

CHAPTER IX
INDUSTRY, SCIENCE, TECHNOLOGY, ENERGY, NATURAL RESOURCES
AND ENVIRONMENT

Article 48

Industry

1. For the purpose of promoting industrial development of Member States and integrating their economies, Member States shall within the Community harmonize their industrialisation policies.
2. In this connection, Member States shall:
 - (a) Strengthen the industrial base of the Community, in order to modernize the priority sectors and foster self-sustained and self-reliant development;
 - (b) Promote joint industrial development projects at regional and Community levels, as well as the creation of African multinational enterprises in priority industrial sub-sectors likely to contribute to the development of agriculture, transport and communications, natural resources and energy.

Article 49

Industrial Development

In order to create a solid basis for industrialisation and promote collective self-reliance, Member States shall:

- (a) Ensure the development of the following basic industries essential for collective self-reliance and the modernisation of priority sectors of the economy:
 - (i) Food and agro-based industries;
 - (ii) Building and construction industries;
 - (iii) Metallurgical industries;
 - (iv) Mechanical industries;
 - (v) Electrical and electronics industries;
 - (vi) Chemical and petro-chemical industries;
 - (vii) Forestry industries;
 - (viii) Energy industries;

第九章 工业、科学、技术、能源、自然资源与环境

第四十八条

工业

1. 为促进成员国工业发展并实现经济一体化，成员国应在共同体内协调其工业化政策。
2. 为此，成员国应：
 - (a) 加强共同体的工业基础，以实现优先部门的现代化，并培育自主可持续发展；
 - (b) 推动区域和共同体层面的联合工业发展项目，并在可能促进农业、交通运输、自然资源与能源发展的优先工业子部门中创建非洲跨国企业。

第四十九条

工业发展

为奠定坚实的工业化基础并促进集体自力更生，成员国应：

- (a) 确保发展以下对集体自我依赖和经济优先部门现代化至关重要的基础工业：
 - (i) 食品与农业基础工业；
 - (ii) 建筑与建设工业；
 - (iii) 冶金工业；
 - (iv) 机械工业；
 - (v) 电气与电子工业；
 - (vi) 化学与石油化学工业；
 - (vii) 林业工业；
 - (viii) 能源工业；

- (ix) Textile and leather industries;
- (x) Transport and communications industries; and
- (xi) Biotechnology industries;
- (b) Ensure the promotion of small-scale industries with a view to enhancing the generation of employment opportunities in Member States;
- (c) Promote intermediate industries that have strong linkages to the economy in order to increase the local component of industrial output within the Community;
- (d) Prepare master plans at regional and Community levels for the establishment of African multinational industries particularly those whose construction cost and volumes of production exceed national financial and absorptive capacities;
- (e) Strengthen and establish, where they do not exist, specialised institutions for the financing of African multinational industrial projects;
- (f) Facilitate the establishment of African multinational enterprises and encourage and give financial and technical support to African entrepreneurs;
- (g) Promote the sale and consumption of strategic industrial products manufactured in Member States;
- (h) Promote technical co-operation and the exchange of experience in the field of industrial technology and implement technical training programmes among Member States;
- (i) Strengthen the existing multinational institutions, particularly, the African Regional Centre for Technology, the African Regional Centre for Design and Manufacture and the African Industrial Development Fund;
- (j) Establish a data and statistical information base to serve industrial development at the regional and continental levels;
- (k) Promote South-South and North-South co-operation for the attainment of industrialisation objectives in Africa;
- (l) Promote industrial specialisation in order to enhance the complementarity of African economies and expand the intra-Community trade base, due account being taken of national and regional resource endowments; and
- (m) Adopt common standards and appropriate quality control systems, which are crucial to industrial co-operation and integration.

(ix) 纺织和皮革工业；(x) 运输和通信工业；以及(xi) 生物技术工业；
 (b) 确保促进小型工业，以增强成员国就业机会的创造；(c) 推动与经济有紧密联系的中间工业，以增加共同体内工业产出的本地成分；(d) 在区域和共同体层面制定总体规划，以建立非洲跨国工业，特别是那些建设成本和生产量超出国家财政和吸收能力的工业；(e) 加强并在不存在的地方建立专门机构，为非洲跨国工业项目提供融资；(f) 便利非洲跨国企业的建立，并鼓励和向非洲企业家提供财政和技术支持；(g) 促进成员国制造的战略工业产品的销售和消费；(h) 促进工业技术领域的技术合作和经验交流，并在成员国之间实施技术培训计划；(i) 加强现有的跨国机构，特别是非洲区域技术中心、非洲区域设计和制造中心以及非洲工业发展基金；(j) 建立一个数据和统计信息库，服务于区域和大陆层面的工业发展；(k) 促进南南合作和南北合作，以实现非洲的工业化目标；(l) 促进工业专业化，以增强非洲经济的互补性并扩大共同体内部贸易基础，同时充分考虑国家和区域资源禀赋；以及(m) 采用共同标准和适当的质量控制体系，这对工业合作与一体化至关重要。

Protocol on Industry

For the purposes of Articles 48 and 49 of this Treaty, Member States agree to cooperate in accordance with the provisions of the Protocol on Industry.

