Islamic Republic of Mauritania
Honour, Brotherhood and Justice

MINISTRY OF HEALTH AND SOCIAL AFFAIRS
HEALTH PROTECTION DEPARTMENT
EXPANDED PROGRAMME OF IMMUNISATION

FINANCIAL SUSTAINABILITY PLAN
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### Abbreviations

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<tbody>
<tr>
<td>AFP</td>
<td>Acute Flaccid Paralysis</td>
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<td>APIR</td>
<td>Adverse Post-Immunisation Reactions</td>
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| ARIVA        | Appui au Renforcement de l'Indépendance Vaccinale  
               Support for the Strengthening of Vaccine Independence |
| BCG          | Bacille de Calmette et Guérin |
| CATR         | Cellule d'Appui Technique Régionale  
               Regional Technical Support Unit |
| CBMT         | Cadre Budgétaire à moyen terme  
               Medium Term Budgetary Framework |
| CEDAO        | Communauté Economique et de Développement de l'Afrique de l'Ouest  
               Economic and Development Community of West Africa |
| CILSS        | Comité Inter-pays pour la Lutte contre la Sécheresse dans le Sahel  
               Inter-Country Committee for the Fight against Drought in the Sahel |
| DPS          | Direction de la Protection Sanitaire  
               Health Protection Directorate |
| DRASS        | Direction régionale à l'action social et sanitaire  
               Regional Directorate for Social and Health Action |
| DRPSS        | Direction Régional pour la Promotion Sanitaire et Sociale  
               Regional Directorate for Social and Health Protection |
| DTP          | Vaccine against Diphtheria, Tetanus and Pertussis |
| EDSM         | Enquête démographique et de santé de la Mauritanie  
               Demographic and Health Survey of Mauritania |
| EPI          | Expanded Programme of Immunisation |
| FED          | Fonds Européen de Développement  
               European Development Fund |
| FED-ARIVA    | FED-Appui au Renforcement de l'Indépendance Vaccinale  
               EFD-Support for the Strengthening of Vaccine Independence |
| GAVI         | Global Alliance for Vaccination and Immunization |
| HIPC         | Heavily Indebted Poor Countries |
| ICC          | Inter-Agency Coordinating Committee |
| IDA          | International Development Agency |
| IDE          | Infirmier diplômé d’état  
               State Registered Nurse |
| IEC          | Information Education Communication |
| IMCD         | Integrated Management of Childhood Diseases |
| IMF          | International Monetary Fund |
| MEASLES      | Measles Vaccine |
| MF           | Ministère des Finance  
               Ministry of Finance |
| MFP          | Ministère de la Fonction Publique  
               Ministry of the Civil Service |
| MNT          | Maternal and Neonatal Tetanus |
| MPA          | Minimum Package of Activities |
| MSAS         | Ministère de la Santé et des Affaires Sociales  
               Ministry of Health and Social Affairs |
<table>
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<tr>
<th>Acronym</th>
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<tr>
<td>NID</td>
<td>National Immunisation Day</td>
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<tr>
<td>OAU</td>
<td>Organisation of African Unity</td>
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<tr>
<td>OMVS</td>
<td>Organisation pour la Mise en Valeur du Fleuve du Sénégal (Organisation for the Development of the Senegal River)</td>
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<td>ONS</td>
<td>Office National des Statistiques (National Statistics Office)</td>
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<td>PDIS</td>
<td>Plan de Développement des Infrastructures Sanitaires (Health Infrastructure Development Plan)</td>
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<tr>
<td>REC</td>
<td>Reach Every Child</td>
</tr>
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<td>RED</td>
<td>Reach Every District</td>
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<tr>
<td>TT</td>
<td>Tetanus Vaccine</td>
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<tr>
<td>UA</td>
<td>Union Africaine (African Union)</td>
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<tr>
<td>UMA</td>
<td>Union du Maghreb Arabe (Arab Maghrib Union)</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>UNO</td>
<td>United Nations Organisation</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>VII</td>
<td>Vaccine Independence Initiative</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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SECTION I: PRESENTATION OF THE NATIONAL CONTEXT AND ITS IMPACT ON THE ORGANISATION AND FINANCING OF THE HEALTH SYSTEM

I.1 General, political and economic context

I.1.1. Geographical data

The Islamic Republic of Mauritania is situated between latitudes 15 and 27 north and covers an area of 1 030 700 square kilometres. It is bounded to the north by the former Western Sahara and Algeria, to the east and south east by Mali, to the south by Senegal and to the west by the Atlantic Ocean.

With regard to climate and vegetation, Mauritania may be divided into three main natural regions:

- the river valley, an agricultural zone characterised by annual rainfalls which can reach from 300 to 500 mm;
- the Sahel region, lying south of a line extending from Nouakchott through Kiffa to Néma and characterised by annual rainfalls of 100 to 300 mm. The main activities here are livestock herding and flood recession farming;
- an immense desert region, extending north of this line with an irregular rainfall of between 50 and 100 mm. Water is scarce, apart from a few oases where large palm plantations have encouraged the establishment of agglomerations of a significant size.

