

**PUBLIC CONSULTATION ON COMMISSION RAW MATERIALS  
INITIATIVE: CONTRIBUTION OF THE EU-PEARLS CONSORTIUM**

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## **Context and justification**

This submission represent the opinions of the members of the EU-PEARLS consortium ([www.eu-pearls.eu](http://www.eu-pearls.eu)), a Large Collaborative Project (FP7) aiming to develop alternative crops for the production of natural rubber in Europe. The EU-PEARLS consortium is a collaborative network of European research organisations and industrial participants. The EU-PEARLS project includes the collection and creation of new germplasm, and research into the biochemistry and genetics of rubber biosynthesis, breeding and agronomy of guayule and Russian dandelion, processing of the crops, and product development.

EU-PEARLS is funded under the Seventh Framework Programme for research and technological development. The total budget is 7.7 million Euros, 5.6 million of which will be covered by EU-funding. The 11 partners are located in 7 countries (see table below). The Czech Republic, France, Germany, Spain, The Netherlands are EU-partners, Switzerland is an Associated Country, and Kazakhstan is an International Co-operation Partner Country (ICPC). The official starting date of the project is April 1, 2008. The project is set to run for a period of 4 years.

A major factor in obtaining EU-funding has been the recognition by reviewers and the Commission that natural rubber is a strategic raw material. We feel that this is not reflected adequately in the Raw Materials Initiative. Thus, we feel it is appropriate to answer the public consultation and provide input on the questions below.

The comments of the EU-PEARLS consortium mainly concern the choice of critical raw materials (Questions 1-6) and trade aspects (Questions 7-10). The remaining questions concern issues that are generally outside the scope of the EU-PEARLS consortium, or not relevant until questions are formulated that also concern raw materials outside the metals and minerals categories. Questions related to the policy area: "improvement of the regulatory framework conditions inside the EU" are generally geared towards geological questions. We do provide a short general opinion on policy questions relevant to natural rubber below Questions 16-20. Questions 21-29 are not answered.

## **QUESTIONS FOR THE POLICY AREA: DEFINING CRITICAL RAW MATERIALS.**

*Q1. Do you have any comments on the methodological approach, including the scope, to determine criticality at EU level? If so, please specify.*

The RMI report states: The methodology is based on estimating long-term availability of a raw material as a function of changes in the geopolitical-economic framework that impact on the supply and demand of raw materials. Raw material is labeled “critical” when the risks of supply shortage and their impacts on the economy exceed those of most other raw materials. The supply risk takes into account the political-economic stability of the producing countries, product concentration, potential for substitution and recycling.

It is our opinion that in a first round, a much longer list of raw materials should have been presented, including fossil fuels, natural rubber or other materials derived from forestry, agriculture, and other biomass sources, water, helium and other noble gasses. If natural rubber is included in the list of critical raw materials, climate change, pests, plant disease, socioeconomic development and other issues become major factors in the analysis. Also, climate change may well become a very disruptive force in producer countries through its direct and indirect effects on production factors, such as the availability of energy, water, building material, transportation, worker health and safety. This is the case not only for natural rubber, but for all critical raw materials.

As a general comment, the scope of the report is limited to minerals and metals. It is not evident why this is so, as a lack of many other raw materials would be equally disruptive to society. The report does not contain any information on the selection process that stands at the basis of the Raw Materials Initiative.

*Q2. Do you see any additional raw material that should be considered as critical? If so, please explain.*

The list presented in the report (Critical raw materials for the EU. Report of the Ad-hoc Working Group on defining critical raw materials, available on [http://ec.europa.eu/enterprise/policies/raw-materials/documents/index\\_en.htm](http://ec.europa.eu/enterprise/policies/raw-materials/documents/index_en.htm)) only concerns minerals and metals. We have no comments to selections within this category. Outside this category, a long list of candidates for critical raw materials can be presented that – in our opinion – are of similar or even higher importance than many of the minerals and metals discussed.

