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## **WIPO REGIONAL SEMINAR ON INVENTION AND INNOVATION IN AFRICA**

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**WHERE ARE THE AFRICAN INVENTORS?  
WHAT DO THEY INVENT?**

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## **Introduction**

Where are the African inventors and what do they invent? That is a statistical question that would not immediately appear to comprise any great difficulty. However, things are not quite that simple.

We were unable, within the time limits required for this document, to obtain the patent CD ROMs of ARIPO. There are CD ROMs of the OAPI patents, but the ROMARIN software does not allow them to be consulted by country of origin or by technical unit or class of the International Patent Classification (IPC).

The industrial property statistics published by WIPO contain tables of patent applications and granted patents classified in accordance with the technical units of the IPC, but only for certain countries (Burundi, Sierra Leone, Democratic Republic of the Congo and Zambia).

In order to answer those two questions, it is therefore necessary to perform a certain mental transposition by presuming that the ARIPO and OAPI countries have basically the same technical problems. The technical units in which these countries are active (particularly if we take into account the applications filed by persons not nationals of those countries) will be considered as representative of those other units also in which the other countries of the OAPI area are active.

### **I. Where are the African Inventors ?**

**TABLE I** sets out, on an annual basis by country, the patent applications filed in the member countries of OAPI. The breakdown by country of the 643 patent applications filed by the member countries of OAPI shows that the most constant countries with respect to patent applications are: Côte d'Ivoire, Cameroon and Senegal since 1964, with respectively 148, 143 and 113 applications. These are followed by Congo (41), Togo (37), Mali (32), Benin (22) and Burkina Faso (22). This second group of countries has been active since the beginning of the 80s, but has a consistent activity.

### **II. What do the African Inventors invent ?**

The various spheres of inventive activity are classified in accordance with the International Patent Classification (IPC). Although frequently revised, this Classification, comprising sections, technical units, subsections and classes, is set out as shown in **TABLE II**.

The industrial property statistics of WIPO for 1995 give a classification in accordance with the technical units of the IPC for granted patents. We have grouped in **TABLE III** the information for certain African countries.

On analysis, it appears that of the 32 technical units of the IPC, the Africans are absent in 10 fields classified under the following subsections:

- Shaping,
- Printing,
- Transporting,
- Paper,

- Earth drilling, mining,
- Lighting, heating,
- Instruments,
- Nucleonics,
- Electricity.

and are active in 22 fields classified under the following subsections (for the classes, consult the IPC):

- Agriculture,
- Foodstuffs, tobacco,
- Personal or domestic articles,
- Health, Amusements,
- Preparations for medical, dental or toilet purposes,
- Separating, Mixing,
- Transporting,
- Chemistry,
- Metallurgy,
- Textiles,
- Building,
- Engines or pumps,
- Engineering in general,
- Weapons, blasting,
- Instruments,
- Electricity,
- Other.

For the details, consult the IPC classes.

**TABLE I - PATENT APPLICATIONS FILED BY NATIONALS OF MEMBER COUNTRIES OF OAPI**

	Benin	Burkina	Cameroon	Cent.Afr.Rep.	Congo	Côte d'Ivo.	Gabon	Guinea	Mali	Madagasc.	Mauritan.	Niger	Senegal	Chad	Togo	TOTAL
1964			2			7				3			4			16
1965			1			3				2			5			11
1966			2		1	6				9						18
1967			2			1										3
1968			1			1							2		1	5
1969			2			3				3			1		1	10
1970			5	1		4										10
1971			4			7										11
1972			5			2				1			2		1	11
1973			1			1				1	1		4			8
1974		1	4			3							5			13
1975			3			11						4	4			22
1976		1	4		1	4	1			1					1	13
1977		1	6			9							2			18
1978			10			5							1			16
1979			1										3			4
1980			2			3							1			6
1981			2			1							4			7
1982		1	4			2							2			9
1983		1	3		1	8							3		1	17
1984			3		1	4	5						8			21
1985		1	5		2	4							7		1	20
1986		1	3		3	5	1						3		2	18
1987		4	5	4	1	12					1		7		6	40
1988	1		12		6	6	2		2				7		5	41
1989	3		6		2	5							2		2	20
1990			3		3	2			2				2		1	13
1991	5	0	10	2	3	5	2					3	3	1		34
1992	1	2	4		5	3		1					3		4	23
1993		1	6		2	5			8				5	2	6	35
1994	2	2	8	1	1	1	2	1	2			7	5		2	34
1995	3	1	7		1		1		6			1	5	1	1	27
1996	3	0	7	1	4	3	2	3	3			1	5		1	33
1997	3	4			2	9	2		5				4	1	1	31
1998	1	1			2	3	3	1	4		2	3	4	1		25
1999																
<b>Total</b>	<b>22</b>	<b>22</b>	<b>143</b>	<b>9</b>	<b>41</b>	<b>148</b>	<b>21</b>	<b>6</b>	<b>32</b>	<b>20</b>	<b>4</b>	<b>19</b>	<b>113</b>	<b>6</b>	<b>37</b>	<b>643</b>

Source: WIPO

**TABLE II – TECHNICAL UNITS OF THE INTERNATIONAL PATENT CLASSIFICATION**

Section	Unit	Subsection	Classes
<b>Human necessities</b>	1	Agriculture	A01 (except A01N)
	2	Foodstuffs, tobacco	A21 to A24
	3	Personal or domestic articles	A41 to A47
	4	Health; Amusement	A61 to A63 except A61K
	5	Preparations for medical, dental or toilet purposes	Subclass A61K
<b>Performing operations, transporting</b>	6	Separating, Mixing	B01 to B09
	7	Shaping	B21 to B23
	8	Shaping	B24 to B32 except B31
	9	Printing	B41 to B44
	10	Transporting	B60 to B64
	11	Transporting	B65 to B68
<b>Chemistry, Metallurgy</b>	12	Chemistry	C01 to C05
	13	Chemistry	C07 and subclass A01N
	14	Chemistry	C08
	15	Chemistry	C09 to C11
	16	Chemistry	C12 to C14
	17	Metallurgy	C31 to C23, C25 et C30
<b>Textiles, Paper</b>	18	Textiles or flexible materials not otherwise provided for	D01 to D07
	19	Paper	D21 to D31
<b>Fixed constructions</b>	20	Building	E01 to E06
	21	Earth drilling, mining	E21
<b>Mechanical engineering, Lighting, Heating, Weapons, Blasting</b>	22	Engines or pumps	F01 to F04 and F15
	23	Engineering in general	F16 and F17
	24	Lighting, Heating	F21 to F28
	25	Weapons ; Blasting	F41, F42 and C06
<b>Physics</b>	26	Instruments	G01 to G03
	27	Instruments	G04 to 08
	28	Instruments	G09 to G12
	29	Nucleonics	G21
<b>Electricity</b>	30	Electricity	H01, H02 and H05
	31	Electricity	H03 and H04
<b>Others</b>	32	Others	Non-classified

**TABLE III**

Country	Technical Units																						
	0 1	0 2	0 3	0 4	0 5	0 6	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	2 0	2 2	2 3	2 5	2 6	2 8	3 0	3 2	
<b>Burundi</b>																						1 1	
<b>Sierra Leone (N)</b>									2 2														
<b>Democratic Republic of the Congo (N)</b>		1 1				1 1			3 3				2 2							1 1	1 1	3 3	
<b>Zambia (N)</b>	1	1	2	5 1	2 2	2 6	2 1	1 1	4 4	1 1	1 3		9 5	3	1	2	1	1 4 1 1	1				

Source : WIPO Industrial Property Statistics

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