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THE CONDITIONS FOR SUCCESSFUL ECONOMIC AND SOCIAL DEVELOPMENT OF
INVENTIONS AND INNOVATIONS

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INTRODUCTION

1. The world has never experienced such profound economic, social and cultural changes as those which have occurred during the past few decades. The scientific and technical progress made, the application of numerous inventions and innovations to all the areas of our existence have completely overwhelmed the production methods and changed considerably the relationships between nations. The advance of modern societies is nowadays governed by the increasing use of inventions and innovations. Thus, the specter of marginalization and that of dependency will continue to loom over any society which is unable to stake a claim in the future through the control and management of innovative infrastructures and technologies.

2. No single definition of technological innovation could meet with unanimous approval. Nevertheless, some people have reached agreement in defining innovation as the series of technical and industrial steps which lead to the market launch of new products. The novelty of the product or process is therefore obviously an essential condition. The concept of innovation is defined in relation to the notions of usefulness, satisfaction of a market need, investments, and risks with a view to generating profit. For that purpose, it includes the development, application and marketing of the invention.

3. Invention is defined, as a novel theoretical solution to a technical problem in industry. It is of practical interest only when it is given specific form by an object placed on the market and which meets a consumer need.

4. The difference in assessment of these two concepts also lies between the inventor and the industrialist who, quite rightly, considers only the potential profitability of the invention. This difference may be a source of many difficulties. Nevertheless, in order for a technological innovation to be profitable on a sustainable basis and to be of benefit to the country's economy, the invention on which it is based should be protected against the forgery generated by its success.

5. It remains clear, however, that a new idea does not emerge spontaneously. It is the outcome of a long process which involves:

- a curious and speculative mind;
- an obligation for the company's economic success;
- an open mind to developments in the world; and,
- professional capacity to manufacture industrial goods.

6. There is no doubt that the stubbornness of a single person or a team is essential at the beginning; that being the case, innovation must be managed by a system which will seek the specific skills of the company or those of outside partners (research centers, research consultancies and so on) in order to obtain technical opinion and performance validation.

7. The development of an innovation requires significant resources which could lead to a situation of increasing risk (verifying the technical interest of the product or process, increasing its value for money, making it known and guaranteeing its feasibility). At this stage of development, where the idea is not only fragile but may also develop unexpectedly,

the company should achieve a guarantee of the effectiveness of the means which it will use to protect the idea. It is essential to support this innovative procedure by public means.

ROLE OF INNOVATION IN ECONOMIC DEVELOPMENT

8. As a process leading to the creation of new products or the reduction in production costs of existing goods, technological innovation has now become a key element of competitiveness and economic growth. By way of illustration, it will be noted that international trade, dominated as it was in the 1970s by primary products, now largely gives way to goods with a high level of technological input, the share of which in worldwide merchandise exports has doubled, from 11 per cent in 1976 to 22 per cent in 1996, and that of goods with a higher average level of technological input has increased from 34 per cent to 54 per cent during the same period, whereas the share of primary products has fallen from 45 per cent to 25 per cent.

9. On a microeconomic level, innovation constitutes one of the essential sources of profit for companies in a competitive environment. In a competitive world, only the mastery of technologies that are not yet available to competitors enables a company to increase its profits.

10. In order for the progress made in a particular area to provide innovation in other branches, positive support must be available, in other words a willingness to control, but also to accept, external know-how.

11. In addition to the essential economic effort, innovation therefore appears to be a social practice, since it can be achieved only if the population is prepared to guarantee the impact of changes so as to allow its standard of living and working conditions to be maintained or improved.

12. Economies such as those in developing countries may, through their structure, juxtapose individual innovation in relation to individual craftsmen with innovation in terms of higher level companies. There is considerable potential for creativity in relation to individual craftsmen which would be worth enhancing and, on the other hand, the introduction of industrial units linked to research institutes which develop gradually is likely to be a true agent of innovation.

ESSENTIAL FACTORS FOR THE INTEGRATION OF INVENTIONS AND INNOVATIONS IN THE ECONOMY

13. Innovation is the result of a complex series of links between the participants in a system comprising companies, universities, research and development institutions, and public authorities.

14. Companies, be they large, medium-sized, small or merely individual craftsmen, must realize that in order to survive they must conquer new markets and new outlets. They are obliged to improve continuously their products and processes in order to remain competitive, increase their market share and their profitability. For that purpose, they should rely on the power of innovation in order to contest the dominant technological positions of their competitors.