Science and Technology

1. Member States shall:
- (a) Strengthen scientific and technological capabilities in order to bring about the socio-economic transformation required to improve the quality of life of their population, particularly that of the rural populations;

(b) Ensure the proper application of science and technology to the development of agriculture, transport and communications, industry, health and hygiene, energy, education and manpower and the conservation of the environment;

(c) Reduce their dependence and promote their individual and collective technological self-reliance;

(d) Cooperate in the development, acquisition and dissemination of appropriate technologies; and

(e) Strengthen existing scientific research institutions and, where they do not exist, establish new institutions.
2. In the context of co-operation in this field, Member States shall:
- (a) Harmonize, at the Community level, their national policies on scientific and technological research with a view to facilitating their integration into the national economic and social development plans;

(b) Coordinate their programmes in applied research, research for development and scientific and technological services;

(c) Harmonize their national technological development plans by placing special emphasis on local technologies as well as their regulations on industrial property and transfer of technology;

(c) Coordinate their positions on all scientific and technical questions forming the subject of international negotiations;

(e) Carry out a permanent exchange of information and documentation and establish community data networks and data banks;

工业议定书

为本条约第四十八条和第四十九条之目的，成员国同意依照工业议定书的规定进行合作。

科学与技术

1. 成员国应:
- (a) 加强科学与技术能力，以实现社会经济转型，从而提高其人口（尤其是农村人口）的生活质量；(b) 确保科学与技术正确应用于农业发展、交通运输、工业、健康与卫生、能源、教育与人力及环境保护；(c) 减少依赖性，促进个体与集体技术自立；(d) 在适用技术的开发、获取与传播方面开展合作；(e) 加强现有科研机构，并在缺乏此类机构的地区新建机构。
2. 在此领域的合作背景下，成员国应:
- (a) 在共同体层面协调成员国关于科技研究的国家政策，以促进其融入国家经济与社会发展计划；(b) 协调成员国在应用研究、发展研究和科技服务方面的计划；(c) 通过特别强调本地技术以及工业产权和技术转让的法规，协调成员国的国家技术发展计划；(c) 协调成员国在所有作为国际谈判主题的科学和技术问题上的立场；(e) 进行信息和文献的持续交流，并建立社区数据网络和数据库；

- (f) Develop joint programmes for training scientific and technological cadres, including the training and further training of skilled manpower;
- (g) Promote exchanges of researchers and specialists among Member States in order to make full use of the technical skills available within the Community; and
- (h) Revise the educational systems in order to better educational, scientific and technical training to the specific developmental needs of the African environment.

Article 52

Scientific Research and Technological Programmes

Member States shall take all necessary measures to prepare and implement joint scientific research and technological development programmes.

Article 53

Protocol on Science and Technology

For the purposes of Articles 51 and 52 of this Treaty, Member States agree to cooperate in accordance with the provisions of the Protocol on Science and Technology.

Article 54

Energy and Natural Resources

1. Member States shall coordinate and harmonize their policies and programmes in the field of energy and natural resources.
2. To this end, they shall:
 - (a) Ensure the effective development of the continent's energy and natural resources;
 - (b) Establish appropriate co-operation mechanisms with a view to ensuring a regular supply of hydrocarbons;
 - (c) Promote the development of new and renewable energy in the framework of the policy of diversification of sources of energy;
 - (d) Harmonize their national energy development plans;

- (f) 制定培训科技干部的联合计划，包括技术人才的培训和进修；(g) 促进成员国之间研究人员和专家的交流，以充分利用共同体内现有的技术技能；
- (h) 改革教育体系，使教育、科技培训更好地适应非洲环境的特定发展需求。

第五十二条

科学研究与技术计划

成员国应采取一切必要措施，筹备并实施联合科学研究与技术发展计划。

第五十三条

科学技术议定书

为实现本条约第五十一条和第五十二条之目的，成员国同意依照《科学技术议定书》的规定开展合作。

第五十四条

能源与自然资源

1. 成员国应协调并统一其在能源与自然资源领域的政策与计划。
2. 为此，成员国应：
 - (a) 确保大陆的能源与自然资源得到有效发展；
 - (b) 建立适当的合作机制，以确保碳氢化合物的定期供应；
 - (c) 在能源来源多样化政策的框架内，促进新能源与可再生能源的发展；
 - (d) 协调各国的国家能源发展计划；

- (e) Articulate a common energy policy, particularly, in the field of research, exploitation, production and distribution;
- (f) Establish an adequate mechanism of concerted action and co-ordination for the collective solution of the energy development problems within the Community, particularly, those relating to energy transmission, the shortage of skilled technicians and financial resources for the implementation of energy projects of Member States; and
- (g) Promote the continuous training of skilled manpower.