In short, fourth fifths of the territory of Mauritania consists of desert, which is advancing at a rate of 10 km per annum, adversely affecting the country’s climate and cultivable land. However, reafforestation programmes have been set in place by the government in order to remedy this situation since as early as the 1980s. In 1992, a Ministry of Rural Development and the Environment was created in order to provide an institutional framework for the management of the environment.

The road network infrastructure consists of paved roads, gravel roads and tracks established around four main axes: (i) Nouakchott – Atar, (ii) Nouakchott – Rosso, (iii) Nouakchott - Néma (Route de l’Espoir) and (iv) Nouakchott – Kaédi. This network remains inadequate in view of the long distances involved and the dispersion of the inhabited areas.

In addition, there is 700 km of rail track linking Zouérate to Nouadhibou. Moreover, several regional capitals have regular air links to Nouakchott.

I.1.2. Socio-demographic data

According to the general population and housing census conducted in the year 2000, Mauritania has a population of 2 508 159. With an annual demographic growth rate of 2.4% per annum, the population increased from 2 million inhabitants in 1990 to 2 568 355 in 2001. Life expectancy at birth increased from 49.1 years in 1990 to 50.9 in 2001. The fertility rate fell from approximately 6.0 in 1990 to 4.7 in 2001 (EDSM 2000-2001).

The breakdown of the population by age has not changed significantly since independence. Thus, 44% of the population is aged under 15, 54% under 20 and only 6% are over 60 years
old. This type of pyramid, which can be seen in virtually all the developing countries, exerts major pressures on the basic services.

In 2000, the average size of a household was estimated at 6.5 persons, but could reach 8.7 persons in the poorest fifth of the population. Households in which the head of the family is a woman accounted for 20.5% of all households in 2000.

Women account for 51.9% of the total population (EDSM 2000-2001). There are more women than men in the rural areas and other towns except Nouakchott, where men are slightly more numerous.

The long drought experienced by Mauritania during the period from 1972 to 1984 has had significant repercussions on population movements and has considerably reduced the country’s agricultural potential. The urban population increased from 9.1% of the total population in 1965 to 21.7% in 1976-77 and 45% in 1994. At present, it is estimated that the urban population represents half of the country’s total population. These figures clearly illustrate the development of urbanisation and the sedentarisation of the nomadic population, a process which was accelerated by the major drought of the 1980s.

I.1.3. Political and institutional situation

I.1.3.1. Brief presentation of the country’s political history

The Islamic Republic of Mauritania gained its independence on 28 November 1960. In 1986, the country initiated a democratic system with the development of political movements and the organisation of municipal elections, followed by legislative and presidential elections in 1992.

As with other African countries, Mauritania has joined the various sub-regional organisations (UMA, CILSS, CEDAO, OMVS), regional (UA) and international (UN, WHO, UNICEF, IMF).

I.1.3.2. Current political and administrative organisation of the country

I.1.3.2.1. Political organisation

Since 1991, the Islamic Republic of Mauritania has had a democratic constitution and has seen the emergence of a comprehensive multiparty system, free speech and a free press. Multiparty elections took place in 1992, resulting in the election of a President of the Republic, Mr Maouya Ould Sid’Ahmed Taya by universal suffrage. The Senate consists of 56 members and the National Assembly of 79 deputies. This process was continued in 1994 with the election of 4 000 councillors for 208 municipalities and the renewal of the first third of the Senate. Up to now, the elections have taken place according to schedule and within a democratic environment.

I.1.3.2.2. Administrative organisation

From an administrative point of view, the country is subdivided into 13 wilayas (regions), including that of Nouakchott, the capital. Each wilaya constitutes a decentralised
administrative unit headed by a wali, who represents the executive power. Each wilaya is then divided into moughataas (districts), of which there are 53. The smallest administrative unit is the commune, of which there are 208.

I.1.4. Economic situation

At the macro-economic level, the structural adjustment policy adopted by the government since 1985 has enabled Mauritania to restore economic balance in the main areas and to improve performance in terms of growth. Between 1994 and 1995, GDP growth averaged 4.3% in real terms.

Mauritania has been experiencing steady economic growth for almost a decade, which also corresponds to the period of implementation of the Structural Adjustment Programme. In nominal terms, GDP grew by about 10% between 1996 and 2000 and by 9.5% and 7.1% in 2001 and 2002 respectively. Growth in constant terms was 4% in 2001 and 5.1% in 2002. As this was in excess of the rate of growth of the population (2.4%), there has been a marked improvement in per capita income.

The growth of the Mauritanian economy is essentially derived from mining, fishing and, to a lesser extent, livestock. Iron ore and fish represent the country’s main exports.

The steady growth of the economy has also resulted in regularly rising public revenues, with the exception of 2001, in which year the country experienced a fall in non-fiscal revenues connected with fishing royalties. Thus, public revenues, excluding foreign aid, stood at MRO 25.3 billion in 2000, MRO 20.6 billion in 2001 and MRO 37.6 billion in 2002.

Expenditure (including net loans) stood at MRO 29.7 billion in 2000, MRO 26.1 billion in 2001 and 31.3 billions in 2002. The budget balance as a percentage of GDP (excluding foreign aid) was –4.4% in 2000, –5.5% in 2001 and +6.2% in 2002 (with the tranche of revenues arising out of the fishing agreement with the EU in 2001 being collected in 2002 and the HIPC funds beginning to be used during the same year).

