**Online consultation for review and comments on the zero-draft International Code of Conduct for the Use and Management of Fertilizers.**

**Collection of contributions received**

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# Topic note

Dear Stakeholders and Members,

After an online consultation between 21 December 2017 and 11 February 2018 and with the support of an open-ended working group (OEWG) of fertilizer experts, the Intergovernmental Technical Panel on Soils (ITPS)2 produced a zero-draft International Code of Conduct for the Use and Management of Fertilizers.

We are very grateful to all of you who contributed to the process so far and for all of your valuable feedback and comments that helped produce the Fertilizer Code in its current form. For those of you who are new to this forum and process, we welcome your participation and encourage you to refer to the previous consultation1 for further background information.

The Fertilizer Code was recently presented to the Global Soil Partnership (GSP)3 at their 6th Plenary Assembly4. The feedback was extremely positive and it was agreed that a Code of Conduct dealing with issues related to the management and use of fertilizers, as well as aspects related to the production, trade and quality of fertilizers is extremely necessary and timely. There was agreement that the current document is comprehensive and holistic and clearly sets out the roles and responsibilities for the various stakeholders involved in the fertilizer value chain.

While many GSP member countries agreed to endorse the Fertilizer Code in its current form and present it to the Committee on Agriculture (COAG)5 in October 2018, some members felt that the document could be improved and would benefit from further stakeholder engagement and consultation, thus, ensuring the Code of Conduct will be truly relevant and have the maximum effect and buy in from all.

We are therefore holding a second online consultation to gather comments and feedback on the current draft Fertilizer Code of Conduct and use this feedback to fine-tune it. The consultation will also serve to further engage stakeholders and garner their support for the Code.

We invite you to read this zero-draft of the International Code of Conduct for the Use and Management of Fertilizers and provide your feedback and comments **by Sunday 15th July, 2018**.

To assist us in focusing your feedback, please answer the following survey questions on the template provided in the following link and send it back to us using the upload and submit buttons below. If you would like to make comments on the Fertilizer Code of Conduct document itself, please do so using Track Change and return the document using the upload and submit buttons. Alternatively, you can post your comments and feedback in the contribution box below.

|  |  |
| --- | --- |
| Question | Comments |
| Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why? |  |
| Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks? |  |
| Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they? |  |
| Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they? |  |
| Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate. |  |

We greatly appreciate your invaluable support on this globally important topic of sustainable management of nutrients, and for your collaboration and assistance in producing this Fertilizer Code of Conduct as a tool to assist in such.

**Eduardo Mansur**

Director Land and Water Division, FAO

**Hans Dreyer**

Director Plant Production and Protection Division, FAO

**Facilitators**

Gary Pierzynski, Intergovernmental Technical Panel on Soils

Robert Edis, Chair of the open-ended working group

Debra Turner, Global Soil Partnership Secretariat, FAO

Ronald Vargas, Global Soil Partnership Secretariat, FAO

Zineb Bazza, Global Soil Partnership Secretariat, FAO

**References**

1 <http://www.fao.org/fsnforum/activities/discussions/CoCoFe>

2 ITPS - <http://www.fao.org/global-soil-partnership/intergovernmental-technical-panel-soils/en/>

3 GSP - <http://www.fao.org/global-soil-partnership/en/>

4 GSP PA - http://www.fao.org/global-soil-partnership/about/plenary-assembly/en/

5 COAG - <http://www.fao.org/coag/en/>

# Contributions received

## Mhammad Asef Ghyasi, CAF (Care of Afghan Families), Afghanistan

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

It is beneficial for the food users, for the reduction and of risks and other harms.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think no, we need to do for each type of fertilizers separate investigation on human being and other animals to know detail benefits and harms and respectably know the management of advantages and disadvantages of the fertilizers.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Dose the fertilizers change the genetic of the foods or products? If a cow is eating the product and then we are using the milk of this cow dose there is any harm? What is the relationship of fertilizers and such diseases like diabetes, cancer, deformities in new born children?

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

We need to know the effect of the fertilizers in environment, air, living animals, foods, plants, and human? The life of the different animals are necessary for each other, if in some way we are killing them directly or indirectly , it will effects the life change of many elements like water, soil, air……? In order to have enough food for all population other ways or mechanisms have to be seek not just fertilizers? Like control of population.

## Rob Blakemore, VermEcology, Japan

Question response from R.J. Blakemore PhD rob.blakemore@gmail.com FAO-GSP, IUCN-SSC

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes and NO. It is important to curtail the excess use of NPK that are poisoning soil, air and water but, unless a viable alternative is offered it is pointless.  The C of C mainly helps industry, yet Rockstrom et al. (2009) identified excess Nitrogen fertilizers as the greatest hazard to the planet after species extinctions (partly caused by N fertilizers). They recommended an immediate reduction by 25% but offered no replacement. The obvious replacement is to recycle organic ‘wastes’ via earthworms as vermicomposts.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

No – it is too synthetic chemical industry biased.  I believe we need to reduce NPK and to rely on recycling and natural mineralization to fertilize forests, crops and pastures.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Vermicomposts are not mentioned yet they are the most natural and proven solution (e.g. Indore). Essentially free and completely scalable (from under kitchen sink to nationwide) they can be utilized by individuals, schools, farmers and organizations.  When Soviet Union collapsed and with the continued US embargo, Cuba relied on vermicomposting and organiponicos to supply its food.  It now has one of the lowest cancer rates.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

Why mention biochar?  This is a minor amendment – not a fertilizer – that it over-hyped by biocharlatans that offers no benefit whatsoever over traditional and proven composts.  It is a needless distraction!

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

Since the First World War, 100 years ago, there has been excess nitrogen from munitions.  The disposal of this has diverted research and funding from more natural N-fixation and re-cycling.

Rothamsted Research in UK have the longest running LTE in the world at 175 years.  In all this time they have been unable to prove that synthetic NPK offers any benefit over FYM in terms of soil health, yield or costs.  Surely it is time to reconsider and to restore natural production.

A recent summary paper is: http://[www.mdpi.com/2571-8789/2/2/33](file:///C%3A%5CUsers%5CValleV%5CDownloads%5Cwww.mdpi.com%5C2571-8789%5C2%5C2%5C33) .

See the attachment below

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511-RJB.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511-RJB.docx)

## Debra Turner, FAO, Italy

Dear Rob Blakemore,

Thanks for your contribution. Indeed, there are a lot of nutrients going to waste and reuse and recycling should be high on the global agenda. We did hope to highlight this in the Fertilizer Code, however perhaps it could be strengthened? We will certainly consider adding vermicomposting to the revised draft along with other suggestions we receive in regards to recycling methods and technologies and thank you for pointing out where to include it in the document.

(See Comment Number 2)

Dear Mhammad Asef Ghyasi,

Thank you for your comments in regards to the effects of fertilizers on food safety, human and animal health, and the environment. These are certainly the kinds of issues we are trying to address with the Fertilizer Code and your feedback is extremely valuable and welcome.

(See Comment Number 1)

Best regards, Debra

## John Quinton, United Kingdom

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

I am supportive of the initiative. How far the code of conduct will penetrate beyond governments and the fertilizer industry remains to be seen.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

This is a comprehensive document that covers the key issues surrounding fertilizer use. I though the document was stronger on optimizing benefits than on minimizing risks (see below).

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

There is very little in the document about minimizing risks associated with fertilizer applications. Loses of Ammonia following manure and slurry applications are hardly mentioned, yet atmospheric emissions of ammonia from agriculture are a significant global problem. Careful management of manures and fertilizers will have an important role to play in minimizing these emissions.

Water pollution is touched on. But there are significant issues associated with the pollution of ground and surface waters. This is addressed by mentioning the need not to overfertilize with P, but the same must also be true of N. A section should be inserted reflecting this.

Recycling of ‘waste’ to land will be increasing important and necessary for a variety of reasons. However, a note of caution should be introduced into the document asking governments to set appropriate legal standards for such materials. We do not want materials, such as struvite, being added to soils if they also contain contaminants.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

The code is very long, perhaps necessarily so. Could a shortened version covering the key points be published alongside it?

## Olegario Muniz, Soil Institute, Cuba

It is a very important, complete and useful document that must be approved. First let me express that in the document, both, fertilizers and pesticides, are considered “agrochemicals”. I do not like that expression because fertilizers are for “feeding” plants, but pesticides, for “killing” plants.

In the other hand, some persons consider that concrete Safety Regulations go against Fertilizer Industry. On the contrary, those regulations not only are important for farmers but also protect Fertilizer Industry. It is the case of Cadmium (Cd) content on Rock Phosphate and Phosphorus fertilizers like TSP and others that is one of the most frequent sources of Cd in agriculture. I propose that must be included an Annex of these Safety Standards and Permissible Limits.

Besides, I propose that the document must be more explicit in relation to regulations of fertilizers storage and transportation.

Olegario Muniz

Soil Institute, Havana, Cuba

## Negash Tegegn, Ethiopian Institute of Agricultural Research, EIAR, Ethiopia

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, it is useful to all professionals in agriculture fields

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

No

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

I feel you missed or purposely escaped the term Biochar which is “pri-stabilized’ organic matter or fertilizer. I said fertilizer because it absorbs plant nutrients and supply C, P, K, Mg and enhance the C sequestration in the soil. Many European as well as other nations are trying to embark or already working on this issue. You can communicate Dr Saran Sohi off Edenbourg University, England

The other point probably you need to add plant nutrients thresh hold as an important indicator.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

I feel Advertising in the term and definition may not be necessary.

**Do you have any other suggestions or comments not covered in the abov6e questions? If so, please elaborate.**

Please try to put something about fertilizer Adulteration which mostly fertilizer importing countries problem.

## Joseph Ahenda, FAO, Somalia

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, it is important especially to policy makers, public institutions such as agricultural/Environment regulatory authorities and many countries especially those in developing may depend on the framework to address some of the fertilizer related emerging issues. Countries developing fertilizer related laws and regulations may make reference to the code. The code may also contribute to harmonized regional and even global trade in fertilizers, this will in turn increase access to the agro-input.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

Yes, it does but the role of public sector is more pronounced than the other key players such as manufacturers and dealers. Private sector’s roles and responsibilities should also be captured for greater ownership, compliance and positive impact.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Soil conditioners and bio-fertilizers

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

Yes, highlighted in the text in tracked changes.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

Fertilizer quality and safety is quite an issue to traders, farmers and consumers of the resultant crop yields in many developing countries; The code could bring out some focus on quality assurance and international trade (import/export),

See the attachment below:

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_Ahenda.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_Ahenda.docx)

## Muhamad Manhal Alzoubi, General Commission for Scientific Agricultural Research, Syrian Arab Republic

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

It is beneficial and useful to decision makers, technicians and farmers, because most of them don’t know a lot about fertilizer kinds, nutrients, pollution and fertilizers management

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think that, and it is so important to minimize the soil pollution.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

It is necessary to add some source of nutrient such biogas manure

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

All of them are necessary

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I think it is important and necessary to add a paragraph contain fertilizer alternatives in case of lack of fertilizers, poverty, crises and war.

See the attachment below

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511.docx)

## Zineb Bazza, FAO, Italy

Dear John Quinton,

Thank you for your helpful contribution. We do agree that greenhouse gas emissions from fertilizers have an important environmental impact and we also agree on the importance of emphasizing the different risks including the issue of water pollution. It was decided that the evidence regarding these issues has been well documented and that it would therefore not require us to go into much details. The aim was to focus on the different actions that can be taken by different stakeholders to minimize these negative environmental effects. As you have mentioned, the code is already very long and we tried to avoid redundancies. Items 1.3.3, 4.2 and 4.9.2 address atmospheric emissions and items 1.3.5, 3.6.5, 4.2 address the issue of water pollution. We will look at these more closely and determine whether these important issues were properly approached and sufficiently addressed.

(See Comment Number 4)

Dear Olegario Muniz,

Thank you for your helpful contribution. There seems to be a misunderstanding about this code putting fertilizers and pesticides in the same bag. This was not done purposefully and we will definitely work on this in order to avoid any misunderstandings. We do agree that the purpose of these two products are different and that safety issues are more serious when it comes to pesticides. However, there are also some risks (both environmental and related to human and animal health) that are associated with fertilizers. It is therefore important to address them accordingly.

(See Comment Number 5)

Dear Negash Tegegn,

Thank you for your helpful contribution. We did mention biochar in the section on nutrient reuse and recycling, more specifically in item 5.1. We realize that due to the length of the document and the way it is organized it can be a little hard to find certain items. We also agree that fertilizer adulteration is an important issue. I believe that the sections on composition, labelling but also on the sale of fertilizers touches upon the topic but we could add another item that specifically tackles the issue of fertilizer adulteration.