15. For their part, research and development institutions and universities, whose vocation is to help to improve the level of technology of economic development players, should approach the users of research, i.e. the economic operators.

16. As for the public authorities, which are responsible for devising policies, they must identify the factors likely to improve output in terms of innovation. The policies undertaken should encompass measures which enhance companies' potential for innovation, by promoting *inter alia* their capacity to recognize and incorporate new technologies. It is now recognized that output in terms of innovation is not the result only of R&D investment; the dissemination and adoption of technology on an economic level is just as important.

17. It is therefore the responsibility of the authorities to make all the players aware of the need to innovate, and to generate awareness that the future of a country and the well-being of its population depend strongly on those who invent and innovate.

18. However, any policy to promote invention and innovation must foster the integration of these so-called traditional sector which is by far that of greatest concern to humanity. All the nations of the world have developed by basing themselves on their traditions. For its part, Africa has shown that on a conceptual and technical level it has no reason to envy other civilizations; it must, however, be able to express itself in a modern type of production organization and in the design of new products.

19. The State is the only body able to conduct such a policy, by means in particular of sustained training and information activities in relation to the different players. Through the mobilization of the national technical and institutional heritage (universities, higher institutes, technical lycées, technical training centers), it may enable companies to launch themselves on the road to innovation, the generation of new products and improvement of traditional products. It is the State which can implement an aid policy for innovative companies which do not meet the criteria for traditional evaluation of financial environments by means of direct or indirect aid.

20. Similarly, in order to promote invention and innovation in terms of economic and social development, the authorities have the responsibility to take measures, in particular of a fiscal nature, which could take several forms: accelerated debt cancellation, exemption from taxation for the profits generated by sales of patents, exemption from taxation in relation to the investment code for companies using technological innovations, and so on.

21. It is with this in mind that the member States of the African Intellectual Property Organization have asked the Organization to set up a body which will have to make a significant contribution to their economic and social development through the promotion of invention and innovation. This body is the Aid Foundation for the Promotion of Invention and Innovation (FAPI).

AID FOUNDATION FOR THE PROMOTION OF INVENTION AND INNOVATION

22. The Aid Foundation for the Promotion of Invention and Innovation (FAPI) corresponds to a strategy of the member States aimed at integrating inventions and innovations into their economic and social development process. The Foundation should generate the establishment of micro, small and medium-sized industries, including crafts-based companies, founded on

endogenous inventions and technologies, more suited to the national and sub-regional environment.

23. FAPI is invited to introduce a sustainable and self-renewing funding mechanism for the economic development and promotion of inventions and innovations in African countries, in cooperation with industrial promoters. It is also invited to propose measures (fiscal, legal and soon) to its member States as part of a policy to promote inventions and innovations likely to achieve progress in their economic and social development.

TECHNICAL AND ECONOMIC FOUNDATIONS OF FAPI

24. The process of economic development of inventions and innovations, which must result in their industrial use, is not obviously successful as a matter of course. It does nevertheless offer the possibility of achieving minimal results as part of a policy of support and assistance for endogenous technologies.

25. This policy, which is often non-existent at both the national and regional level, is handicapped by the absence of design structures for the different phases of the economic development process. There are structures which exist and that could implement such a policy show weaknesses linked to the insufficiency of funds for the participation of competent bodies in the technical studies and support provided. This leads to the difficulty of incorporating inventions in development strategies for the industrial sector. For that reason, companies are not always interested in the inventions developed in Africa and prefer to turn to their traditional suppliers in order to enhance their production, whereas the inventions produced locally and carried out at the pre-series stage could be wholly satisfactory by avoiding excessive expenditure and providing a certain degree of technological dependence.

26. At least in terms of their concepts, these inventions and innovations are interesting since they are designed to meet specific needs of populations. However, any policy designed to achieve the industrial and commercial use of inventions and innovations can be developed only on the basis of rigorous analysis with internationally recognized methods. It is for these reasons that FAPI has been introduced so as to respond rapidly to the expectations of States, inventors and promoters, and to carry out timeliness, feasibility, technical support and commercial promotion studies.

27. From an economic point of view, FAPI will allow SMEs and SMIs to be created and the competitiveness of several existing companies, in sectors as varied as they are vital for populations such as the agriculture industry, energy, medicine and soon, to be enhanced.