Based on our particulate interests, we focus on natural rubber in this response. Natural rubber is a strategic raw material, access to which has been limited in the past during wars and conflicts. Additional threats have emerged recently or exist already for over a century. This is of eminent importance, as natural rubber is a unique, valuable and environmentally friendly raw material that is essential to industry, medicine, personal care, and transportation, and often cannot be replaced by synthetic – petroleum – based materials. It’s price is determined by local factors (weather, investments, restocking of plantations), the global market (China and other Asian countries

expected to consume more than 40% of world production by the year 2020), and the oil price (due to competition with synthetic rubber). Thus, secure access to natural rubber is a strategic issue for tyre manufacturers and other users, but also the military, and by extension the countries depending on natural rubber imports.

Several treats have been identified:

- Climate change, which already affects producer countries in South-East Asia: production in 2009 was lowered by 5% due to severe droughts on the Indochina peninsula, and heavy rains during the tapping season in Indonesia.
- Socioeconomic changes are leading to increasing labor costs in producer countries and fewer workers available for tapping.
- Competition for land by oil palm, food, nature reserves, and other uses is increasing. In many regions, palm oil plantations are replacing rubber tree plantations, as harvesting and processing of palm seeds is much less labor intensive.
- Trade restrictions, including bilateral agreements with consumer countries in the region (for example China) and the possible establishment of a producer cartel, may limit the amount of natural rubber available on the free market.
- Accidental introduction to South-East Asia of the potentially devastating fungal pest *Microcyclus ulei* causing South American Leaf Blight (SALB), which cannot yet be countered by chemical or biological treatments, and to which no durable resistance of the rubber tree has been obtained.
- Biological warfare: SALB is recognized as a potential biological weapon capable of creating havoc in producer as well as consumer countries by the US military (see: [http://www.nap.edu/openbook.php?record\\_id=12028&page=114](http://www.nap.edu/openbook.php?record_id=12028&page=114)) and the United Nations Office on Drugs and Crime<sup>1</sup>. "To this day a single act of bioterrorism, the systematic introduction of fungal spores so small as to be readily concealed in a shoe, could wipe out the plantations, shutting down production of natural rubber of at least a decade. It is difficult to think of any other raw material that is as vital and vulnerable", and "After a century the threat of South American leaf blight and the vulnerability of the Far East plantations continue to hang like a Damoclean sword over the neck of the industrial world"<sup>2</sup>.
- Local conflicts (war) may limit access to natural rubber or destroying production capacity or infrastructure.

In the near or midterm future any of these identified threats and further unrecognized threats may drastically limit access for European countries to natural rubber. European tyre producers are worried that ongoing developments may lead to an increase in the production of finished rubber good in Asia, and the closing of tyre factories in Europe.

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<sup>1</sup> Lieberei, R. (2007). "South American leaf blight of the rubber tree (*Hevea* spp.): New steps in plant domestication using physiological features and molecular markers." *Annals of Botany* **100**: 1125-1142.

<sup>2</sup> Wade Davis: "One river – explorations and discoveries in the Amazon rain forest" (1996). Simon and Schuster, New York ISBN 0-684-83496-0. page 371

*Q3. Do you have any comments regarding the recommendations of the report? If so, please specify.*

The RMI recommends promoting exploration and research in processing, good governance, and sustainable use. This should be general practice for all raw materials, including natural rubber. It goes without saying that efficiency of material usage, recycling, prevention of waste, and minimizing the amount used, are necessary for all raw materials (also if no obvious threats to the supply of a raw material exist).

*Q4. Are you aware of any initiatives in your country that aim to assess the criticality of raw materials? If so, please describe briefly.*

We are not aware of initiatives with the same scope (i.e. minerals and metals). Concerning natural rubber, the European Commission has funded a Large Collaborative Project under FP7 to investigate and establish new crops as alternative sources of natural rubber for Europe (EU-PEARLS, [www.eu-pearls.eu](http://www.eu-pearls.eu)). The EU-PEARLS consortium consists of universities, research institutes and commercial enterprises in the Netherlands, France, Germany, Spain, the Czech Republic, Switzerland, and Kazakhstan. A critical argument in obtaining funding has been the fact that natural rubber is a strategic material and that the future supply of natural rubber is not guaranteed.

The European Tyre and Rubber Manufacturers Organisation ([www.etrma.org](http://www.etrma.org)) has also prepared a response to the public consultation that provides the perspective of the European tyre manufacturers, including their worries about the unhindered supply of natural rubber.