(See Comment Number 6)

Dear Joseph Ahenda,

Thank you for your helpful contribution and feedback. We will be using your feedback in the new draft of the code. As for soil conditioners, it can be a little bit tricky as not all soil conditioners contain plant nutrients, which are the only soil amendments that we are including in this code of conduct. Some of these soil conditioners, especially those that provide nutrients or improve accessibility of nutrients to plants can be mentioned in the code.

(See Comment Number 7)

## Andrew Isingoma, Rwanda Agriculture Board, Rwanda

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

The ICoCoforManagement of fertilizer is very fabulous and helpful Mostly to rural in habitants this is because rural in habitants depend on agriculture that other areas. The policy is very beneficial to Africa continent because it is the continent with higher percentage of Agriculture defendants and unfortunately with low level of Agriculture practices.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

For it is good and have at list look to many aspects of beneficiaries but focus should be considered well. Example hiring some workers to vulgarize/sensibilize.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Quantitative and qualitative content topics should be formulated, i.e the quantity of fertilizer to be applied to which crop or what type of soils, the quantity of emulsion concentration (EC) of fertilizers, this is because some fertilizers are very concentrated and very toxic once mal-dozed. This is not promising to the local low trained users, in other words fertilizers should not be highly dozed complicated.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

There are no very redundancies detected sofar, it is helping to many extents and so good, for sure the team have done the best.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I would have made comments but the zero-document is promising to help much.

## Minggang Xu, Chinese Academy of Subtropical Agricultural Sciences, China

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

It is very beneficial and useful to increase fertilizer use efficiency and reduce the negative impact of fertilizers especially chemical fertilizers, for governments, technicians, producers and users (framers) of fertilizers. Because the Use and Management of Fertilizer let them know the best option use and management fertilizers.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I feel address almost all aspects necessary.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Combining chemical fertilizer and manure is simple and key method to increase fertilizer use efficiency and food quality, to decrease loss of fertilizer nutrients and pollution. This method may mention in context of the Code.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

All of them are necessary.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I have not any further comments and suggestions so far.

## Chinasa Ikelu, Institute de Mathematique et des Sciences Physiques, Benin

Dear Forumites,

Please find uploaded tracked changes of the code of conduct for fertilizer usage and further answers to questions posed.

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, the International Code of Conduct for the use and management of fertilizers is beneficial to the farmers and all stakeholders involved in the agricultural value chain – including government, non-governmental organizations (NGOs), civil society organizations (CSOs), private sectors, academics, cooperative unions and so on. This is so that all actors in the value chain can participate and monitor the progress and use of fertilizer for the development of food production.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

To an extent, yes! This is because the code of conduct sets aside the best way to use fertilizers and also stating clearly that it shouldn’t be over-used to avoid negative environmental effects like green-house emission and the likes.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Apart from the proposal that government should have sole responsibility for access, distribution and availability of fertilizers, what technological advancement can be used to reach rural farmers in hard-to-reach areas?

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

Yes, there were a lot of repetitions and unnecessary items in the code of conduct draft. For example, sections 8.1.1 and 8.1.7 are similar, sections 8.2.1 and 8.2.3 are similar and section 8.3 is same with 8.3.2 so why should they be collaborating together. And many more redundancies which have be tracked for further changes by the organizing team.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I strongly suggest that government should have minimal power over the access, availability and distribution of fertilizers. This is to expunge the overriding powers that comes with such responsibility. If fertilizers must be made available to end users like farmers, they should be sold directly to them from the producing organizations. This way, there is transparency in the manner with which end users have access to fertilizers for their crops.

See the link below

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511 Revised.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511%20Revised.docx)

Thank you!

## Edson Cagape, cso, Philippines

Sirs:

As long it thus not curtail the spirit of enterprise and thus not destroy the environment and its bio-diversities.

Thank you.

Respectfully,

Edson Rabuyo Cagape

## Adalberto Benavides-Mendoza, Universidad Autónoma Agraria Antonio Narro, Mexico

Dear all,

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

It is beneficial and useful for all participants in the use of fertilizers in agriculture. It establishes minimum rules for governments, industry, advisors, and users.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think that the Fertilizer Code covers what is necessary at this moment.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

I think that the Fertilizer Code covers what is necessary at this moment.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

No redundancies or unnecessary content.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

Some comments in the attached file.

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511-rev.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511-rev.docx)

Best Regards

## Alejandro Silva, Sociedad Venezolana de la Ciencia del Suelo, Venezuela

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, it could be of interest for all stakeholders involved in the fertilizer value channel. The document is well structured and focused on the general principles of the use and rational management of fertilizers.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

Even though it is a good approximation and covers most of the aspects involved in the efficient management and use of fertilizers, it requires clarifying aspects related to its applicability:

1. It presents little information regarding "how to do" or implement general recommendations and guidelines, especially those pertaining to governments. I think that this could be solved by illustrating each topic with successful examples taken from member countries.
2. The monitoring issue is very weak. The issue must be focused on a baseline or diagnosis of the initial situation of each country, which determines limitations and bottlenecks that lead to establish an action plan and priorities, to then be able to measure progress in each of the aspects considered.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

This aspect was covered in the previous question.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

I think an effort could be made to integrate the point 3 Soil Fertility and Nutrition of the Plants, with the point 4 Use and Management of Fertilizers. Both are closely related.

See the attachment below

[Fertilizer\_Code\_ZeroDraft\_QuestionaireAS.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_QuestionaireAS.docx)

## Edson Cagape, CSO, Philippines

Sirs:

I knew the details of fertilizer production from its raw materials to its finished product. To the vast majority of fertilizer users it might be harmful for them for the reason the truth is being hidden from them due to the lacked of real information dissemination.

Let some farm-owners and farmers representative be send to the the fertilizer plant so that they themselves can really witness the actual process of manufacturing fertilizer without the pretentions of string-attached or csrrot-stick application.

And we tend to overlook the health and welfare of plant fertilizer employees.

I am a 12-hectare farm-owner and I used fertilizer.

Thank you.

## Elizabeth Bak, FAO, Argentina

Please see my comments in the attached file.

[Template\_CoCoFe\_V0 (Carl Wahl, Concern Worldwide).pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Template_CoCoFe_V0%20%28Carl%20Wahl%2C%20Concern%20Worldwide%29.pdf)

## Carl Wahl, Concern Worldwide, Liberia

Thanks for the opportunity to contribute.

Would suggest as per my comments that we have simplified derivative statements / voluntary standards that iNGOs can officially sign onto.

Further, think that the document itself is missing lime / liming as key elements of fertilization / ISFM strategies. "Promotion of soil correction (3.6.4)" is too weak a statement.

Best regards,

Carl Wahl

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes. Useful as standard for all agencies (Govts., iNGOs, etc.) doing agriculture-related activities involving crop production, as serves as standard for use of fertilizer inputs

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

Mostly. I do not have time to fully review the document in detail, but I noted there is no mention of correcting soil acidification through lime (or similar inputs); the only mention is that fertilizers shouldn’t be used where soil conditions (such as acidity) limit its effectiveness

*3.6.4 Promote the correction or management of soil conditions that prevent crop response to plant nutrient additions. Such conditions would include extreme acidity or alkalinity, excessive salts or sodium, or lack of organic matter limiting nutrient cycling.*

This seems a bit weak (‘promote the correction’). I think if governments are promoting fertilizers at scale w/out consideration of these soil conditions, it’s a colossal waste of time and money.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Liming. See above.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

n/a

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

Produce a simplified code specific to iNGOs and have an option for organizations to formally sign up to these conventions.

## Audrey Pomier Flobinus, Humanity For The World (HFTW), France

Good evening everyone,

Thank you to find attached my contribution via these two answers :

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? Who, and why?**

Beneficial:

- To farmers

This code of conduct for the use and management of fertilizers is beneficial in that it will harmonize agricultural practices worldwide.

Because currently, the use of certain fertilizers suspected for their harmfulness is not prohibited in all the countries ... which does not however prevent the commercial trade of the agricultural products resulting from these agricultures.

This situation disadvantages some farmers (subject to legal restrictions) for the benefit of other farmers (not subject to the same laws) in a competitive market that does not always look at the production patterns of the agricultural products in question, particularly the use of fertilizers. .

- The world population / consumers

This international code of conduct meets the expectations of the world's population, who are increasingly conscious and concerned about the quality of the food they eat, the quality of life of others, their environment and the environmental disturbances that weigh on their lives. health.

Today, many consumers will refuse to consume agricultural products if they are made aware of the fact that farmers (whatever the geographical location) are sick because of the use of fertilizers ... or if this fertilizer represents a potential risk to his health.

Thanks to this code, the traceability of the agricultural product becomes possible (from its conception to the plate)

This international code of conduct is a tool that will reassure the population about global agricultural practices, the state of health of the environment by giving elements.

The interest of the international organizations (FAO, United Nations, EU, etc.) in the use and management of fertilizers testifies to the humanism shown by such organizations. This will boost confidence in the world's population.

- The scientists

This International Code of Conduct is a relevant reference tool for the global scientific community, as it will facilitate its work, particularly in clinical research in public health. Indeed, the harmonization of practices required by this code will facilitate the establishment of a study on a global scale.

Subsequently, it can serve as a support to define and / or redefine a number of good / new practices according to the evolution of knowledge.

Scientists will be able to deepen knowledge on the use and management of fertilizers and thus be able to anticipate certain positive or negative events

**Do you have any other suggestions or comments that are not addressed in the questions above? If yes, please specify.**

Nature is by definition balanced...

With time, modernization, evolution...

Not having realized this fact early enough, Man to contribute to this manifest imbalance...

It is not too late…

It is through such actions that we will one day return to the sources of life.

We hope that this tool (This international code of conduct) will be the instrument of the well-being of Man and Nature.

We believe that placing unconditional love at the center of every action will lead us to a better future.

Dr.h.c Audrey POMIER FLOBINUS

Humanity for The World (HFTW)

## Mykola Miroshnychenko, National Scientific Center “Institute for Soil Science and Agrochemistry Research named after O.N.Sokolovsky”, Ukraine

Hello everyone:

I would like to propose two additions, which are important from my point of view, namely:

1. Into “Terms and definition”:

Fertilizer: a substance that is used to provide nutrients to plants, usually via application to the soil, but also to foliage or through water in rice systems, fertigation, hydroponics or aquaculture operations. (I propose to change “provide” on “improve/provide” because as a rule fertilizers do not replace nutrition from soil but improve it).

2. Into 3.5 “Government should”:

Add 3.5.7. “Provide control on the quality of inorganic fertilizers regarding possible effect on soil health and properly information about this issue”.

Regards,

Mykola

## Deren Chu, Shanghai Research Institute of Chemical Industry, Co. Ltd., China

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

A: Yes, the International Code of Conduct for the Use and Management of Fertilizers is beneficial and useful for various stakeholders, including:

1. For governments and policy makers, the code offers a guideline for effectively administrate the fertilizer industry and market via standards, laws and regulations with the spirit of a better use and management of fertilizers in future, and thus assist them in the establishment of systems for monitoring the production, trade, distribution, quality control, management and use of fertilizers on the country level. For Chinese Government, specially, the National Development and Reform Commission and Ministry of Industry and Information Technology is in charge of the policy making and standardization of fertilizer; the State Administration of Market Supervision is in charge of production and marketing activities of fertilizers; the Ministry of Agriculture and Rural Affairs is in charge of the distribution, use and management of fertilizers; the Ministry of Transport is in charge of the transport of fertilizers, they will all be benefit from the International Code of Conduct for the Use and Management of Fertilizers.
2. For fertilizer industry, the code encourages them to provide appropriate products in according with global principles of plant nutrient management such as integrated soil fertility management (ISFM) and 4R nutrient stewardship
3. For academic & research institutes, agricultural extension & advisory services, the code encourages them to develop and promote new products, techniques and management stewardships based on the principles described in this code.
4. For nutrient recycling industry, the code's emphasizing on the nutrient reuse and recycling (Sec. 5) as well as the concerning of environment protection and sustainable growth globally will bring prosperity on the related field. For Chinese Government, specially, the Ministry of Ecological Environment is in charge of the nutrient recycling and environment protection, and they will be benefit from the International Code of Conduct for the Use and Management of Fertilizers.
5. For end users (farmers included), this code educated them on the effectively use and management of fertilizers by maximize the benefits from utilizing fertilizers while minimizing any negative impacts.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

A: No; the importance role and engagement of national/international standardization systems in the responsible use of fertilizers, optimizing benefits while minimizing risks is not fully expressed in the code.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

A: Yes; The international standardization committee on fertilizers, such as ISO/TC 134 "Fertilizers, soil conditioners and beneficial substances" , CEN/TC 260 " Fertilizers and liming materials" have deeply engaged in the international fertilizer, soil conditioners and beneficial substances vocabulary\analytical methods\products unification and standardization for nearly 40 years, with more than 40 international standards published and 17 more ongoing, ISO/TC 134 and their national mirror standardization committees has great influence on the effective use and management of fertilizers. The emphasizes of the standardization unit as an individual stakeholders, or as a major representative of policy makers in the responsible use of fertilizers, optimizing benefits while minimizing risks should be mentioned in this International Fertilizer Code of Conduct.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

A: No.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

A: We suggest the editors (FAO and ITPS) to consult with ISO central secretary or ISO/TC 134 "Fertilizers, soil conditioners and beneficial substances" for more details on the engagement and contribution of national/international standardization systems in the responsible use of fertilizers, optimizing benefits while minimizing risks of the standardization unit as an individual stakeholders, or as a major representative of policy makers in the responsible use of fertilizers, optimizing benefits while minimizing risks should be mentioned in this International Fertilizer Code of Conduct.