Nominal GDP has increased year on year from MRO 229.4 billion in 2000, MRO 251.3 billion in 2001, MRO 269.1 billion in 2002 to MRO 296.1 billion in 2003.

The growth forecasts for the coming years are even better. According to the estimates of the government and the World Bank, growth in nominal terms should stand at around 10% between 2003 and 2005, before rising to 12% in 2006, when the first oil exploitation revenues are due to be registered. Sustainable double digit growth should set in with effect from 2006. Growth in real terms is forecast to stand at 6.1% in 2006 and 7.6% in 2007.

Inflation will be contained at around 3.5% in 2004-2005, and then at under 3% for subsequent years.

As a result of the expected strong growth of the economy, total public revenues are forecast to increase from MRO 87.2 billion in 2003, i.e. 29.42% of GDP to MRO 138.8 billion in 2007.

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1 CSLP implementation report for 2003
2 CSLP implementation report for 2003
3 CSLP implementation report for 2003
or 31.35% of GDP. Growth over the period is expected to stand at 59.17% and average annual growth at approximately 12.5%.

Total expenditure is forecast to increase from MRO 93.5 billion in 2003, or 31.55% of GDP to MRO 135.4 billion in 2007, or 30.59%. The increase over the period should amount to 44.81%, representing a smaller increase in relation to expenditure. This would make it possible to contain the deficit at well under 3% of GDP and even to generate a surplus of 0.8% of GDP by the end of the period.

Moreover, since 2000, the country has been working to implement its poverty reduction strategy. For the health sector, the strategy provides for (i) improving the health indicators, particularly for the poorest sections of the population (ii) limiting the impact of health on the income of the poorest and (iii) improving the participation of the poor in the planning, management and monitoring of health activities. The EPI is concerned by all of these aspects for various reasons, particularly in view of its contribution to the reduction of infant and child mortality (*).

I.2. Organisation and financing of the health system

I.2.1 Organisation of the health system

I.2.1.1. Health care administration

The organisation of the health system is governed by Decree No. 86/91 of 7/11/1991 concerning the powers of the Minister for Health and Social Affairs and the central administrative organisation of his department and by Decree No. 89-064 laying down the organisation of the regional health units. This organisation is of the pyramid type as follows:

From the top down, the administration of the health care system lies with the Ministry of Health and Social Affairs ("MSAS") represented by the general secretariat, the Regional Directorates for Health and Social Action ("DRASS") at the level of the wilayas, the health centres at the level of the moughataas and the health posts at the most peripheral level.

Improving the state of health of the population constitutes a priority of Mauritania’s health policy. This policy is based essentially on primary health care. The aim of this policy, which was adopted by the government in 1992, is to ensure "health for all Mauritans by the year 2000".

The strategies developed to achieve this aim are essentially based on the manifest will to carry out an effective decentralisation of the decision-making and financial powers and resources towards the Regional Directorates for Health and Social Action. This will is enshrined in Decree No. 80 064.

However, the process of decentralisation is currently hampered by the shortage of skilled personnel capable of discharging the tasks assigned to them and the poor technical and management capacities of the existing personnel.

I.2.1.2. Organisation of health care

At the top of the pyramid, we find the reference hospitals, namely the National Hospital centre (Centre Hospitalier National), the Neuro-psychiatric Centre (Centre Neuro-Psychiatrique), the Orthopaedic and Functional Readaptation Centre (Centre d’Orthopédie et de Réadaptation Fonctionnelle) and the National Centre for Hygiene (Centre National d’Hygiène) in Nouakchott, the Military Hospital and the Sheikh Zayed Hospital.

At the regional level, there are 10 hospitals out of the 13 envisaged to cover all of the country’s wilayas. The regional hospitals vary greatly in standard. A number of them have the infrastructures and the equipment necessary to enable them to play their role as regional reference hospitals at the medical as well as the surgical level.

At the level of the moughataas, the Health Centre acts as the point of reference at the level of the département and consists of two units, one for curative care and one for preventive care. The health centres are classified into category A centres which have more than 10 hospitalisation beds, a laboratory, a radiology service and a dental surgery service. Category B centres have 10 hospitalisation beds, 4 of which are for maternity services, plus a small laboratory. At present, there are 13 category A health centres, 3 of which are located in Nouakchott and 40 category B centres. All the centres are headed by a chief medical officer.

The Minimum Package of Activities of the health centres concerns curative primary consultations, pre and post-natal consultations, delivery, monitoring of children aged under 5 years, immunisation, family planning and the distribution of essential medicines.

At the peripheral level, i.e. at the bottom of the pyramid, there are 225 health posts. In certain agglomerations, these posts also have MPA / rural maternity services run by state registered nurses (infirmiers diplômés d'Etat – IDE).

I.2.1.3. Community participation

Community participation constitutes the very foundation of national policy for primary health care. The official structures for community participation include the following:

- At regional level:

  The Social and Health Development Council (Conseil de développement socio-sanitaire - CDSS), consisting of administrative, political and technical officers of the wilaya and chaired by the wali. This body operates like a health board for the wilaya. However, most of the CDSS and management committees are not operational. The board of the hospital is chaired by the wali.