Article 55

Energy

- 1. Member States shall cooperate in the following fields:
 - (a) Mineral and water resources;
 - (b) Nuclear energy;
 - (c) New and renewable energy.
- 2. They shall further:
 - (a) Seek better knowledge and undertake an assessment of their natural resources potential;
 - (b) Reduce progressively their dependence on transnational enterprises in the development of such resources, particularly through mastering exploration techniques; and
 - (c) Improve methods of pricing and marketing raw materials.

Article 56

Natural Resources

In order to promote co-operation in the area of natural resources and energy, Member States shall:

- (a) Exchange information on the prospection, mapping, production and processing of mineral resources, as well as on the prospection, exploitation and distribution of water resources;
- (b) Coordinate their programmes for development and utilisation of mineral and water resources;
- (c) Promote vertical and horizontal inter-industrial relationships, which

- (e) 阐明一项共同能源政策，特别是在研究、开发、生产和分配领域；(f) 建立一个适当的协同行动和协调机制，以集体解决共同体内部的能源发展问题，特别是与能源传输、技术人才短缺以及成员国能源项目实施所需财政资源相关的问题；以及(g) 促进技术人才的持续培训。

第五十五条

能源

- 1. 成员国应在以下领域开展合作：（a）矿产和水资源；（b）核能；（c）新能源与可再生能源。
- 2. 成员国还应：
 - （a）寻求更深入了解并评估其自然资源潜力；（b）通过掌握勘探技术等方式，逐步减少在开发此类资源过程中对跨国企业的依赖；（c）改进原材料定价和营销方法。

第五十六条

自然资源

为促进自然资源与能源领域的合作，成员国应：

- (a) 交流矿产资源勘探、测绘、生产和加工方面的信息，以及水资源勘探、开发和分配方面的信息；(b) 协调矿产和水资源开发与利用计划；(c) 促进垂直和水平产业间关系，这些关系

- may be established among Member States in the course of developing such resources;
- (d) Coordinate their positions in all international negotiations on raw materials;
 - (e) Develop a system of transfer of know-how and exchange of scientific, technical and economic data in remote sensing among Member States; and
 - (f) Prepare and implement joint training and further training programmes for cadres in order to develop the human resources and the appropriate local technological capabilities required for the exploration, exploitation and processing of mineral and water resources.

Article 57

Protocol on Energy and Natural Resources

For the purposes of Articles 54, 55 and 56 of this Treaty, Member States shall cooperate in accordance with the provisions of the Protocol on Energy and Natural Resources.

Article 58

Environment

- 1. Member States undertake to promote a healthy environment. To this end, they shall adopt national, regional and continental policies, strategies and programmes and establish appropriate institutions for the protection and enhancement of the environment.
- 2. For the purposes of this paragraph 1 of this Article, Member States shall take the necessary measures to accelerate the reform and innovation process leading to ecologically rational, economically sound and socially acceptable development policies and programmes.

Article 59

Control of Hazardous Wastes

Member States undertake, individually and collectively, to take every appropriate step to ban the importation and dumping of hazardous wastes in their respective territories. They further undertake to cooperate in the transboundary movement,

可能在成员国开发此类资源的过程中建立；

(d) 在所有关于原材料的国际谈判中协调立场；(e) 在成员国间建立技术转让和遥感科学、技术和经济数据交流体系；(f) 为干部制定并实施联合培训及进修计划，以开发矿产和水资源勘探、开发和加工所需的人力资源及适当的本地技术能力。

第五十七条

能源和自然资源议定书

为本条约第五十四条、第五十五条和第五十六条之目的，成员国应根据《能源和自然资源议定书》的规定开展合作。

第五十八条

环境

1. 成员国承诺促进健康环境。为此，它们应通过国家、区域和大陆政策、战略和计划，并建立适当的机构以进行环境保护和改善。2. 为实现本条第1款之目的，成员国应采取必要措施加速改革和创新进程，以制定生态合理、经济合理且社会可接受的发展政策和计划。

第五十九条

危险废物控制

成员国承诺单独和集体采取一切适当步骤，禁止危险废物的进口和倾倒入各自领土。它们还承诺在跨境转移方面进行合作，

management and processing of such wastes produced in Africa.

Article 60

Protocol on the Environment

For the purposes of Articles 58 and 59 of this Treaty, Member States shall cooperate in accordance with the provisions of the Protocol on the Environment.

管理及加工非洲产生的此类废物。

第60条

环境议定书

为本条约第58条和第59条之目的，成员国应根据《环境议定书》的规定开展合作。