## Jaana Kaipainen, Ministry of Agriculture and Forestry, Finland

Thanks for the opportunity to contribute. Please see our comments in the attachment below.

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511 (comm 10.7.218).docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511%20%28comm%2010.7.218%29.docx)

With kind regards,

Jaana Kaipainen

## Robert Norton, The University of Melbourne, Australia

I have read some of the contributions to the on-line debate as I develop my response to the issues raised in the CoCoFe. Any information that contributes to such an important code must be supported by robust science and not just be opinions and ideas. While the incorporation of recycling nutrients is very important both in an environmental and economic sense, the fact remains that agriculture and food production is essentially still an open system - because production and consumption are temporally and spatially separated. Composting, worms, P reclamation all have a small role in helping develop a circular economy but the fact remains that nutrients will still be needed from mineral fertilizers to sustain production of food for humanity.

Developing these guidelines is too important to have junk science driving the practices to be recommended.

## Madeleine Kaufmann, Federal Office for Agriculture Switzerland, Switzerland

Dear GSP-Secretariat

Dear Mister Mansur

The Federal Office for Agriculture of Switzerland (FOAG) welcomes the work achieved so far in the zero-draft of the International Code of Conduct for the Use and Management of Fertilizers (CoCoFe), and expresses gratitude for having been given the opportunity to provide feedback on it. We are very pleased to send in attachment our contribution in response to the open second round of e-consultation on the draft V0 of the report.

Please find attached our feedback directly in track in the uploaded document.

Among the comments we made, here a short summary:

* This extensive document covers topics on fertilizer use and management in its entirety. However, the document misses a clear structure, the numeration appears rather random. Is the absence of a table of contents and headings on purpose?
* First Paragraph (last sentence): Addition of soil pollution
* Definition of Fertilizer (Page 4, "What is a fertilizer?"): We would prefer synthetic or mineral fertilizer, rather than chemical and mineral fertilizer.
* Chapter 7, Point 7.1.6.3: We are of the opinion that if a certain contaminant is present below the respective national limit value, there is no need for declaration of the exact content of this contaminant

See the link below:

[Switzerland feedback\_CoCoFe\_Second round\_11\_07\_2018.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Switzerland%20feedback_CoCoFe_Second%20round_11_07_2018.docx)

We remain at your disposal should you require any further information.

Best regards

Madeleine Kaufmann

Federal Department of Economic Affairs, Education and Research EAER

Federal Office for Agriculture FOAG

International Affairs and Food Security Unit

madeleine.kaufmann@blw.admin.ch

## Paul Martins, Global Affairs Canada, Canada

I was perusing the code of conduct for the use and management of fertilizers and was surprised that there was no mention of agroforestry and the use of trees and agroforestry systems to help reduce or even replace fertilizer usage. The closest that the code gets to this is perhaps in reference to the use of green manures. I would think that any practice the can be used to improve soil fertility, structure and health while reducing the need for and some of the negative aspects of fertilizer usage would also be included. As you know, the World Agroforestry Centre (ICRAF) has been working in this area for many years, as are others.

Would be useful for farmers to know that in some cases fertilizer usage can be reduced and soil structure and health improved, by using appropriate agroforestry systems. In some cases yields under agroforestry systems can be higher or equal to monocultures, but even if they are not, they should be promoted more widely as part of a climate smart approach that is sustainable, reduces risk and improves biodiversity and resilience.

Simply something for you to consider if nobody else has raised this.

Thanks for your attention.

## Patrick Heffer, International Fertilizer Association (IFA), France

**Online Consultation for review and comments on the zero-draft International Code of Conduct for the Use and Management of Fertilizers**

**Comments from the International Fertilizer Association (IFA) pertaining to the zero draft, which will be presented to FAO’s Committee on Agriculture at its session in October 2018**

*(General comments below and attached, plus specific comments attached)*

At IFA, we have always welcomed the idea to have a Code of Conduct for Fertilizers, and we have been very supportive of this project right from the beginning.

We consider this a quite unique opportunity to create a truly relevant and meaningful document not only for our industry but for all key stakeholders that are closely involved with our sector.

But the development of such an extensive and important document cannot be taken lightly: Creating a substantial and impactful document, that provides true guidance, takes time.

While we applaud FAO for its ambition, we believe that the proposed timeline (coming up with a zero draft in 6 weeks, getting it reviewed by the Intergovernmental Technical Panel on Soils (ITPS) and an Open-Ended Working Group within roughly 2 weeks, and coming up with a revised zero draft only a couple of days later for consideration at the Global Soil Partnership (GSP)’s Plenary Assembly in June) does not provide for sufficient consultation, and simply cannot result in a document which provides meaningful guidance and recommendations.

The FAO is renowned for its sound scientific, thorough and reliable work. If this document cannot benefit from more consultations and improvements, the outcome will not only affect the reputation of the FAO, but the code will ultimately not generate the adherence and support that a code is supposed to get from its target audiences.

**What is immediately striking are the number of repetitions throughout the whole document, while there are entire areas and topics that would clearly benefit from clearer definitions and clarification.**

For example:

* The differentiation of organic and mineral fertilizers would deserve more thoughts; it would be useful to assess and discuss where a stronger distinction within the document would make better sense and where both nutrient sources can be combined within the same paragraph. The draft weights also differently between organic and mineral fertilizers. We would recommend complementarity in assessing benefits and value of both.
* The context of scientific evidence and scientific risk assessments is not fully taken into account, in particular in paragraphs referring to risks and contaminants. In general, the language is very generic and non-specific in paragraphs relating to risks in usage, handling or storage. However, these are areas where a code of conduct has to be very carefully formulated as it is of absolute necessity to all users involved, to understand well these areas.
* As enshrined in WTO rules, a sound basis on scientific risk assessment should underpin any recommendations to governments. The notion of risk management also needs to be enshrined in the code, so as to demonstrate that potential risks can be adequately addressed. For the future relevance of the code, we cannot afford to “brush over” these chapters.
* Some good instruments within governance, initiatives, programs and regulations already exist in relation to fertilizer value chain (production, transport, QC, labelling, trading etc.) For lack of time, these have not been considered enough and deserve to be closer looked at.
* Economic considerations are also widely ignored, whereas this is of major interest and concern not only in regions that must overcome underuse of fertilizers.

**The document is still quite unbalanced:**

* While the preamble of the document clearly states that its goal is to “maximize benefits and reduce environmental impacts”, the current draft is unbalanced. Benefits and the need to address not only overuse but also underuse are side-lined in favour of an overwhelming strong focus on pollution. We should keep in mind that, worldwide, underuse cases are at least as widespread as overuse ones, and both are equally important from a sustainability standpoint, considering that nutrient underuse contributes to soil degradation and soil erosion.
* “Responsible use” should be defined and not be limited to overuse.

**We noticed some gaps:**

* We would recommend a stronger focus on crucial areas relating to nutrition, farmers’ livelihoods and adaptation to climate change. These aspects need to be explored more, also for the benefit of policymakers and advisors in developing countries and with a view to align the recommendations of the code with SDG targets and UNFCCC goals and objectives. The Code of Conduct should be anchored within a global framework of Agenda 2030.
* More emphasis could be placed on the farmer as a decision-maker. Farmers have a critical role to play in sustainable fertilizer use. More thoughts should be given to how the industry, governments, research and extension could support this role.

**Language needs to be carefully reviewed, as some areas risk to create misunderstanding and confusion:**

* Some sections are clearly “cut and pasted” from the Code of Conduct for Pesticides, which was used as starting point for developing the zero-draft (e.g. references to “remediation measures”, “allowable limits” do not apply to fertilizers). The same goes for references to shipping, where pesticides require a completely different handling and management.
* IFA would like to take this opportunity to emphasize that fertilizers and pesticides, besides both being important agricultural inputs, have nothing else in common. Fertilizers are aimed at feeding plants while pesticides are used to kill or control pests and diseases. As such, risks associated with fertilizer use are much lower compared to pesticides. Using the code of conduct for pesticides as a starting point for this code of conduct is inappropriate in our view.
* Certain paragraphs seem to imply that there is a risk inherent to fertilizers itself – independently from the storage, handling and use. As mentioned above, this aspect must be very carefully worded to avoid misinterpretations once the code is published.

**Definitions need further review:**

* They are not always aligned with already existing FAO definitions that have been approved by member states. Here again, definitions have been drafted too quickly, without the necessary consultation.
* Terminologies relating to slow- and controlled-release fertilizers, for instance, are not accurate. The fertilizer industry can provide assistance with product definitions. The code would clearly benefit from this assistance.

In summary, substantial improvements are still required to make the current draft relevant and ready for adoption. We are of the opinion that the priority should be incorporating specific comments made during the GSP Plenary Assembly in June (by France, Germany, Jordan, Morocco, The Netherlands and IFA) and submit a new draft for consultation to the COAG. It would reflect a transparent, step-wise and constructive negotiation process.

We believe that the speed with which this document had to be pulled together is the main factor for its weaknesses, flaws and gaps. One must bear in mind that fertilizers have a major role to play for the world’s future in terms of food security. 50 % of our food produced today is based on mineral fertilizers. At the same time, nobody denies that mineral and organic nutrients impact the environment and that improved management practices are of major importance.

Given the critical role of fertilizers, IFA would strongly recommend giving appropriate weight to the development of such a significant document: it is ultimately the extend of its content that will decide if this code is truly relevant for nutrient stewardship or if it will be dismissed as superficial and too general.

\_\_\_\_\_\_\_\_\_\_

**About IFA**

The International Fertilizer Association (IFA) is a trade association representing the global fertilizer industry, which provides the crop nutrients that allow farmers everywhere to meet the world's growing food, feed, fiber and bioenergy needs in a sustainable manner. IFA member companies represent all activities related to the production and distribution of every type of fertilizer, their raw materials and intermediates. IFA’s membership also includes organizations involved in agronomic research and training. IFA has some 501 members in about 68 countries.

See the attachments below

[Fertilizer Code IFA's general comments July 2018.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer%20Code%20IFA%27s%20general%20comments%20July%202018.pdf)

[Fertilizer Code IFA's specific comments July 2018.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer%20Code%20IFA%27s%20specific%20comments%20July%202018.pdf)

## Debra Turner, FAO, Italy

Dear Mr Isingoma,

Thank you for your comments and the positive response to the proposed Fertilizer Code of Conduct, particularly in relation to its function in helping rural people dependant on agriculture. Regarding your comment on formulating quantitative topics on fertilizer applications within the document, the Fertilizer Code itself will not provide recommendations as such. To support governments and institutions to implement the Fertilizer Code, we intend to develop a toolkit of examples, guidelines and other materials to help formulate fertilizer management policies and assist in making decisions for specific fertilizer management practices. Thank you for highlighting this issue.

(See Comment Number 10)

Dear Prof. Minggang Xu,

Thank you for taking the time to respond to our request for comments on the Fertilizer Code of Conduct. Regarding combining chemical fertilizers with manure to increase fertilizer use efficiency, we had hoped to convey this concept by highlighting and advocating for Integrated Soil Fertility Management (ISFM) practices within the Code. We will certainly look at the current text in the document to ensure that the message is clear. To support governments and institutions to implement the Fertilizer Code, we intend to develop a toolkit of examples, guidelines and other materials to help formulate fertilizer management policies and assist in making decisions for specific fertilizer management practices.

