosystem itself. If there were evidence that, for example, there are major incursions of invasive alien species, then the situation might be different.

Given the aforementioned points, the lack of full containment of the sources of radioactive contamination, and finally that the entire exclusion zone and much of the surrounding area has become a de facto protected area which has already delivered significant global environmental benefits, as outlined in the PIF, STAP questions the necessity of a GEF-funded intervention as currently described and urges re-consideration of planned activities. The PIF states that the current status of the ChEZ is equivalent to the highest category IUCN conservation status (no human activity is allowed). The Panel notes that the current de-facto protected area status of the zone has already resulted in significant gains in carbon sequestration along with biodiversity richness and population levels â€“ without formal intervention as proposed in this initiative and in the virtual absence of human interference. The intent of fire resistant tree species and other silvo-cultural practices is not without merit; however, in terms of overall GEBs with respect to carbon and biodiversity, the incremental benefits from the project (given the level of projected investment) versus a business as usual scenario of no intervention, is questionable.

In addition, the likely socio-economic benefits (section B.3) stemming from this initiative are extremely vague, with no discussion as to how these may support intended global environmental benefits. Finally, the exact geographic scope of the initiative as described is unclear. Greater specificity regarding proposed intervention areas beyond the demarcated exclusion zone would be useful.

Overall, STAP questions the approach of this project in its current design. Decisions regarding future interventions in the ChEZ should be taken sequentially, starting with securing the contamination sources within the zone, putting comprehensive rehabilitation plans in place, and then gradually looking at those areas with more rapid rates of decontamination with an eye to returning them to productivity. The proposed Research Centre could certainly play a

role in this. However, STAP believes that additional measures as described in this PIF would be premature at this stage, particularly in terms of the significant unknowns that remain in terms of the potential remaining threats from opening the ChEZ at this time. STAP strongly recommends a major rethinking of this project in line with recommendations from current scientific assessments.

References

[1] Likhtarev I., Kovgan L., Bondarenko O. (2000). If there is future for exclusion zone and population of relocated territories? (Opinion of a radiologist). Bulletin of Ecological State of the Chernobyl Exclusion Zone, No 15, pp. 44-49 (In Ukrainian).

[2] EBRD (2011). Available at: http://www.ebrd.com/pages/news/press/2011/110408e.shtml

[3] Chernobyl Forum. Available at: http://www-ns.iaea.org/meetings/rw-summaries/chernobyl_forum.asp

[4] Presentation by Mikhail Balonov, Scientific Secretary of the Environment Group of Chernobyl Forum, at Public Information Materials Exchange Conference (2006). Available at: http://www2.euronuclear.org/events/pime/pime2006/presentations/Balonov.pdf

[5] Report of the UN Chernobyl Forum Expert Group "Environment" (2005). Environmental Consequences of the Chernobyl Accident and Their Remediation: Twenty Years of Experience. Available at: http://www-ns.iaea.org/downloads/rw/meetings/environ-consequences-report-wm-08.05.pdf

STAP advisory response	*Brief explanation of advisory response and action proposed*
1. Consent	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
2. Minor revision required.	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: (i) Opening a dialogue between STAP and the proponent to clarify issues (ii) Setting a review point during early stage project development and agreeing terms of reference for an independent expert to be appointed to conduct this review The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major revision required	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.