*Q5. The functioning of raw materials markets has not been dealt with. Do you think that further analysis of their functioning should be carried out? What actions should be proposed to increase their transparency?*

A further analysis of the functioning of the raw materials markets, including natural rubber, and including the limits of free markets, should be carried out. An obvious trend on world markets for strategic materials is that countries increasingly try to establish bilateral agreements in order to obtain security of supply. This removes significant – increasing – amounts of specific raw materials from the world market, which is an increasingly important issue for specific metals and minerals, but also for natural rubber and other raw materials.

Critical raw materials are almost by definition strategic raw materials. Free markets exist and function only if a particular resource is abundant enough to be supplied at affordable prices. Even then, geographical concentration of a resource, or disproportionate influence of a limited number of buyers, can lead to cartel formation and state influence, as it becomes more profitable to control the market than to depend on the free market.

In the case of natural rubber, the main producer countries appear to be in the process of establishing a cartel, which has succeeded in putting a lower bound on the price of

natural rubber during the 2008/2009 rubber demand crisis. The ITRC (International Tripartite Rubber Corporation between Thailand, Indonesia and Malaysia) was established in 2001 to address the problem of oversupply and low rubber prices) agreed not to sell latex under the price of 1.35 USD/kg as of 1 Jan 2009. As of October 2009, the export limitations were lifted again, because the price recovery was supported by other factors such as production limitations due to local droughts in Thailand, Laos, Vietnam and Southern China, and abnormally rainy weather in Indonesia (leading to a 5.1% drop in supply in 2009), a tight labor market in Malaysia, and continued strong demand growth from China. This demonstrated that natural rubber producers have at least some control over the market.

*Q6. Do you think that the EU should propose a system of stockpiling for the critical raw materials? If so, please indicate whether you consider it more appropriate to do this at Community or alternatively at Member States level.*

Stockpiling is a possible solution if local production is not possible and stable short- and midterm future supply is not guaranteed. Obviously, care should be taken that markets are not distorted during build-up of an emergency stockpile. In the case of fossil fuels, it is taken for granted that a stockpile is essential because of previous experiences (oil crises, war, embargoes). Stockpiling of natural rubber was an issue in the United States, Germany, former USSR, and other countries at various points in time, but especially during WWII. An issue to consider here is the gradual deterioration of stocks, thus, stocks would have to be managed carefully and renewed at regular intervals.

Current developments concerning a range of raw materials suggest that it is not wise to fully trust the functioning of the free market, especially if local economies or infrastructure are disrupted by climate change or war, plant diseases destroy significant parts of the production base, or bilateral trade agreements remove a substantial fraction of the available material from the world market.

## QUESTIONS FOR THE POLICY AREA: TRADE

*Q7. Do you think that the importance of trade is adequately reflected in the work carried out so far in the Raw Materials Initiative?*

The EU puts great trust in the capabilities of international organizations to foster free trade, settle disputes, and counter export restrictions. In the case of strategic goods, national interests will take (are taking) immediate priority, also in countries claiming to favor free market practices. Also, opportunities to form trade cartels, monopolizing the supply of a certain material, will generally be taken, irrespective of trade agreements, if the producers stand to gain significantly. Therefore, policies should be developed for cases where trade agreements are not effective (extending the recommendation to: “engage without reservation in consultations with third countries whose policies are causing distortions on international raw materials markets in order to discourage certain policy measures and to request adherence with market forces”).

*Q8. Do you have any comment regarding the main findings of DG Trade activity report? What activities should be prioritised? Are there, in your opinion, additional activities not mentioned in the report which should be pursued in this strategy?*

No comments, as none of these activities are geared towards natural rubber

*Q9. Please identify trade distortive measures (i.e. export restrictions) concerning raw materials that in your view should be tackled.*

In the case of natural rubber, the ITRC (International Tripartite Rubber Corporation between Thailand, Indonesia and Malaysia) has already succeeded in putting a lower bound on export prices in early 2009. From the perspective of the producer countries, this is a logical approach to protect producers and workers: the free market has unwanted side-effects. Measures to protect the immediate interests of the local population are often popular, irrespective of their long-term effects.