(See Comment Number 11)

Dear Mr. Chinasa Ikelu,

Thank you for your helpful comments towards improving the Fertilizer Code of Conduct, particularly in addressing the issue of how to use technology to reach rural farmers in hard-to-reach areas. Thank you also for pointing out some areas with repetitions and redundancies, particularly in Section 8. We will certainly consider your comments when we are refining the document.

(See Comment Number 12)

Dear Mr Edson Cagape,

Indeed, our intention with the Fertilizer Code of Conduct, along with many other initiatives in FAO, is to help preserve the environment and its biodiversity while promoting sustainable agriculture.

And, thank you for your second post highlighting your concern for, and the importance of, the health and safety aspects of fertilizers.

(See Comment Number 13)

Dear Dr. Adalberto Benavides-Mendoza,

Your positive comments regarding the necessity of a Fertilizer Code of Conduct at this moment are indeed encouraging. Your comments provided within the text of the document will be considered when revising the current draft. Thank you for taking the time to contribute to its development.

(See Comment Number 14)

Dear Mr. Alejandro Silva,

Your comments on the Fertilizer Code of Conduct are gratefully received.

Regarding the ‘how to do’. Again, we reiterate that we intend to support the Code with a toolkit of good policy and fertilizer management guidelines and examples which will certainly provide more specific guidance to policy makers, the fertilizer industry, advisory services and farmers on ‘how to do’.

Regarding the monitoring aspect, we will certainly take on board your comments as well as those of others to help improve the monitoring chapter of the Code.

Your point about integrating Sections 3 and 4 will also be considered, or alternatively to adjust these two sections so that there is clearer distinctions between the two.

(See Comment Number 15)

Dear Ms Bak,

Thank you for taking the time to review the Fertilizer Code of Conduct and for your comments regarding the relevance of addressing potential impacts on human rights such as the right to adequate food and health, and that certain groups such as children, pregnant women and consumers could be subject to elevated risks associated with fertilizer use and management. We will certainly consider your comments and refer to the UN Special Procedures to help improve the Fertilizer Code of Conduct where appropriate and apt.

(See Comment Number 17)

Dear Mr Carl Wahl,

Your comments on how to improve the Fertilizer Code of Conduct are indeed much appreciated, particularly concerning strengthening the point or topic of soil conditions that affect fertilizer applications, e.g. acidity and alkalinity and the use of soil conditioning agents such as lime. This point has also been raised by others and will be considered in the draft revision or addressed accordingly.

In addition, your recommendation to produce a simplified Code specific to iNGOs is also noted.

(See Comment Number 18)

Dear Ms Audrey Pomier Flobinus,

Thank you for your positive comments regarding the benefits and use of the Fertilizer Code of Conduct and its potential to harmonize agricultural practices regarding the safety of products and fair market for all farmers, as well as in providing reassurance to the world population that agricultural practices are conscious of the environment and human health.

(See Comment Number 19)

Dear Mr Mykola Miroshnychenko,

Thank you for your specific comments regarding the definition of fertilizer, and on adding an extra article to Section 3.5. Your suggestions will be taken into consideration when revising the draft Fertilizer Code of Conduct.

(See Comment Number 20)

Dear Dr Deren Chu,

In your capacity as an expert on standards for fertilizer analysis techniques your comments regarding this topic are much appreciated. We will certainly follow your advice and look into the existing ISO standards.

Thank you also for your encouraging words highlighting that in China, multiple government institutions and ministries could benefit from this code as well as the end users, i.e. farmers.

(See Comment Number 21)

Dear Ms Jaana Kaipainen,

Thank you very much for kindly contributing to improving the Fertilizer Code of Conduct with your specific recommendations and comments within the document, particularly regarding some of the terms and definitions and on other potential sources of contaminants in fertilizer products, namely organic substances, micro- and nanoplastics. These and other suggestions will be certainly be considered in the revision of the Fertilizer Code.

(See Comment Number 22)

Dear Dr Robert Norton,

Thank you for your affirmation that the Fertilizer Code of Conduct is very important. Indeed, the issue of recycling nutrients and developing circular economies is a big challenge due to the temporal and spatial separation of where and when food is produced and consumed. However, there is an effort in a number of countries and regions to recycle nutrients from urban waste. In agricultural settings, there are also many examples and further opportunities to recycle nutrients at various scales. Therefore, we have included recycling nutrients within the Code along with the use of mineral fertilizers. When we give examples of certain nutrient recycling practices, we do not intend to suggest that they will provide all nutrients and replace mineral fertilizers, but rather that they be used where appropriate. Our intention is to support the advocacy and use of these techniques with technical materials and policy guidelines for assistance in implementation of the Code, and that are based on scientifically sound evidence. (See Comment Number 23)

Dear Ms. Madeleine Kaufmann,

Thank you for your contributions on behalf of you and your colleagues at the Federal Office for Agriculture Switzerland. Your inputs and comments will be indeed be helpful for revising the Fertilizer Code of Conduct as well as in providing further comments to the Committee on Agriculture in October when the Code will be presented to FAO member countries.

(See Comment Number 24)

## Ahmad Mahdavi, University of Tehran/ and Sustainable agriculture and environment, Iran (Islamic Republic of)

As per my experience as a pesticide toxicologist with the international code of conduct for pesticides and my long observation about pesticides and fertilizer pollution I like to add my general comment: what I have observed during decades of experience all these global laws and regulations are more or less good and correct but the big problem is enforcement in the level of farmers in particular in developing countries. This is a main obstacle and need lots of work, capacity and culture making for farmers in developing countries with ever increasing demand for food toward 2050 with 2 million more people on the planet.

## Tiffanie Stephani, Fertilizers Europe, Belgium

Thank you very much to the FAO for giving stakeholders the possibility of sharing views and concerns regarding the zero-draft International Code of Conduct for the Use and Management of Fertilizers.

On behalf of fertilizers Europe, I would like to underline that our association has strong concerns regarding the current draft submitted for consultation and also regarding the way the process is handled by the FAO Secretariat. The priority should be quality and relevance of the Code, even if adoption is postponed by a couple of years. Especially, it is not acceptable that some sections of the draft have been clearly "cut and pasted" from the Code of Conduct for Pesticides. Fertilizers and pesticides have nothing in common, so using the Code of conduct for pesticides as a starting point for this exercise in very inappropriate.

Please find below and attached further comments.

**About Fertilizers Europe**

Fertilizers Europe represents the majority of fertilizer producers in Europe and is recognized as the dedicated industry source of information on mineral fertilizers. The association communicates with a wide variety of institutions, policy-makers, stakeholders and members of the public who seek information on fertilizer technology and topics relating to today’s agricultural, environmental and economic challenges. “Infinite Fertilizers” guides the European fertilizer industry’s initiatives to ensure that Europe’s farmers have access to a variety of safe, high quality, locally produced fertilizers, as well as information on their use, environmental impact and nutrient recycling opportunities. We as European fertilizer industry:

* Are committed to the development of innovative products and recycling techniques to maximize the productivity and the sustainability of European agriculture.
* Are searching close collaboration with the farming community and the entire food chain to improve nutrient use efficiency and reduce the environmental footprint of food production.

**Comments regarding the process**

Fertilizers Europe considers that it is a great opportunity to create a truly relevant and meaningful document not only for our industry but for all key stakeholders that are closely involved in the sector of plant nutrition. However, the development of such an extensive and important document cannot be taken lightly, and should not be rushed through. Creating a substantial and impactful document, that provides true guidance, takes time.

This is why Fertilizers Europe believes that the proposed timeline (coming up with a zero draft in 6 weeks, getting it reviewed by the Intergovernmental Technical Panel on Soils (ITPS) and an Open-Ended Working Group within roughly 2 weeks, and coming up with a revised zero draft only a couple of days later for consideration at the Global Soil Partnership (GSP)’s Plenary Assembly in June) does not provide for sufficient consultation, and simply cannot result in a document which provides meaningful guidance and recommendations.

The FAO is renowned for its sound scientific, thorough and reliable work. If this document cannot benefit from more consultations and improvements, the outcome will not only affect the reputation of the FAO, but the code will ultimately not generate the adherence and support that it would be supposed to get from its target audiences.

**Comments regarding the content of the Zero Draft**

1. Too many approximations

What is immediately striking is the number of repetitions throughout the whole document, while there are entire areas and topics that would clearly benefit from clearer definitions and clarifications. Here, Fertilizers Europe would like to raise a few examples:

* The differentiation between organic and mineral fertilizers would deserve more thoughts. It would be useful to assess and discuss where a stronger distinction within the document would make better sense and where both nutrient sources can be combined within the same paragraph. The draft weights also differently between organic and mineral fertilizers. We strongly recommend looking at the complementarity in assessing benefits and value of both.
* The context of scientific evidence and scientific risk assessments is not fully taken into account, in particular in paragraphs referring to risks and contaminants. In general, the language is very generic and non-specific in paragraphs relating to risks in usage, handling or storage. However, these are areas where a code of conduct has to be very carefully formulated.
* As enshrined in WTO rules, a sound basis on scientific risk assessment should underpin any recommendations to governments. The notion of risk management also needs to be enshrined in the code, so as to demonstrate that potential risks can be adequately addressed. For the future relevance of the code, these chapters should not be “brushed over”.
* Some good instruments within governance, initiatives, programs and regulations already exist in relation to fertilizer value chain (production, transport, QC, labelling, trading etc.) For lack of time, these have not been considered enough in the Zero Draft yet, and deserve to be closer looked at.
* Economic considerations are also widely ignored, whereas this is of major interest and concern not only in regions that must overcome underuse of fertilizers.

2. Quite unbalanced document so far

While the preamble of the document clearly states that its goal is to “maximize benefits and reduce environmental impacts”, the current draft is unbalanced. Benefits and the need to address not only overuse but also underuse are side-lined in favor of an overwhelming strong focus on pollution. Worldwide, underuse cases are at least as widespread as overuse ones, and both are equally important from a sustainability standpoint, considering that nutrient underuse contributes to soil degradation and soil erosion. Also, the concept of “responsible use” should be clearly defined and not be limited to overuse.

3. Many remaining gaps

We would recommend a stronger focus on aspects linked to nutrition, farmers’ livelihoods and adaptation to climate change. These aspects need to be explored more, also for the benefit of policy-makers and advisors in developing countries and with a view to align the recommendations of the code with SDG targets and UNFCCC goals. The Code of Conduct should be anchored within a global framework of Agenda 2030. Also, much more emphasis should be placed on the farmer as a decision-maker. Farmers have a critical role to play in sustainable fertilizer use. More thoughts should be given to how the industry, governments, research and extension could support this role.

4. The Whole basis of the draft Code needs to be reviewed

Some wordings used in the Zero Draft risk to create misunderstanding and confusion, while some definitions should be corrected:

* Some sections are clearly “cut and pasted” from the Code of Conduct for Pesticides, which was used as starting point for developing the Zero Draft (e.g. references to “remediation measures”, “allowable limits” do not apply to fertilizers). The same goes for references to shipping, where pesticides require a completely different handling and management. This is totally unacceptable from the point-of-view of Fertilizers Europe.
* Fertilizers Europe would like to take this opportunity to emphasize that fertilizers and pesticides, besides both being important agricultural inputs, have nothing else in common. Fertilizers are aimed at feeding plants while pesticides are used to kill or control pests and diseases. As such, risks associated with fertilizer use are much lower compared to pesticides. Using the code of conduct for pesticides as a starting point for this code of conduct is very inappropriate in our view.
* Certain paragraphs seem to imply that there is a risk inherent to fertilizers itself – independently from the storage, handling and use. As mentioned above, this aspect must be very carefully worded to avoid misinterpretations once the code is published.
* The definitions used are not always aligned with already existing FAO definitions that have been approved by member states. Here again, definitions have been drafted too quickly, without the necessary consultation.
* Terminologies relating to slow- and controlled-release fertilizers, for instance, are not accurate. The fertilizer industry can provide assistance with product definitions. The code would clearly benefit from this assistance.

**Concluding remarks**

In summary, very substantial improvements are still required to make the current draft relevant and ready for adoption. We are of the opinion that the priority should be incorporating specific comments made during the GSP Plenary Assembly in June (by France, Germany, Jordan, Morocco, The Netherlands and the International Fertilizer Association - IFA) and submit a new draft for consultation to the COAG. It would reflect a transparent, step-wise and constructive negotiation process.