- At the level of the département / moughataa:

  The management committee of the Health Centre consists of three municipal councillors, one of whom acts as the chairman of the committee, plus the chief medical officer of the health centre who acts as secretary and ensures the taking of minutes of the committee meetings and finally the tax collector of the moughataa.
At the level of the commune (health posts):

The management committee consists of a chairman, a deputy chairman and a treasurer elected by the village assembly plus a member of the health unit (a nurse or community health worker).

The operation of the official structures for community participation is governed by Decree No. 92-027 and its implementing orders.

**1.2.1.4. The Expanded Programme of Immunisation**

The Expanded Programme of Immunisation was first introduced into Mauritania in 1997 in two pilot zones, one in Trarza in Keur Macène and one in Rosso. It was then extended gradually to cover the whole country by 1984. The EPI used the following two strategies:

- a fixed strategy through the maternity and infantile services in the urban areas.
- a mobile strategy through mobile teams in the rural areas.

In 1985, a third "acceleration" strategy was introduced through national and municipal immunisation days. This strategy was subsequently extended to Maghreb-wide immunisation days from 1987 to 1994.

With effect from 1995, Mauritania has embarked on the process of eradicating poliomyelitis and controlling measles through the organisation of national immunisation days. Thus, six series of campaigns were organised, combining immunisation against polio and measles and the provision of the vitamin A supplement.

**The place of health in the national strategy against poverty:**

Health occupies a leading position in the national strategy against poverty. The priority fields of action of the national strategy against poverty include the following health areas:

- expanding health cover and improving access to health services for the poor through a building programme (health posts and health centres) and an infrastructure development programme (transport equipment)
- reducing the morbidity linked to major diseases (Expanded Programme of Immunisation, malaria and tuberculosis)
- Mother and child health protection (reproductive health, integrated management of childhood diseases)
- availability of medicines through the Centre for the Purchase of Essential Medicines and Consumables (Centrale d'achat des médicaments essentiels et de consommables - CAMEC);
- Strengthening the capacities of the central and regional administration.

The implementation of the activities relating to these areas is intended to achieve the following aims:

- to make access to basic care universal,
- to reduce the infant mortality rate to 40 ‰ and child mortality rate to 55 ‰.
In addition, the major indicators of the strategy include health indicators such as the DTP3 immunisation coverage rate among children aged under one year, the infant-child mortality rate and the health coverage rate.

In 2002, the EPI was at the centre of the macro-economic discussions concerning debt relief and the fight against poverty.

The place of the EPI within the national health policy:

At the political level, the EPI is placed among the three main priorities of the MSAS, alongside the fight against HIV/AIDS and the procurement of essential medicines.

Thus, the immunisation coverage is a performance indicator for the health development actions undertaken at regional level (wilaya) vis-à-vis the central level of the Ministry of Health and Social Affairs.

The interests of the national authorities and the EPI partners are clear and duly emphasised in the various consultations. In this regard, the following points speak for themselves:

- acknowledgement of immunisation as a right of every child and woman
- the need for the provision of sustainable high quality immunisation services which meet the demand and needs of the population
- emphasis on the groups most difficult to reach, the most vulnerable and the poorest
- the need to strengthen capacities at all levels
- the need to improve the information system and hence the need to improve the frequency and quality of timely monitoring
- the gradual autonomy of the country concerning the implementation of regular immunisation (routine EPI)
- the country’s recent submission to the Vaccine Fund for the acquisition of financing to strengthen the immunisation services, injection safety and the introduction of new vaccines into the routine EPI.

I.2.1.5. Financing of the health sector and the EPI

I.2.1.5.1. Financing of the health sector in general

Financing of this sector is characterised by the main constraints listed below, which are addressed by the Medium Term Budgetary Framework for 2002-2004.

- The chronic under-financing of the sector up to 2000. The steady increase of total expenditure in nominal terms by an average of 25% per annum over the last ten years was wiped out by the growth of the population, the rise in inflation and, above all, the depreciation of the local currency. The share of the health sector in the operating budget reached its highest level in 1999 at 8.1%, before falling back to 7.5% in 2000. Health expenditure per capita remained low on the whole, rising from USD 6.80 in 1996 to USD 8.20 in 2000. Total health expenditure by comparison to the budget rose from 1.44% in 1996 to 2.32% in 2000, most of the funds being allocated to investment.

The under-financing of the sector relates exclusively to operating expenditure as this was accompanied by an over-investment in the sector, in view of the strong support obtained from abroad. The ratio between the two categories of expenditure reached a peak of 1:2 in
1999, as compared to the norm for a developing country of 0:4-0:6. This over-investment exacerbates the imbalances noted between operating and capital investment, as the new structures put in place are not allocated sufficient operating funds(*)

- **The disparities in terms of the uneven distribution of health expenditure per wilaya.** Nouakchott receives twice the amount of resources allocated to the poorest wilayas, without this being translated into a better performance, the rate for fully vaccinated children in Nouakchott being barely higher than in the poorest wilayas and lower than in some of the others.