*Q10. Are you aware of any initiatives in your country that have one of the above goals in mind such as, for example, developing a raw materials diplomacy, or supporting companies to invest in third countries in the raw materials sector? If so, please describe briefly.*

No

## QUESTIONS FOR THE POLICY AREA: DEVELOPMENT

*Q11. What specific actions would you consider most relevant needed in the following areas:*

- *Good governance;*
- *Infrastructure / investments;*
- *Geological knowledge / skills.*

No comment (EU-PEARLS focuses on developing crops for cultivation in Europe)

*Q12. Regarding transparency, what measures do you believe the EU should take to foster revenue transparency in the mining industry in raw material resource rich countries? What are your views regarding existing initiatives currently being taken in this area, namely by the Extractive Industries Transparency Initiative (EITI6)?*

This is not relevant to natural rubber as most production costs (60-70%) are related to tapping, thus to wages, which provides significant transparency on the production costs. Payments by companies to governments and to government-linked entities, as well as transparency over revenues by those host country governments, are not an issue here.

*Q13. Concerning the recent agreement between the European Commission and the African Union Commission, in your view, what concrete objectives, targets and deliverables should be included in such a partnership?*

About 70% of natural rubber is produced in Malaysia, Indonesia and Thailand. These countries cover 85% of worldwide natural rubber exports. Rubber produced in African countries (currently only about 5 % of world production) could provide a critical backup source if plantations in South-East Asia are devastated by South American Leaf Blight or erratic weather. It also is an independent source less likely to be affected by trade restrictions. Therefore, it would be prudent to help African countries in restocking and developing their rubber tree plantations.

Also, alternative sources of natural rubber should be studied and tested under local circumstances, as currently attempted by the EU-PEARLS consortium. For example, guayule can be cultivated in Mediterranean countries and North Africa, while Russian dandelion can be cultivated in countries of temperate climate. These potential crops need breeding efforts, and the development of agronomic practices and processing technology, which will take collective efforts significantly extending the current EU-PEARLS project.

*Q14. Do you consider that wood should be addressed in the framework of development policy? If yes, please specify what are the main issues to be analysed.*

No comment.

*Q15. Are you aware of any initiatives in your country that contribute to promoting exploration and exploitation of mines in developing countries? Should such initiatives be better coordinated or promoted at the EU level?*

This is not directly relevant to natural rubber, however, by extension, new sources of natural rubber should be identified, studied and established. This activity should be coordinated and promoted at the EU level.

## **POLICY AREA: IMPROVEMENT OF THE REGULATORY FRAMEWORK CONDITIONS INSIDE THE EU**

(The RMI report covers the following topics:

- Minerals Policy
- Land use planning policy for minerals
- Authorisation and permitting procedures
- Achieving Technical, Environmental and Social Excellence
- Improving the EU's geological knowledge base
- Better networking between the national Geological Surveys
- Need to integrate terrestrial sub-surface information into the GMES Land Service)

*Q16. Do you agree that these topics correspond to the major challenges in this policy area? If not, please specify.*

*Q17. Do you think of any other avenues which should be followed by the Commission? If yes, please specify.*

*Q18. Do you agree with the recommendations made in the report on "Exchanging Best Practice on Land Use Planning, Permitting and Geological Knowledge Sharing" or do you have any specific ones to be added. Please explain.*

*Q19. Do you consider it useful to establish an EU geological service based on a network of Member State geological services?*

*Q20. Do you consider that EU regulatory framework conditions for wood and/or recovered paper need to be further analysed? If yes, please specify.*

As formulated (with an emphasis on geology), these questions are not directly relevant to natural rubber. However, the regulatory framework will be of eminent importance to support the development of alternative crops for the production of natural rubber. The current policy environment (support for new crops, strategic materials, renewable materials, industrial policy) does not adequately support the establishment of alternative sources of natural rubber. The most promising opportunity for support of alternative rubber crops lies in the recognition that natural rubber is a strategic material. Thus, the EU should consider building up a small processing industry to gain experience and knowledge, which could be used for rapid scale-up in the event of long-term or sudden supply constraints.