We believe that the speed with which this document had to be pulled together is the main factor for its weaknesses, flaws and gaps. One must bear in mind that fertilizers have a major role to play for the world’s future in terms of food security. 50 % of our food produced today is based on mineral fertilizers. At the same time, nobody denies that mineral and organic nutrients impact the environment and that improved management practices are of major importance.

Given the critical role of fertilizers, Fertilizers Europe strongly recommends giving appropriate weight to the development of such a significant document: it is ultimately the extent of its content that will decide if this code is truly relevant for nutrient stewardship or if it will be dismissed as superficial and too general.

See the attachment below:

[CoCoFe\_Fertilizers\_Europe\_REACTION\_20180711\_FINAL.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/CoCoFe_Fertilizers_Europe_REACTION_20180711_FINAL.pdf)

## ANFFE Spanish Fertilizer Association, Spain

The Spanish National Association of Fertilizer Manufacuturers supports the initiative of FAO to develop a Code of Conduct for Fertilizers, and to create a relevant document for helping both our industry and the stakeholders that are related with the fertilizer sector.

Please see our comments attached:

[ANFFE Template\_CoCoFe\_V0 (1).docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/ANFFE%20Template_CoCoFe_V0%20%281%29.docx)

## Greg Sneath, Fertiliser Association of New Zealand, New Zealand

The Fertiliser Association of New Zealand supports the initiative of the FAO in developing a Code of Conduct for Use and Management of Fertilizers. There are however opportunities for further consideration to ensure wide applicability and uptake of the Code. The Fertiliser Association of New Zealand supports the contribution by the International Fertilizer Association and further specific comment is provided in the contribution attached.

[Specific feedback \_CoCoFe\_V0 - Fert Assoc NZ - Final.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Specific%20feedback%20_CoCoFe_V0%20-%20Fert%20Assoc%20NZ%20-%20Final.pdf)

## Cruz Ferro-Vazquez, University of Santiago de Compostela, Spain

Thank you for the opportunity of contributing to the development of the CoCoFe through this online consultation.

Please find my comments in the enclosed document.

[CoCoFe\_CFV\_comments.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/CoCoFe_CFV_comments.docx)

Best regards

Cruz Ferro Vázquez

## Thorsten Scheile, German Agrochemical Industry Association (IVA), Germany

On behalf of the German fertilizer industry, we, the German Agrochemical Industry Association (IVA), are of the opinion that the current zero draft of the “Code of Conduct” needs some substantial improvements. As a national association we therefore generally support the International Fertilizer Association (IFA´s) argumentation and comments to the zero draft. In particular, we support the notion that the development of such an important document should be made with due diligence and not in an unnecessary rapidity to improve its quality and relevance for the industry and stakeholders alike.

## Fredy Neira, REDGIST – UDCA, Colombia

Every day billions of Tons of organic waste that should go back to soils are thrown into garbage, thus organic Carbon does not return to soils, but instead they are located in places with mix garbage, which turns into soil, water and air pollution. This occurs mainly in developing countries (Although industrialized countries recycle most of their waste, recycling is around 70% or even less). So this is the opportunity to ask to governments to start efficient organic waste management plans. And use those materials as organic fertilizers. There are plenty of places where those materials are highly required, among them soil eroded lands.

See the attachment below

[Template\_CoCoFe\_V0 FN.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Template_CoCoFe_V0%20FN.docx)

## Cristina Grandi, IFOAM ORGANICS INTERNATIONAL, Italy

IFOAM - Organics International appreciates the efforts made by the Global Soil Partnership Secretariat to draft the "Code of conduct for the Use and management of fertilizers”, and we do think that this Code of conduct is an essential document that was long due to the persistent problem of fertilizer overuse hindering the implementation of many of the Sustainable Development Goals.

We agree that it is imperative to consider fertilisers at "the landscape and global levels due to potential nutrient losses to the environment and the negative effect of such losses” and the chapter dedicated to “nutrient reuse and recycling” is a key part of the document.

Moreover we consider that the first page of the document should mention "the need of an holistic approach to nutrients and to their cycle in soils, plants, animals, humans, water and environment". A new approach from all the stakeholders is needed to achieve the desired results with the code.

We truly believe that this Code should be approved at the COAG meeting this year in order to further achievements for Agenda 2030.

## Lorenzo Faregna, Federchimica/Assofertilizzanti, Italy

Assofertilizzanti is one of Federchimica’s (National Association of the Chemical Industry) Associations that safeguards and represents all the productive divisions of the fertilizers sector in Italy.

In behalf of Assofertilizzanti, I would like to point out that we welcome the new "code of conduct for the use and management of fertilizers, but first of all a number of considerations should be made. In particular, we would highlight that the timeline proposed for the publication is not sufficient to create a thorough and reliable code of conduct. If possible we suggest to postpone the adoption in a couple of years.

For more information please find enclosed our comments.

[2018\_Assofertilizzanti Position.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/2018_Assofertilizzanti%20Position_0.pdf)

## Estelle Vallin, AFCOME (Assocation Française de Commercialisation et de Mélange d'Engrais), France

AFCOME is a professional organization that brings together cooperatives and private companies working in the field of fertilizer distribution and blending (Bulk Blending). It represents about 75% of the market for mineral fertilizers distributed in France.

We highly welcome the project of a code of conduct for fertilizers. Having a common framework to support use and management of fertilizers worldwide is a real opportunity.

But, as it has a very high potential, the elaboration of this document needs in-depth analysis which takes time. It is very important to ensure that each topic developed in this code of conduct is accurate, complete and relevant as it will serve as a valuable guide for fertilizer management.

This zero-draft is a good starting point but it needs to be verified and completed. For example, non-accurate parallels are made between fertilizers and pesticides which could lead to misunderstandings and would not serve fertilizers.  Precise and clear definitions and the use appropriate vocabulary are also a very important as this code will provide a common baseline internationally.

## Kristen Sukalac, Prospero & Partners, France

The European Biostimulants Industry Council (EBIC) welcomes the development of an International Code of Conduct for the Use and Management of Fertilizers by the FAO. EBIC considers that the Code covers an important topic that merits appropriate reflection, discussion and consultation before being launched. Therefore, the proposed timeline aiming for its adoption at the Committee on Agriculture of the Food and Agriculture Organization (COAG) 2018 is simply too short to develop a credible and comprehensive Code of Conduct for fertilizer use, particularly considering the innovative nature of the sector.

There is significant need for improvement if the FAO is to meet its ambitious objectives it has set out for this International Code of Conduct. It is essential to broaden the scope of the Code to ensure that fertilizer use and management is placed in a holistic context of plant nutrition and soil fertility management.

EBIC therefore calls for the adoption of the Code of Conduct to be delayed until the COAG meeting in 2020, which would leave adequate time for consideration of the draft and therefore the adoption of a workable and respected International Code of Conduct on the Use and Management of Fertilizers.

Specific points for further discussion (elaborated in the attached documents) include:

* The role of complementary technologies
* A more holistic concept of plant nutrition and soil fertility management that goes beyond nutrient stewardship
* The role of integrated plant nutrition and soil fertility management in contribution to adaptation to climate change.

EBIC is available for further consultation on the Code at any time. <http://www.biostimulants.eu/>

See the attachment below

[20180713-EBIC\_Comments-FAO-Code-of-Conduct-zerodraft-KS2.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/20180713-EBIC_Comments-FAO-Code-of-Conduct-zerodraft-KS2.pdf)

## Jessica Fitch, ECOFI, Belgium

The European Consortium for the Organic-Based Fertilizer Industry (ECOFI) welcomes the development of the International Code of Conduct for the Use and Management of Fertilizers and the inclusion of organic fertilizers in the zero draft. However, considering the importance of the Code’s topic, and the fact that it merits additional reflection, discussion and consultation before being launched, ECOFI calls for the adoption of the Code of Conduct to be delayed until the Committee on Agriculture of the Food and Agriculture Organization (COAG) 2020, instead of 2018. This would thus leave the FAO, ITPS, and all relevant stakeholders adequate time for appropriate consideration of the draft.

Specific points for further discussion (see attached document) include:

* The excessive emphasis on mineral fertilizers, with all other technologies cast as corrective measures or in a secondary role rather than essential parts of integrated soil fertility and plant nutrient management
* e.g. according to its current inappropriate definition of contaminants, the carbon in an organic fertilizer would be considered a contaminant;
* organo-mineral fertilizers are not mentioned in the text
* The circular economy and industrial symbiosis
* Mitigation of and adaptation to climate change
* The need to revise several of the terms and definitions

## Sally Flis, The Fertilizer institute, United States of America

The Fertilizer Institute (TFI) is pleased to provide comments to the Food and Agriculture Organization of the United Nations on the Zero Draft of the Code of Conduct for the Management of Fertilizers. The members of TFI are leading the way in development and implementation of new technologies and scientifically-based management for agricultural cropping systems to better meet social, environmental, and economic goals.

General Comments:

While we applaud FAO for its ambition, we believe that the proposed timeline has not provided for sufficient consultation with sectors identified as key stakeholder entities within the document. The expediency of development will not result in a document which provides meaningful guidance and recommendations.

The ‘Zero Draft of the International Code of Conduct for the Use and Management of Fertilizers’ is a broad summary of tactics for sustainable use of fertilizers with the intention of allowing individual countries or stakeholders to be sure the code is appropriate for their situation. However, within the document there is a need to be more concise language and elimination of repetition of actions assigned to respective stakeholder groups. Additionally, the definition of the identified stakeholder groups changes throughout the document, making it a challenge for readers and users to interpret.

We are encouraged to see the fertilizer industry identified as an important stakeholder with roles and actions to support effective fertilizer use and management. And, we are equally pleased with the inclusion of the principles of 4R Nutrient Stewardship. In many geographic locations, the industry is a trusted advisor to farmers in the field, and the industry should be viewed as a resource for country efforts to optimize fertilizer use. Additionally, there is growing science and broad support for basing fertilizer use decision on 4R Nutrient Stewardship. Inclusion of the 4R principles can serve as an incubator for broader resource allocation and implementation efforts.

However, while we applaud these inclusions, we believe the document would benefit from greater consultation and time for engagement with the stakeholders identified as key to successful fertilizer management. Throughout the document, there are specific tasks assigned to the fertilizer industry, not all of them may be feasible to implement and several could be improved with industry insight.

While not a complete collection of areas of concern within the fertilizer industry allocated sections, below are examples pointing to the need for great consultation and engagement.

4.11.3.   Keep records of fertilizer sales and/or fertilizer applications along with other agronomic practices, data and farm records to support governments for the purpose of statistical information on fertilizer use.

While there is need to expand and improve record keeping, the challenges of data security will limit the amount of data and farm records that can and will be shared to governments for statistical information. Further consultation with the fertilizer and ag retail industry would be beneficial to clarify this tactic.

Further, some good instruments within governance, initiatives, programs and regulations already exist in relation to fertilizer value chain (production, transport, QC, labelling, trading etc.) For lack of time, these have not been considered enough and deserve to be closer looked at. Concerns with what the fertilizer industry should do around these items occur in multiple sections of the document.

In Section 7. ‘Access, Distribution and Labelling’ there are multiple items that do not recognize the structure of departments and responsibilities within the fertilizer industry. For example:

7.2.1.     Ensure that persons involved in the sale of fertilizers along the fertilizer value chain are trained adequately to be capable of providing relevant information to the related actors in the supply chain, such safety information, advice on risk reduction, and information on the responsible and efficient use of the fertilizer products.

7.2.2.     Ensure that persons involved in the sale of fertilizers to users are trained adequately and are capable of providing sound advice on the use of the fertilizer products they are selling, and on the environmental and health risks associated with the misuse of fertilizers.

These items would be handled by multiple professionals within a company and should be addressed as such.

In summary, substantial improvements are still required to make the current draft relevant and ready for adoption. The current timeline has not allowed for proper research and consideration of existing systems and programs. Given the critical role of fertilizers, TFI would strongly recommend giving appropriate time and consultation to the development of such a significant document: it is ultimately the extend of its content that will decide if this code is truly relevant for nutrient stewardship or if it will be dismissed as superficial and too general.

See the attachment below

[FAO Code of Conduct comments 071318 saf.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/FAO%20Code%20of%20Conduct%20comments%20071318%20saf_0.pdf)

## Tom Bruulsema, International Plant Nutrition Institute, Canada

As a participant in the open-ended workgroup, I appreciate this additional opportunity to comment, on behalf of the International Plant Nutrition Institute, on this zero draft Code.