- **The emergence of difficulties in absorbing foreign funds.** This seems to be connected with the over-supply of resources. In 1999, the state budget was implemented in full (100% implementation) whereas the rate for the implementation of foreign aid was only at 75%. For 2000 and the first half of 2001, this rate of foreign aid utilisation stood at 30%. The supervision carried out by the Ministry in 2002 concerning the implementation of the Annual Health Operating Plans estimated the rate of implementation as at the end of the first half of the year at 3% for the Arab Development Bank, 5% for the IDA, 31% for the government’s Consolidated Investment Budget and 51% for the government’s Operating Budget. Thus, there is a genuine problem concerning the utilisation of funds, including government funds (**).

- **The difficulties connected with the disbursement of budgetary credits for essential supplies such as vaccines and medicines.** This seems to be connected, among other things, with the procedures for the establishment and implementation of the budget, the cumbersome procedures of certain partners and slow pace of the administration.

- **The shortage of personnel of all kinds.** This has adverse effects on the development of the sector, particularly as a result of the reduction in the capacities for implementation.

Taking all of these difficulties into account, the medium-term budgetary framework has adopted the following main objectives (***) :

- To redirect investment expenditure towards operating functions in order to arrive at a ratio which is more conducive to achieving the desired performance and utilisation rates.
- To give priority to the operational aspects in respect of state budget expenditure, including the new funds released by the HIPC Initiative, which amounted to MRO 1 600 624 610 in 2002, MRO 873 000 000 in 2003 and MRO 2 047 880 000 in 2004.(****)
- To redirect investment as well as operating expenditure towards areas with poor geographical access and the primary and secondary levels.
- To allocate budget funds to activities which influence the performance of the sector in terms of its essential impact objectives.

(* )Study of the costs and financial sustainability of the national immunisation programme (WB)
(****). Source DPCS/MSAS.
o To provide human resource financing in order to strengthen the capacity for implementation and utilisation of financing.

o To carry out essential reforms of the sector in order to improve technical efficiency (for example, the medicine purchasing centre).

o To place emphasis on subsidising demand through social action and third party payer (Tiers Payants) mechanisms.

These objectives should be achieved through the implementation of the following priority programmes:

o Programme 1: the availability of human resources, which should improve with the 100% fulfilment of the personnel standards in the rural areas, excluding the Nouadhibou and Nouakchott regions, between 2001 and 2004.

o Programme 2: geographical access, which should improve from 67% to 80% between 2001 and 2004.

o Programme 3: the availability of essential supplies, particularly vaccines and consumables, should improve over the whole period of implementation of the 2002-2004 CMBT.

o Programme 4: quality, demand and the fight against diseases as well as the utilisation of curative health care at the primary level for children aged under 5 years should increase from 0.2 visits per annum to 0.4 visits between 2001 and 2004.

o Programme 5: social action and participation, as well as the proportion of the management committees of the functional operational health centres and posts should increase from 10% in 2000 to 50% in 2004.

o Programme 6: strengthening of capacities to permit the planning, management and monitoring of the programme and to raise budget utilisation to more than 90% of the funds available.

To this end, the following measures have already been undertaken:

o The overhaul of the MSAS budget resulted in a significant increase, namely a 100% increase in 2002 compared to 2001, 50% in 2003 compared to 2002. This rate was maintained in 2004.

o The central EPI funds from the operating budget were increased by 165% in 2003 compared to 2002. The main beneficiary items were vaccines supplies and consumables. Funds were allocated for the first time in the 2002 consolidated investment budget for the purchase of transport equipment (4-wheel drive vehicles and motorbikes), cold chain equipment (CDF), the establishment of a maintenance system in 2002 and the operation and supervision of the EPI Coordination unit. The budget for the regions also increased significantly so as to enable them to carry out advanced and mobile strategy activities with effect from 2002.

o Training has been provided for 400 para-medical workers who are due to complete their course in 2005.
The accelerated and decentralised recruitment of medico-social nurses began in 2003 to strengthen personnel numbers outside the main wilayas of Nouakchott and Nouadhibou. A second *Ecole Nationale de Santé Publique* (National Public Health College) is to be opened in a city other than Nouakchott or Nouadhibou. From now on, the training of midwives is to be decentralised and provided in all the wilayas.

A bonus linked to geographical area and technical competence is already in place and permits staff working outside the above-mentioned main cities of Nouakchott and Nouadhibou to double their salaries on average. The fact that the bonus is in proportion to the remoteness and rural nature of the place of work should make it possible to remedy the shortage of personnel in the remote areas over the long term.

The number of health posts in the course of construction in 2003 was estimated at 54, all of which were to be financed out of IDA funds (*PDIS* : 1988-2004). Of this 2003 estimate, 26 health posts were built thanks to the consolidated investment budget. The forecasts for 2004 should make it possible to bring about a real and significant improvement in health coverage within a radius of 5 km, thereby strengthening the potential of the fixed and advanced strategies.

(*) CBMT 2002-2004. Pages 49
1.2.1.5.2. Financing of the EPI

From the time of its launch and up to the mid 1990s, the EPI enjoyed a high priority and substantial financing on the part of the International Community, with USAID, UNICEF and the WHO providing most of the funds for the programme. As a result, there was a net improvement in coverage rates.

The second half of the 1990s was characterised by "donor fatigue", with the traditional donors reducing their financing significantly. Thus, the positive trend in coverage rates was adversely affected and this led the government and its partners to seek alternative solutions, particularly for the financing of vaccines and consumables.