28. It no longer needs to be demonstrated that SMEs and SMIs play a vital role in the economies of all countries:

- they act as essential forms of support for large units;
- they react more effectively to a deterioration in the economy and to market fluctuations;
- they help to distribute national resources more effectively and thus to combat poverty;

- they are highly labor intensive and better suited to local -level maintenance.

29. The creation of these units will lead to increased income for families at the same time as a reduction in unemployment. Furthermore, the increase in the number of these units will permit better integration of national and sub -regional economies. It can therefore be stated that the impact of FAPI will be positive, in particular for African inventors, promoters, experts and research consultancies, populations, industrial companies and States.

AIMS OF FAPI

30. FAPI should enable the following aim to be achieved:

- promoting the transition of the invention from the laboratory to pre -industrial models;
- product prototypes, models and samples;
- promoting the creation of innovative enterprises (SMEs and SMIs) through the use of African inventions and innovations;
- enhancing the performance and productivity of existing companies through the acquisition of new technologies;
- allowing member States to devise appropriate policies and resources so as to facilitate the promotion of endogenous technologies;
- obliging the OAPI to act as a point of exchange between the owners of patents and industrial companies.

31. Thus, the Foundation is invited to ensure that financial and technical resources are made constantly available in order to support the promotion of invention and innovation in Africa.

ANTICIPATED RESULTS

32. FAPI should allow a number of results to be achieved at the national and regional levels, in particular:

- creating in member States SMEs and SMIs through the effective economic development of certain inventions and innovations;
- disseminating new consumer goods in priority sectors;
- enhancing the competitiveness and productivity of industrial and crafts -based companies;
- strengthening the integration of member countries' economies;

- strengthening the institutional environment and promoting innovative companies in Member States, by establishing a sustainable funding mechanism.

FIELDS OF ACTIVITY

33. The Foundation's fields of activity include:

- technical and economic feasibility studies for innovative projects;
- market research;
- the development of prototypes, models and pre-series;
- the production of samples intended to test the market;
- the development of pilot or demonstration units;
- the creation or development of innovative companies, the profitability of which will have been proven by prior assessment.

BENEFICIARIES:

- inventors, researchers and innovators in OAPI member States;
- industrial and crafts-based companies existing or being set up in member States and whose projects are based on technological innovation;
- public and private research laboratories;
- the promoters of innovative companies being set up or modernized;
- member States' economies.

FUNDING METHODS

34. The planned methods of funding are:

- the "assistance scheme": this funding, in the form of a subsidy, should help inventors and promoters to use the services of research consultancies and experts in devising timelines or feasibility studies, manufacturing prototypes and so on. It will also assist companies, in particular in the monitoring and management of their projects;
- the "loan scheme": this funding should help existing companies to collect the funds necessary for carrying out their projects (expansion, purchase of equipment, working capital and so on) with well-established reimbursement procedures;

- the “ **capital-riskscheme** ”: this is funding which includes acquisition of shareholdings in the business capital of companies in order to assist them and to monitor their management during the first few years following their launch. The capital shares may be repaid to private partners after a period of several years.

35. In order to carry out its task, FAPI necessarily enlists the help of technical and financial partners. It has, however, already received considerable assistance from the OAPI, which has enabled it to launch its activities.

36. It will be noted that all the technical aspects of the projects submitted to FAPI should be carried out in close cooperation with these bodies, given that the project does not comprise all the skills necessary for them to be implemented.

37. It is anticipated that financial partners such as funding and project promotion bodies, as well as sponsors, will help to fund the FAPI's activities. This funding may be granted either as part of the public service financing common to the 16 OAPI member States, assistance, cooperation or development aid funds, or through credit lines domiciled with commercial banks.

38. Such funding will enable FAPI to compensate for the absence in States of research assessment bodies, similar to those which exist in the industrialized countries. They should be flexible and targeted, and should focus on the industrial projects which develop, in economic terms, inventions and other research results, as well as local raw materials which help to protect the environment.

CONCLUSION

39. As a source of technical progress and influence, both in invention and innovation now constitute an essential weapon in countries' economic and social development. With globalization and the advent of a new imperative, Africa must coordinate its activities and not hesitate to board the development train. For that reason, Africa must, as a matter of urgency, devise a vigorous technological innovation strategy, based on the economic development of local resources and also involving research institutes, public authorities, companies and consumers.

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