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

A Code agreed upon by all major stakeholders in agriculture would be very much beneficial and useful. It would be useful to the fertilizer industry as a guide to areas of improvement. It would be useful to governments as a means of establishing clear guidelines for international trade in sustainably produced agricultural products and commodities. It would be useful to consumers in assuring clear messaging regarding the safety and quality of agricultural products and the sustainability of the systems with which they are produced. It would be useful to agricultural industry to help them identify evidence-based approaches to sustainable crop nutrition practices.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

The zero draft of the Code is comprehensive in covering necessary aspects, but is far too long and full of redundancies to make it useful to the stakeholders involved in responsible use.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

The current version of the Code, to its credit, addresses the many stakeholders involved in the use and management of fertilizers, and its impacts, both positive and negative. What is missing is a sense of the crucial importance of fertilizers to humanity. Fully half of human nutritional needs depend on nitrogen fertilizer (Erisman et al., 2008). Fertilizer use supports the huge increase in global agricultural productivity that has avoided the large-scale clearing of land that would have resulted in far greater impacts on the environment in general and greenhouse gas emissions in particular (Burney et al., 2010). Fertilizer nitrogen used at rates economically optimal for farmer profit also contributes to the maintenance and improvement of soil organic matter, a key component of soil health (Poffenbarger et al., 2017). Efforts to improve responsible fertilizer management with farmers and food supply chains can successfully improve sustainability (Cui et al., 2018; Thomson et al., 2017).  A greater sense of the urgency of responsible management would be appropriate, given its integral role in meeting many of the relevant Sustainability Development Goals.

Also, the preamble should recognize the contributions of fertilizer to agricultural production of fiber and fuel in addition to that of food.

Burney et al. 2010. Greenhouse gas mitigation by agricultural intensification. Proc. Nat. Acad. Science. <http://www.pnas.org/content/107/26/12052>

Cui et al. 2018. Pursuing sustainable productivity with millions of smallholder farmers. Nature doi:10.1038/nature25785

Erisman et al., 2008. How a century of ammonia synthesis changed the world. Nature Geoscience 1:636-639.

Poffenbarger et al. 2017. Maximum soil organic carbon storage in Midwest U.S. cropping systems when crops are optimally nitrogen-fertilized. PLoS ONE 12(3): e0172293. doi:10.1371/journal.pone.0172293

Thomson et al. 2017. Science in the Supply Chain: Collaboration Opportunities for Advancing Sustainable Agriculture in the United States. Agric. Environ. Lett. 2:170015 doi:10.2134/ael2017.05.0015

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

1. In many instances, responsibilities for different stakeholders are spelled out in similar but unnecessarily different language. For instance, it is unclear why the fertilizer industry is called on in 3.7.2 to “Promote the application of fertilizers at the proper time and amount, as well as use of the most appropriate fertilizer source and placement in accordance with global principles of plant nutrient management such as ISFM and 4R Nutrient Stewardship” while governments, research institutes, and universities are referred only to ISFM for global principles in all of section 3.6.  Should the same principles not apply to all stakeholders involved in supporting responsible use?

2. The structure and length of the document make it difficult for the user to identify the applicable principles. There are separate sections on topics of fertilizer use, nutrient reuse and recycling, compositions, access and labelling, extension and outreach, and monitoring, but often within each of these sections, each of these same topics are again addressed in separate points. This results in a high level of redundancy. There is considerable opportunity to reduce the length of the document, which would improve its accessibility and clarity to users.

3. Another example of redundancy can be seen in points 1.3.1 to 1.3.7.  There is considerable redundancy among these seven points. Unifying them into a smaller number of more discrete points prevents future abuse of the Code in the way of those who seek to emphasize one of these points over and above the others.

4. There appears to be a preamble to the “preamble and introduction.” It currently introduces considerable confusion where it states “This document is an International Code of Conduct for the Use and Management of Fertilizers. It has been prepared to support and implement the Voluntary Guidelines on Sustainable Soil Management…” The scope of soil management differs from that of fertilizer management or nutrient management.  The whole of the text on the first page could be eliminated without any loss to the document.

Redundancies impose severe limitations on the usability and applicability of the Code. Addressing the issues identified, and reviewing all sections of the document for further redundancies, would likely require much more time than has been allocated. I suggest the process be revised to include a thoughtful rewrite to address redundancies and produce a more concise document that could then be subject to a broader and deeper stakeholder consultation process. The target length of the more concise stakeholder consultation document should be ten pages or less, as compared to the current 40 pages.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

This document is beyond too long.

A glossary of terms has been attempted, but falls short of completeness and there evidently has been no scientific consensus on developing the terms. There could be quite a bit of debate around each term as it is currently defined. For example, the definition of soil health, referenced to FAO, differs substantially from that of the US Department of Agriculture.

The code itself is a mixture of "shoulds" and explanations, but explanations are in the same bullet level as the "shoulds," making it unclear what constitutes the code and what constitutes explanations.

Points are spelled out in varying levels of detail. For example, point 3.5.3 makes very specific statements about soil and plant analysis, and could much more appropriately be shortened down to “Ensure support for evidence-based assessment of soil capacity to supply nutrients, and plant nutritional status.” The code should not direct all countries to use the same approach. There are many ways to assess soil fertility and plant nutrition, but the science needs support.

If general principles can be identified, they will cut across government, fertilizer industry, retailer, salesperson, farmer, and consumer boundaries.

See the attachment below

[Comments on zero draft CoCoFe from IPNI.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Comments%20on%20zero%20draft%20CoCoFe%20from%20IPNI.pdf)

## Rachid Moussadek, National Agricultural Research Institute, Morocco

As a lead of GSP P1 in Morocco and after consultation with different stakeholders concerned by CoCoFe, We are pleased to share with you our comments and remarks on this zero draft.

In fact, this code of Conduct for the Use and Management of Fertilizers is a timely initiative and it will help to answers many questions related to the best use of Fertilizers to increase the food security over the world. Nevertheless, the overall document still has some indirect references to pesticides when we all know that pesticides and fertilizers have very different usages. Also, it would be very useful if the Cocofe could include a bibliography section at the end of the Code as well as footnotes to refer to the studies on which they base their recommendations.

Please find more comments on this draft in the attach file.

[FAO's proposed Code of Conduct - 13-07-2018 (Morocco).docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/FAO%27s%20proposed%20Code%20%20of%20Conduct%20-%2013-07-2018%20%28Morocco%29.docx)

All the best

Dr Rachid Moussadek

Vice Chair of GSP NENA

INRA-Morocco

## Hongfang Liu, Agrochemical Service Working committee, Chinese Society of Plant Nutrition and Fertilizer Sciences, China

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, the International Code of Conduct is very beneficial and useful for governments, fertilizer industry, agricultural extension and advisory services, actors in the nutrient recycling industry, and end-users. Because guidelines and recommendations are provided in the Code, which makes the stakeholders know what to do and how to do.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think the Fertilizer Code is a comprehensive code of use and management of fertilizers, and has already addressed all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Safety should be paid more attention to because fertilizers and pesticides are often used together in order to being operated easily, which should be mentioned in the Code.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

There are no redundant or unnecessary items or subjects in the Code.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I have no any other suggestions or comments by now.

## Qinyuan Hu, Agricultural Committee of Anhui Province, China

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, the International Code of Conduct for the Use and Management of Fertilizers is beneficial and useful for governments and fertilizer industry, especially for end users (farmers). The Code make many end users (farmers) know how to properly use fertilizers and potential nutrient sources of reused or recycled.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think the code address almost all aspects to ensure the responsible use of fertilizers.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

No.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

All items or subjects within this Code are necessary.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I suggest that "Biofertilizer" in terms and definitions should include some other functions such as potassium releasing.

## Santiago Nocelli Pac, Aapresid, Argentina

Dear colleagues,

Find attached my contributions. The 3 main critics would be: 1- I have noticed there is no mention or recognition of use of fertilizers for nutrient build up at soil level, many regions in the world and specially in Argentina the shortage of use of mostly P fertilizers has depleted P levels at soils at very dramatic low levels, so the good practice there would be a fertility plan that would allow the soil to replenish that. 2- Also there is no mention of fertilizer/nutrient application at seed, which is in fact a growing practice. 3- No to consider Fertilizer blending: For physical blends such as Urea+MAP or others, parameters might be considered in order to guarantee a good fertilizer performance, such as appropriate fertilizer average size, dust and humidity content. Otherwise the blend might segregate at farm and excess and/or lack of certain nutrient will occur. This is not mentioned in the document and in Argentina for example does not work good.

See the attachments below

[Template\_CoCoFe\_V0\_aapresid.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Template_CoCoFe_V0_aapresid.docx)

[Fertilizer\_Code\_ZeroDraft\_FINAL2\_20180511\_aapresidreview.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511_aapresidreview.docx)

Best regards

## Ismail Cakmak, Sabanci University Istanbul, Turkey

It was not clear why there is too much emphasize on overuse of fertilizers, but little attention has been paid to adverse consequences of poor nutrition of crop plants with mineral fertilizers. The imbalance between low and overuse of fertilizers should be avoided. Below a few examples are given about the adverse consequences associated with inadequate mineral nutrition of crop plants.

**An adequate mineral nutrition is required for better tolerance (resistance) of crop plants to pathogen and pest attack**: Crop plants are facing diverse of threats if the mineral fertilizers are applied at low doses. Besides well-known decreases in productivity, a poor mineral nutrition increases high risk of pathogenic infection and pest pressure (see Lawrence et al., 2007 in Mineral Nutrition and Diseases, American Phytopathological Society; Dordas, 2008; Agron. Sustain. Dev. 28: 33–46). A suboptimal application of fertilizers raises a high risk for the use of pesticides and fungicides. There are many published scientific evidence demonstrating why a poor mineral nutrition makes the crop plants highly susceptible to pest and pathogenic attack (see Marschner, 2012; Relationship between Nutrition, Plant Diseases and Pests. In Marschner’s Mineral Nutrition of Higher Plants, Elsevier).

**Fighting human malnutrition with better plant nutrition**: An optimal mineral fertilization of plants is also required to produce more nutritious food for human populations, especially with micronutrients and protein. In recent years, a **biofortification concept** has emerged and developed as a novel strategy to improve nutritional value of staple food crops in order to combat hidden hunger (i.e., micronutrient deficiency) problem, especially in children and women living in developing world (Cakmak et al., 2010, Cereal Chem. 87:10-20; Bouis and Saltzman, 2017, Global Food Security, 12: 49-58). Hidden hunger refers to deficiencies of micronutrients including zinc, iron, selenium and iodine that affects about 2 billion people worldwide and causes serious health complications such as impairments in immune system, mental functions, and physical development. **Agronomic biofortification**, involving application of micronutrient-containing fertilizers, has been shown to be highly impactful and cost effective strategy for improving nutritional value of staple food crops with micronutrients and contributing to human nutrition (Valenca et al., 2017, Global Food Security, 12:8-114; Cakmak and Kutman, 2018, Eur. J. Soil Sci. 69: 172-180; Olum et al., 2018, Nutrients 10: 4/407, DOI: 10.3390/nu10040407 and <http://www.harvestzinc.org/>).

**Hidden hunger problem has also adverse impacts on economic development** and causes losses up to 5 % of gross domestic product in a given country having high incidence of micronutrient deficiencies (Stein, 2007, Food Nutrition Bull. 28: 125-134; Harding et al., 2018, Public Health Nutr. 21: 785-795).

The points raised above suggest that this Fertilizer Code of Conduct should emphasize the adverse consequences of low use of mineral fertilizers, at least regarding the increase in susceptibility of crop plants to pathogen and pest attack (otherwise it may lead farmers to apply more pesticides and fungicides). The zero draft document should also highlight the well-known potential and positive impacts of fertilizer strategy (agronomic biofortification) to reduce hidden hunger problem in children.

**Science is missed in the document**: Surprisingly, many sections of this “FAO report” are superficial and provide too much generic statements. I strongly suggest to avoid those generic formulations and statements. The document should be based on published, peer-reviewed scientific data/evidence (with a proper citation). I believe, this document can benefit significantly from a scientific panel consisting of experienced and well-recognized scientists and stakeholders in the field. Source of information given in the (revised) Code of Conduct should be provided by paying attention to authority, accuracy and currency of the corresponding information.

“The dose makes the poison”: As indicated above, the document focused mainly on overuse-related problems and concerns, and highlighted “responsible use” of fertilizers. These terminologies need a clarification and discussion to avoid misconceptions about mineral fertilization of crop plants. Science-based definitions and discussions are required. When this issue is discussed, it is important to remember the well-known fundamental statement on poisons made about 500 years ago by **Paracelsus** (the father of toxicology): **The dose makes the poison.** It is obvious: **too much of anything is toxic**. This FAO document should therefore give priority to optimal (or proper) use of fertilizers, while discussing the adverse consequences of both low use and overuse of fertilizers. Increasing awareness of the importance of the optimal use of fertilizers would be a useful and important message of this document.