With effect from 1996, Mauritania adhered to the Vaccine Independence Initiative, enabling the country to ensure the financing of its vaccines and consumables with assistance from the European Community and UNICEF. However, the absence of financing for other EPI priority expenditure (such as the acquisition and maintenance of cold chain equipment, the implementation of immunisation activities in general and the advanced and mobile strategies and, in particular, supervision, monitoring and training) meant that the efforts made were brought to nothing, with the result that immunisation coverage rates fell even further.

With effect from 2000, the government decided to commit itself more resolutely to the financing of the EPI, in accordance with the poverty reduction strategy and in response to pressure from the foreign partners, which linked the disbursement of budgetary aid to improvement in the performance indicators for the social sectors, including immunisation coverage rates, with a target of 70% for 2002. The resources made available by the government and UNICEF permitted intensified implementation of the fixed and mobile strategies, producing the extraordinary results achieved in the past few years.

Since 2003, the country has enjoyed financial support from the Global Alliance for Vaccines and Immunisation (GAVI) for the following three aspects of the programme: immunisation services support (ISS), injection safety and the introduction of new vaccines (Hepatitis B in 2005).
SECTION II : MAIN CHARACTERISTICS OF THE PROGRAMME

II.1 PROGRAMME ORGANISATION AND MANAGEMENT

II.1.1 Programme organisation and management

The Expanded Programme of Immunisation is answerable to the DPS (Health Protection Directorate) and is located in the premises of the central store for vaccines and consumables. The management of the EPI at central level is entrusted to a national coordinator. The EPI department includes:

- the supervision and training division
- the logistics and cold chain division
- the data management division

These various divisions are manned by two (2) doctors responsible for training and supervision, one (1) IT engineer, two (2) senior health technicians, a cold chain technician, three (3) registered nurses, one (1) medico-social nurse, one (1) secretary, three (3) drivers and four (4) support personnel (security staff and liaison officer).

At the level of the wilaya, the EPI focal point coordinates all the immunisation activities. It is under the responsibility of the DRPSS, and is supported by a biomedical technician in charge of maintenance of the cold chain equipment.

At the level of the moughataa, the chief medical officer and his team coordinate the EPI activities of the peripheral structures, namely the health centres and the health posts.

At the peripheral level (i.e. the communes), the EPI has set itself the aim of integrating its activities within the Minimum Package of Activities (MPA).

At the central level, the EPI has at its disposal three vehicles (a service vehicle, a liaison vehicle and a refrigerated vehicle for the transport of vaccines), IT equipment and VHF radio. In 2002, a Hilux 4x4 vehicle was allocated to each wilaya for immunisation activities.

II.1.2 Results of the programme

II.1.2.1 Immunisation timetable

For children, all EPI antigens should be administered through 5 immunisation contacts before they reach one year of age. Initially, this concerns the following vaccines: BCG, polio, diphtheria, tetanus, pertussis and measles. Table 1 below shows the minimum age recommended for each vaccine:
Table n° 1 : Routine immunisation timetable for children aged between 0 and 11 months

<table>
<thead>
<tr>
<th>Contact</th>
<th>Age</th>
<th>Recommended antigen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>At birth</td>
<td>BCG, polio 0</td>
</tr>
<tr>
<td>2</td>
<td>6 weeks</td>
<td>DTP 1, polio1</td>
</tr>
<tr>
<td>3</td>
<td>10 weeks</td>
<td>DTP 2, polio2</td>
</tr>
<tr>
<td>4</td>
<td>14 weeks</td>
<td>DTP 3, polio3</td>
</tr>
<tr>
<td>5</td>
<td>9 months</td>
<td>anti-measles</td>
</tr>
</tbody>
</table>

With effect from 2005, the timetable will include a new antigen, namely the vaccine against hepatitis B.

Table n° 2 : Routine immunisation timetable for children aged between 0 and 11 months from 2005

<table>
<thead>
<tr>
<th>Contact</th>
<th>Age</th>
<th>Recommended antigens</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>At birth</td>
<td>BCG, polio 0</td>
</tr>
<tr>
<td>2</td>
<td>6 weeks</td>
<td>DTP 1, polio1, HepB1</td>
</tr>
<tr>
<td>3</td>
<td>10 weeks</td>
<td>DTP 2, polio2, HepB2</td>
</tr>
<tr>
<td>4</td>
<td>14 weeks</td>
<td>DTP 3, polio3, HepB3</td>
</tr>
<tr>
<td>5</td>
<td>9 months</td>
<td>anti-measles</td>
</tr>
</tbody>
</table>

For pregnant women and women of child-bearing age, five immunisation contacts are also envisaged within the framework of the fight against maternal and neo-natal tetanus:

Table n° 3 : Immunisation timetable for pregnant women and women of child-bearing age

<table>
<thead>
<tr>
<th>Contact</th>
<th>Age</th>
<th>Recommended antigens</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1st contact (from the age of 14 or during a pregnancy)</td>
<td>TT1</td>
</tr>
<tr>
<td>2</td>
<td>4 weeks after TT1</td>
<td>TT2</td>
</tr>
<tr>
<td>3</td>
<td>1 year after TT2</td>
<td>TT3</td>
</tr>
<tr>
<td>4</td>
<td>1 year after TT3</td>
<td>TT4</td>
</tr>
<tr>
<td>5</td>
<td>1 year after TT4</td>
<td>TT5</td>
</tr>
</tbody>
</table>