**Listen to plants:** There is too much emphasize on soil test, soil maps and other geospatial methods for efficient and effective use of fertilizers and identification of suitable fertilizer formulations. These are fine and correct; but almost no attention is paid to leaf tissue analyses for effective use of fertilizers. Soil and leaf tests need to be combined for development proper fertilizer application rates. There are many situations where soil analysis results for mineral nutrients does not correlate with mineral nutritional status of plants or leaf tissue concentrations of the nutrients. In most cases, agricultural soils have many physical and chemical problems which restrict the nutrient acquisition capacity of roots, leading to poor correlation between leaf and soil analysis results. This document should also highlight importance of leaf tissue analysis (besides soil tests) in better and reliable fertilizer recommendations.

## Scott Angle, IFDC, United States of America

**General Comments on the CoCoFe Zero Draft**

**The document continues to be overly negative.**

Much of the document focuses on over application of fertilizers. We believe the benefits of fertilizers do not receive enough attention. A rebalancing of the document is needed – as we all know, needs and challenges vary by region.

**Why rush the process?**

With no deadline other than that which is self-imposed, we believe it better to stop and take a more considered approach. The stigma created by the rush means the document will not be universally received and is destined to become a political piece that invites friction. Consider a new approach that allows time for more consensus. Differences can be resolved, but the process of moving from division to consensus takes time. Forcing through the document will create unnecessary friction that could persist for many years.

Dr. J. Scott Angle

President and CEO of the International Fertilizer Development Center (IFDC)

Please respond to the questions leaving your comments below:

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

* On the title of the document, “International Code of Conduct for the Use and Management of Fertilizers” what does “Management” really mean? Management of fertilizer at what level of the value chain? If at the supply chain user levels, then the proper word is “handling” not management. If so, then management should be replaced with “handling” throughout the document.
* If management is the proper word for the title, then it implies a broader and more complex process along the value chain, which includes production and value addition (see the definition of fertilizer management in the document). The document does not address production to a large extent and instead just mentions it as rhetoric. However, the document emphasizes fertilizer use; therefore, perhaps “handling” is more appropriate than “management”.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

* The Zero Draft reflects little to none of the comments made by many contributors who provided useful responses on how to address the CoCoFe and its content. The efforts to give sound feedback seem to be fulfilling a formality.
* Regarding the CoCoFe goals of “minimizing” environmental impact and “minimizing” the negative effect of contaminant toxicity in the soil (i.e., heavy metals), the use of the word “minimizing” is a misnomer. By addressing the proper handling and use of fertilizer down the supply chain (especially at the farm level), this only reduces the negative effect of contaminant toxicity in the soil. To actually minimize, the CoCoFe would need to address the production process of fertilizer, which is the source of contaminants. Therefore, “minimizing” should be replaced with “reducing” throughout the text and when applicable.
* The introduction says the goal of the document is to maximize benefits and reduce environmental impacts. This is hardly the case. The content of the document is not balanced and focuses much more on reducing pollution rather than maximizing benefits.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

* The document addresses fertilizer overuse while downplaying underuse. For example: The CoCoFe was developed “to respond to the UNEA3 declaration on soil pollution” which implies overuse, unless soil pollution also includes degradation. Perhaps “degradation” should be defined as well? As it stands, the document may contribute to the negative view of fertilizer by focusing mostly on overuse. Underuse can also have negative environmental impact, not only through soil degradation, but also by reducing biodiversity of flora and fauna.
* Section 1.3 “monitoring the production” ­– If that is the intent, much more elaboration is needed to address the production and beneficiation process of fertilizer. This section currently does not do enough to address production and beneficiation issues, especially in the context of reducing contaminants and then minimizing their effects on humans, animals, and the environment by also addressing the handling and use of fertilizer.
* Fertilizer Misuse (p. 10) – This definition needs to be expand or reformulated. It addresses only the overuse of fertilizer and neglects the underuse, which is also a problem in many developing countries.
* Economic analysis is being shorted. It’s rarely mentioned, and yet the cost will determine what is approved. Recommendations should be driven through a cost and benefit analysis for evidence-based policy or regulatory recommendations and before they are approved. Some recommendations are not realistic and should be removed.
* Inorganic fertilizer and organic materials should be clearly defined and differentiated. Although both can be used as nutrients sources, one (inorganic sources) is standardized and the other (organic) is not since its nutrient content depends on the source of the materials. This becomes a problem when making nutrient use recommendations according to soil conditions and crops, especially in the context of ISFM.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

There is a lot of repetition of text, which is more noticeable in policy recommendations under the different sections of the document. We recommend consolidating these or focusing the recommendations according to the appropriate section.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate**.

* Sufficient time must be given to socialize the document among stakeholders, especially those the document is targeted to (players up and down the supply chain and farmers as end users). Otherwise the document will be perceived as an effort from an international bureaucratic group that is disconnected from the reality of the [smallholder] farming industry and countries’ political and socio-economic conditions, ending in a fruitless and futile effort. By getting feedback from stakeholders who will be affected by this document, it will truly be balanced.
* The document contributes to the skepticism of fertilizer use when fertilizer is labeled as a chemical product. The use of the word “chemical” feeds into the argument of those who are opposed to the use of fertilizer since it makes it comparable to actual agro-chemicals (pesticides, herbicides, fungicides, etc.). Recognizing that some fertilizer suffers chemical transformation, fertilizer should be labeled as mineral or inorganic rather than chemical.
* Continuing the above point, the Code of Conduct on the Distribution and Use of Pesticides can be used as a model, but agro-chemicals are not fertilizers and vice versa. They should not be treated as such. This includes recommendations on Labeling with stating the expiration date, etc. There is no precedent to treat containers as having held toxic chemicals, like pesticides, so Section 7.3.3 can be eliminated.
* Goals and Objectives are difficult to differentiate. The differences between Goals and Objectives should be better defined.
* Section 2 – Most of these terms and definitions exist and they are standardized. We should use the standardized terms and make reference to relevant sources.
* Section 3.5 – Are these policy recommendations? It should be stated what they are, and they should be based on evidence before being adopted.
* Section 4.10 – National universities and groups like IFDC can develop new fertilizers, in many cases, in collaborations with the private industry. New products should not be limited to the private industry.
* Section 4.10.3 – Protection from low-level chronic exposure? Is there evidence this is a problem to humans?
* Section 5 – There is a disproportionate focus on recycling. There seems to be poor understanding of all the work on biosolids conducted over the years. Much of what is called for here has already been done. We’re all in favor of recycling, but so little is done currently for very solid reasons. If the document focuses so much on recycling, then more experts need to weigh in and their feedback taken into account. There is no need to reinvent the wheel. Section 5.5.3 is a naïve statement.
* Section 7.1.6.4 – The government should not require all hazards to be listed.
* Section 7.2.6.5 – Businesses should offer incentives just as governments can (Section 4.7.2). While it’s observable that incentives have done harm, there are occasional reasons for doing so, such as when we first teach farmers that fertilizers can and do increase yields.

## Luca Montanarella, European Commission, Italy

Dear Colleagues,

On behalf of the European Commission please find enclosed the consolidated comments from concerned Europen Commissions's services.

[Template\_CoCoFe\_V0.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Template_CoCoFe_V0_0.docx)

[Consolidated EC Comments on the International Code of Conduct for the Use and Management of Fertilizers.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Consolidated%20EC%20Comments%20on%20the%20International%20Code%20of%20Conduct%20for%20the%20Use%20and%20Management%20of%20Fertilizers.docx)

We look forward to the next steps towards a rapid adoption of this very important Code of Conduct,

Best regards,

Luca Montanarella

## R. Shashi Kumar Shashi Kumar, Bangalore University, India

Yes, the Code of Conduct for the Use of Management of Fertilizers is beneficial and useful very much. It would be more beneficial to the farmers because of fixation of price as well as the clear understanding of availability of fertilizers in different point of time.   I feel the subsidy factors could have been highlighted in different way.

## Robert Norton, University of Melbourne, Australia

In terms of a global guideline for nutrient management, it seems that the comments below seem to vary from a code that will provide guidance to farmers or as a broader policy framework for governance. The former would seem adequately covered in the 4R nutrient stewardship principles which have wide acceptance in industry and with growers. These principles have been applied in a wide range of situations and cover the important aspects of nutrient management for a sustainable future. As such they should be strongly referenced and applied by advisors and growers - it is the principle of management espoused by 4R and supported by science that is critical not the detail for particular situations that seems to cloud the direction of this code.

It would be disappointing scientifically as well as challenging soil health, food security and the environment if some of the opinions in the comments section became embedded in an important code. Fertilizers feed half of the global population and directly address soil health through replacing nutrient that are moved along the food chain. This is such a complex and significant issue that simple or simplistic solutions will not address the challenges we face. Because the problem is multi-dimensional, the solutions will also be manifold and will have particular applications in particular situations - but I propose that these would fit well into the 4R framework meaning effective communication to stakeholders.

The document provided seems to have a lot of repetition in it which may, or may not be useful in the way it is interpreted. There also seems to be a need for a much wider stakeholder consultation than one month and the 50 contributions noted below.

## Samuel Francke Campaña, Chile

Dear colleagues,

I propose one additional chapter about environmental protection measures and practices to avoid negative impact of use fertilizer in the ecosystem.

See the attachment below

[9 ENVIRONMENTAL PROTECTION.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/9%20ENVIRONMENTAL%20PROTECTION.docx)

Best regards,

Dr Samuel Francke Chile

## Mohamed Zain, Arab Fertilizer Association, Egypt

Dear colleagues,

Kindly find attached our answers for your questions. We grab this opportunity to introduce our Association (ARAB Fertilizer Association) as representative of the Arab fertilizer producers.

AFA comprises Arab industrial companies working in the fields of fertilizers manufacturing and trading, in addition to other related fields. It further includes 180 Arab and foreign company members from twenty-nine countries from all over the world.

The Arab Region products counted for around 68 % of TSP World production, 37% of DAP production & about 70% of phosphate rock world trade, 50 % of TSP world trade, 41 % of Urea World Trade, together with 25% and 30, 4% of Ammonia, Sulphur and potash markets respectively.

As (AFA), we are supporting with the International Fertilizer Association (IFA)’ comments as we are totally agree with the development of such an important matter, but in the same time we recommend that on such as important document should have more time to discusses to improve its quality benefit and relevance for the fertilizer industry and its stakeholders.

In summary, I think we still need more time to revise several of the terms and definitions, and we recommend to postponed the adoption and give more time to all our stakeholders to read, understand it and make any suggestions for improvement as the time mentioned is not enough to discuss such an important subject related the important role of fertilizer & by our tern we will discuss this document during our next Int’l Economic & Agricultural forum beside the next Int.l technical conference in 2019 and we will organize a special Agri-experts workshop to discuss how we can improve this document & it worth to mention that we already work on such as this improving by conduction several workshops on fertilizer efficiency use and translate the IPNI‘s issue (4R Nutrient Stewardship ) to Arabic to reach our end customers ( the farmers in Arab Region) & issued the first handbook on 4R fertigation.

See the attachment below

[Answers.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Answers_2.docx)

## Benoit Lambert, soil4climate, soil-age, Sols Vivants Québec, Biochar Generation, Canada

Thank you for this important effort.

I am soil4climate, soil-age, Sols Vivants Québec advisory board member.

Involved with biochar, a structuring soil amendment than can hold and retain fertilizers — member of the International Biochar Initiative.

Our comments:

* Shall present soils as a living organism — a quality attributed to animals, human, the general environment, but not to soils.
* Let’s underline carbon as a driver of fertility, of water retention and absorption, and, of climate change reversal.
* Underestimation of chemical fertilizers in reducing, by oxidation, carbon content in soils — especially when combined with soils’ tilling. World agriculture lands have lost 50-70% of their carbon content (R. Lal).
* Synthetic fertilizers are not renewable. They will peak, and deplete. Strong dependence of some synthetic fertilizers on depleting fossil-fuels.
* We could see more of a holistic approach, including healthy soils’ services: erosion control, healthy soils bringing biodiversity, water retention of soils with high carbon contents, historical co-evolution of soils and big herds of wild animals and need for proxies. We could read more: circular economy, potential of organic fertilizers for ‘regenerative agriculture’ and soils’ restoration, biodiversity for a livable climate, ecosystems restoration for global warming reversal.

Kind regards,

Benoit Lambert, PhD

## Ke Jin, Chinese Academy of Agricultural Sciences, China

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, absolutely it is useful. Because it place an obligation to all the for all the stakeholders on the fertilizer use chain. It also provides a reference for the government to stipulate national code to improve and standard the fertilizer market and develop and refine evidence-based fertilizer recommendations.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

Yes.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

No.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

Yes. I think that some articles in the code just goes too detail oriented, such as define programs for regulating fertilizers by government.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

What I concern is that the code might impress the public that fertilizer is such a hazard chemical product as pesticide/pestcide. It might exaggerate the negative impact of fertilizer application on environment. We must bear in mind that chemical fertilizer might have a negative impact on environment in case fertilizer is improper or inappropriate used, but it could be avoided if it is applied reasonably. Similarly, fertilizer might have some negative effect on the human health if it is disposal incorrectly, but it is not fatal.

My another concern is who will be responsible for the implement and assess the outcome of code? I suggest that a secretariat specified on the code implementation could be set up under the frame of FAO.

See the attachment below

[Fertilizer\_Code\_ZeroDraft\_FINAL.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL.docx)

## Duniesky Domínguez Palacio, Instituto de Suelos, UCTB P. del Río, Cuba

The CoCoFer is a very necessary document for the actual and future generation. The live is environment dependent. The humanity will go so far as the environment will be preserved. Then, the CoCoFer document will need to respond to governments, farmers and industries demand, but in first place to the protection of the environment and the increasing of food production and its quality.

The CoCoFer document will need to be clearing and explicit, indexing more concept, terms and definition related to the type, form, use and management of fertilizers, and on the other hand, to define the permissible limits of these elements.

Best regards,

MSc. Duniesky Domínguez Palacio

Investigador Agregado

Instituto de Suelos, UCTB P. del Río

## Kambiz Bazargan, Soil and Water Research institute, Iran

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes, of course it is. I think it is more useful for the governmental managers in fertilizer management.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

I think yes.

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

I think we have to pay attention to all materials that are using for fertilizing. There was not good attention to soil conditioners and soil amendments in this document, also about materials that are using as plant growth promoters or anti stress and so on, because of that, I propose to change the title to “Fertilizing Material Code of Conduct”

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

No

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

As I mentioned above I propose to change the title to “Fertilizing Material Code of Conduct” and change the term “Fertilizer” to “Fertilizing Materials” in whole of the document. I defined “Fertilizing Materials” in the attached file as has been defined before in some documents.

I have also some comments and small corrections that have been done in the document attached. <http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fertilizer_Code_ZeroDraft_FINAL2_20180511-1.docx>

## Daniel Nahon, Aix-Marseille Université, France

The CoCoFe zero draft should be greatly improved before being an international Code of conduct.

1- First many scientific result presented as scientific proofs in this code are unconvincing assertions. For example sources of heavy metals pollutions are not really demonstrated. The work must keep on considering the isotopic ratios of cadmium, lead etc.because sources are several (industry, fossil combustibles, the parent rock and the original soil itself, the geological context, airborn nanoparticles).Only such studies should be deciding factors and by the way the different sources of pollution could be quantify.

2- roles of fertilizers and pesticides have not to be treated or even presented on the same rank. The negative impact developped by pesticides use is real. It is a danger for health of human population and animals.

3- How to ensure the feeding of the world population and to diminishe poverty? To day more than 50 % of people can survive thanks to the use of fertilizers. And considering the risk of use of organic fertilizers is higher than that of mineral fertilizers because developpement of bacteria strongly increase the risk for health. 10 to 20 millions of croppable lands are degraded each year because of bad agricultural practices which lead to a strong erosion of soil and then a loss of nutrients. It turns out that fertilizers use only can ensure the renewal of nutrients in the soil. Most of farmers and stakeholders have not the slightest hint that mineral fertilizers could restore the soil fertility when nutrients have gone along with clay minerals through soil erosion.

And to restore or to enhance soil fertility can keep food production and to be actually a breakthrough for feeding poor populations. FAO does not forget that hunger continues to lag behind. To provide enough food for humans must be the main target.

Daniel Nahon

Professor at Aix-Marseille University (AMU)

President of directoire de la recherche of AMU

Member of Institut Universitaire de France ( chair of soil science)

## Samuel Tetsopgang, University of Bamenda, Cameroon

Thanks for this "International Code of Conduct for the Use and Management of Fertilizers". This is a comprehensive Code of conduct for the use and sound management of fertilizers worldwide. However, in a developing country such as Cameroon, there is a poor management of governmental institutions, not only in this aspects, but almost in all aspect of societal life. There is almost an inexistent regulation regarding the use and management of fertilizers. And this is not going to change soon. In addition, most fertilizers are imported in the country. May be some fertilizers are packed inside the country. Then, I propose to strengthen the policies regarding the international trade of fertilizers. In addition, a survey regarding the current practices on the use and management of fertilizers in a country such as Cameroon may help to come out with a stronger Code of conduct regarding this issue.

Then, find below answers for some of the questions you required:

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

Yes. To the stakeholders in charge of use and management of fertilizers

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

No. Since many aspects of this code depend on the governments. In case of poor governance, this is going the affect the code

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

International trade is going to affect the use and management of fertilizers specially in countries with poor governance

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

I propose to strengthen the policies regarding the international trade of fertilizers.

## France

**Is an International Code of Conduct for the Use and Management of Fertilizers beneficial and useful? To whom, and why?**

First of all, it is important to make clear that the code is a no binding document. The title should be change accordingly to reflect that: replace “International code of conduct” by “Voluntary code of conduct for….”

The code might be useful, provided:

* it is clearly linked with VGSSM ;
* it is clear for users that fertilization need a global agronomic approach, as crops rotation for instance, is a key point : this code should not been seen as the “alpha and omega” used in isolation regarding fertilization
* it gives broad guidance without entering into too precise details as fertilization is much dependent of local context
* it is consistent and relevant for all countries, be they more or less developed.
* it covers the totality of the field concerned, from the production to the use of fertilizers ;
* it  takes into due account both sectorial issues and public interests ;
* it gives a sufficient place to farmers as they are  the main concerned users of fertilizers

In these conditions, it could be useful to policy makers, fertilizer manufacturers, users, farm advisers, fertilizer stakeholders and consumers of the food produced thanks to their use, and stakeholders affected by impacts of production and use of fertilizers.

Circular economy is increasing as a necessity to supply sustainable fertilizer. The production of fertilizers will become more complex and more diverse, including wastes from variable quality: the protection of farmers, users and consumers requires to take in consideration use of fertilizers, but also their production, to ensure safety of the entire chain from production to safe food production.

**Does this Fertilizer Code of Conduct address all aspects necessary to ensure the responsible use of fertilizers, optimizing benefits while minimizing risks?**

No: Point 1.3 that states: “1.3. The intent of the Fertilizer Code is to assist countries in the establishment of systems for monitoring the production, trade, distribution, quality, management and use of fertilizers to achieve sustainable agriculture and the Sustainable Development Goals (SDGs) by promoting integrated, efficient and effective use of quality fertilizers with the following outcomes: “. However:

1. While the steps management and use are presents and widely developed, fertilizers production, trade, distribution, quality (including soil health, and food safety) are only delegated to government responsibility, especially circular economy and pollution considerations, even if the 2018 world soil day is “be the Solution for Soil pollution !”.   Directives have to be added for producers, without waiting the step of state controls.

Indeed, fertilizers bring nutrients to the plants but may also bring pollutants to the soil and affect environment, production and health of food producers and consumers: the Code must highlight the important step of fertilizer production.

1. Promotion of integrated, efficient and effective use of fertilizers needs to integrate soil consideration but also climate and especially water availability: even with high quality fertilizers and positive soil properties, plant production is conditioned upon water availability. This point is missing in the current proposition and has to be improved.

NB: We propose reformulation to point 1.3 so that it is more consistent with Point 1.2 (see the French proposed amendments to the code at the end of this document)

**Are there any topics or subject matter missing from this Fertilizer Code of Conduct? If so, what are they?**

Yes, see above and on following boxes + French authorities amendments.

**Are there redundancies or unnecessary items or subjects within this Code of Conduct? If so, what are they?**

Regarding the use of nitrification inhibitor, further risk analysis on medium -long term impacts on soil is necessary. Indeed nitrification is a natural process, we don't have enough evidence so far on possible impacts on soil due to its inhibition. Furthermore, impacts on human heath have to be assesed. The same applies for urease inhibitors. Reference to these inhibitors should be cautious.

Parts 3 and 4 have redundancies, about fertilizers management.

It is desirable to produce many significant amendments and additions before to obtain a document suitable to be validated by the COAG (see attached document). A best established document will be more profitable for all the stakeholders and for GSP and ITPS credibility.

**Do you have any other suggestions or comments not covered in the above questions? If so, please elaborate.**

See following (attached, Ed.) document to obtain a document suitable to be validated by the COAG.

 [CoCoFe\_ réponse FR\_20180718.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/CoCoFe_%20r%C3%A9ponse%20FR_20180718.docx)

## Closing message

Dear Forum members and contributors to the online consultation,

Thank you for all for the contributions and feedback over the course of this consultation to review and revise the International Code of Conduct for the Use and Management of Fertilizers.

Feedback and comments were received from over 50 contributions to the exchange. Contributors from a broad geographic perspective included representatives of member countries, academia, NGOs, research institutions, civil society, fertilizer industry associations and companies. The full proceedings of the consultation are available here on the forum webpage.

In summary, there was consensus that a Fertilizer Code of Conduct is timely and needed given the importance of nutrient management from a global food security perspective, the need to prevent the conversion of natural lands to agricultural uses and from land degradation, and to address potential negative impacts of fertilizers.

It was generally agreed that the Fertilizer Code addressed all aspects related to optimizing benefits and minimizing risks of fertilizer use and management. However, there were some comments suggesting that the Fertilizer Code was too focused on the benefits of fertilizers rather than their negative impacts on the environment and animal and human health, and thus could be seen to be promoting the use of fertilizers and the interests of the fertilizer industry. On the other hand, there were a number of comments suggesting that the Fertilizer Code was biased towards highlighting the negative effects of fertilizers and not promoting the benefits of fertilizers sufficiently. The development of the Fertilizer Code, subject to this review, was assisted by a technical OEWG with expert representation from member countries, fertilizer industry and interested NGOs. Broad agreement was reached amongst the OEWG in regard to balancing benefits and risks of fertilizer use, thus any suggestions to change the Code in terms of further highlighting either the benefits or negative impacts of fertilizers are well-noted and recorded, however no significant changes will be made to the text in this regard.

There were some comments regarding what was missing from the Fertilizer Code, particularly specific items such as liming agents and vermicomposts, or strategies to manage fertilizer use at the field level. Where appropriate specific items will be included as examples. General strategies for managing plant nutrition are certainly referred to within the text, however it is beyond the scope of the Fertilizer Code to include specific strategies and recommendations for the use of fertilizers, nor specific policies or allowable limits on contaminants. Such information exists and should be collated into a supporting toolkit or knowledge hub containing examples, guidelines and other materials to help formulate fertilizer management policies and assist in making decisions for specific fertilizer management practices.

Within the feedback and comments, there were also many suggestions for ways to refine the document. Where appropriate such suggestions will be incorporated, however no large changes or alterations from the original text, tone and sentiment of the document will be made at this point as this had been previously agreed by the OEWG. The feedback however is documented for the record and can be used for future refinements of the Fertilizer Code, or for reference by member countries who will adopt the Code.

There were a number of comments, a significant number of which were from the fertilizer industry associations and representatives, that the Fertilizer Code was developed in too short a time frame. It was agreed by the OEWG that this initiative is urgently needed by many countries to support governments to manage the multiple aspects along the fertilizer supply chain including the regulation, quality, proper handling and proper use of fertilizers, as well as minimizing and reducing the negative impacts of fertilizers. This sentiment was also supported by the majority of the GSP Plenary. It was also highlighted by many member countries that they urgently require such a Code of Conduct related to fertilizers, and as such strongly supported its rapid adoption.

As a result of this consultation, a revised version of the Fertilizer Code of Conduct will be presented to COAG 2018 with the suggestion that it be adopted and that a review of the Code occur in 4 years’ time, thus allowing the assessment of the usefulness of the application of the code, further stakeholder engagement and buy in, and subsequent refinement. A report as such be would be presented to COAG in 2022.

Again, many thanks for all your support in assisting the development of such an important tool to help address the challenge of managing fertilizers to address food security and nutrition, while preserving the environment.

Sincerely,

Debra, Gary, Robert, Ronald and Zineb