II.1.2.2 Target population for routine EPI and supplementary immunisation activities

Table n° 4 : Routine EPI target population per immunisation strategy

<table>
<thead>
<tr>
<th>Group</th>
<th>Proportion of total population</th>
<th>Immunisation strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children aged 0-11 months</td>
<td>4%</td>
<td>Routine EPI</td>
</tr>
<tr>
<td>Children aged 0-59 months</td>
<td>18.5%</td>
<td>NIDs</td>
</tr>
<tr>
<td>Children aged 9 months to 14 years</td>
<td>42%</td>
<td>Control of measles</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>4.75%</td>
<td>Elimination of MNTT</td>
</tr>
<tr>
<td>Women of child bearing age</td>
<td>23%</td>
<td>Elimination of MNTT</td>
</tr>
</tbody>
</table>
II.1.2.3 Routine EPI quantitative and qualitative data

II.1.2.3.1 Coverage and drop-out rates according to administrative data for 1999 to 2003

Table n° 5: Change in the percentage of immunisation coverage and drop-out rates from 1999 to 2003

<table>
<thead>
<tr>
<th>ANTIGENS/YEARS</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>38</td>
<td>48</td>
<td>70</td>
<td>98</td>
<td>84</td>
</tr>
<tr>
<td>DTPP 1</td>
<td>38</td>
<td>45</td>
<td>82</td>
<td>98</td>
<td>84</td>
</tr>
<tr>
<td>DTPP 3</td>
<td>26</td>
<td>31</td>
<td>61</td>
<td>83</td>
<td>71</td>
</tr>
<tr>
<td>MEASLES</td>
<td>26</td>
<td>28</td>
<td>58</td>
<td>80</td>
<td>66</td>
</tr>
<tr>
<td>TT 2+ (Pregnant women)</td>
<td>13</td>
<td>17</td>
<td>31</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>TT 2+ (Women of child bearing age)</td>
<td>3</td>
<td>2</td>
<td>11</td>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>Drop out rate DTPP1/DTPP3</td>
<td>32</td>
<td>31</td>
<td>26</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>COMPLETION RATE</td>
<td>35</td>
<td>54</td>
<td>93</td>
<td>90</td>
<td>83</td>
</tr>
</tbody>
</table>

Source: EPI annual reports

II.1.2.3.2 Immunisation coverage and drop out rates according to the data of the external reviews of 1997 and 2001

Table n° 6: Immunisation coverage rates according to the external reviews of 1997 and 2001

<table>
<thead>
<tr>
<th>ANTIGENS/YEARS</th>
<th>1997</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>71,8%</td>
<td>74,7%</td>
</tr>
<tr>
<td>DTPP 1</td>
<td>59,3%</td>
<td>60,80%</td>
</tr>
<tr>
<td>DTPP 3</td>
<td>29,3%</td>
<td>33,3%</td>
</tr>
<tr>
<td>MEASLES</td>
<td>21,3%</td>
<td>44,80%</td>
</tr>
<tr>
<td>TT 2+ (PW)</td>
<td></td>
<td>24,7%</td>
</tr>
<tr>
<td>Drop-out rate DTPP1/DTPP3</td>
<td>52,7%</td>
<td></td>
</tr>
</tbody>
</table>

Source: EPI 1997 ; EDSM 2000-2001

The immunisation coverage rates improved gradually from 1999 to 2002. The efforts made within the framework of the relaunch of the EPI, particularly since 2001, have resulted in a significant increase in immunisation coverage rates, with the DTP3 coverage rate rising from 26% in 1999 to 83% in 2002. This immunisation rate is higher than the target of 53% which had been set in the strategic plan for 2002-2006. However, there was an overall reduction of immunisation coverage rates in 2003, as well as a disparity between the different moughataas. To remedy this situation, the EPI initiated a targeted support strategy for the under-performing districts.
There was also a gradual reduction in the DTP1 – DTP3 drop-out rate, which fell from 32% in 1999 to 16% in 2002. Here too, the fixed target of 20% was exceeded, reflecting the capacity of the health units to reduce the number of drop-outs.

However, the verification factor of the data quality audit (DQA) of 2004 was only 70%, below the recommended 80%, highlighting the need to strengthen training and the dissemination of the directives concerning data quality.

1.2.3.2 Vaccine wastage rates

At the level of the EPI, there is a genuine will to control wastage rates. This is evidenced by the implementation of a number of actions, including:

- a wastage rate study carried out in 1999\(^4\) with the support of the CATR, the results of which should make it possible to improve EPI management and to ensure the efficient use of resources
- monitoring of vaccine wastage rates, which has been incorporated into the monitoring system for immunisation activities.

However, the programme has not always had the resources necessary to ensure an effective control of wastage. The 1999 study revealed the following wastage rates:

- **BCG** : 32.50%
- **DTP** : 29.04%
- **OPV** : 19.92%
- **Measles**: 54.15%
- **TT** : 46.61%

The relatively high rates for TT and measles are partly due to the following:

- The TT target population consists of women of child bearing age but, in practice, only pregnant women are vaccinated during the immunisation sessions.
- The high demand on the part of the population for immunisation against measles puts pressure on the immunisation units, leading to the use of lyophilised vaccines which do not meet the criteria of the open vial policy.

Difficulties are also encountered in the collection of information on the situation of vaccines for the monthly report on the monitoring of immunisation activities. The necessary support actions in terms of training and supervision are lacking.

1.2.3.3 Quantitative and qualitative data on the supplementary immunisation activities

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\(^4\) Estimate of wastage rate in Mauritania, CATR, 1999.
1.2.3.3.1 Supplementary activities for immunisation against poliomyelitis

The Islamic Republic of Mauritania conducted regular NIDs from 1996 to 2002, achieving coverage rates which were always over 90%. Each NID round enjoyed political support at the highest level, as well as the support of the partners. The main difficulties encountered are connected with the following:

- absence of information on target population
- absence of information on the age of children
- inadequate training.

In theory, the NIDs were due to end in 2002. However, the epidemics of the last two years have led the WHO and UNICEF to ask Mauritania to organise NIDs in 2004 at the same time as the other countries of western and central Africa. The first round took place from 8 to 11 October 2004, involving 528,935 children, i.e. an immunisation coverage rate of 103%. The second round, which was conducted from 18 to 21 November 2004, achieved an immunisation coverage rate of 105.4%.

1.2.3.3.2 Supplementary immunisation activities against measles

Within the framework of the implementation of the strategic plan for the control of measles, Mauritania organised a mass campaign of immunisation against measles by successive batches from the month of August 2003 to June 2004. The target for the campaign was to immunise 95% of children aged between 9 months and 14 years. In practice, it was possible to immunise 1,172,510 children, giving an administrative coverage rate of 101% and a rate of 96% according to the results of the campaign evaluation.

An overhaul plan financed by UNICEF made it possible to provide all of the stores of the wilayas and moughataas with efficient and appropriate cold chain equipment, once an inventory had been carried out.

The main difficulties to have been encountered are connected with the following:

- the absence of reliable information on the target population and the age of children, with the result that immunisation coverage rates were over 100% in certain wilayas
- the lack of a standard method of waste disposal due to the absence of incinerators in most of the moughataas

1.2.3.3.3 Supplementary immunisation activities against maternal and neo-natal tetanus

The plan for the elimination of maternal and neo-natal tetanus has as yet to be implemented.
II.2. MAIN CONSTRAINTS AND DIFFICULTIES

The main constraints and difficulties relate to the following:

II.2.1. In terms of organisation and management

♦ lack of human resources at central level
♦ absence of suitable premises for the central EPI
♦ absence of supervision vehicle at the central level
♦ IT equipment out of order
♦ absence of an EPI specific micro-plan at the level of the wilayas and moughataas
♦ poor training of the focal points of the wilaya and moughataa teams
♦ inadequate supervision and monitoring of activities at the level of the wilayas
♦ demotivation of personnel in favour of curative activities within the framework of the recovery of costs
♦ poor quality of the immunisation due to:
  - low rate of completion of monthly reports
  - low rate of utilisation of immunisation services
  - high rate of missed opportunities

♦ absence of archives at the level of the wilayas and moughataas
♦ absence of a structured course on the EPI in the vocational training schools
♦ absence of a national plan for the management of APIRs.

II.2.2. In terms of social mobilisation

♦ Absence of implementation of the communication plan in favour of the routine EPI

II.2.3. In terms of financing

♦ the high cost of the mobile activities due to the low density of a scattered population
♦ the financing of activities is largely provided by the partners.

III.3. PROGRAMME TARGETS AND STRATEGIES

III.3.1. Targets

III.3.1.1. General aim

The general aim of the programme is to protect children aged between 0 and 11 months against vaccine preventable diseases, namely tuberculosis, diphtheria, pertussis, poliomyelitis and measles; and women of child bearing age (14 to 44 years old) against tetanus in order to reduce the incidence of such diseases and the related mortality.
III.3.1.2. Specific targets of the routine EPI

➢ To increase immunisation coverage at national level among children aged between 0 and 11 months and pregnant women by 2009 to the following:

Table n° 7: Annual immunisation coverage targets for the period 2004 - 2013

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>88</td>
<td>90</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>96</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>DTP3P3</td>
<td>80</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTP-HepB-Hib3</td>
<td></td>
<td></td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>95</td>
<td>96</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>Measles</td>
<td>75</td>
<td>85</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>96</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>TT2+ (women of child bearing age)</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>75</td>
<td>75</td>
<td>78</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

The projections concerning the immunisation coverage targets have been updated in line with the EPI performance figures over the past three years.

➢ To introduce the hepatitis B vaccine into the routine EPI with effect from 2005:

Table n°8: Annual immunisation coverage targets for Hepatitis B for the period 2004 - 2013

<table>
<thead>
<tr>
<th>Antigen /Year</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B3</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTP-HepB-Hib3</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>95</td>
<td>96</td>
<td>96</td>
<td>97</td>
<td></td>
</tr>
</tbody>
</table>

Mauritania’s submission for the introduction of the hepatitis B vaccine was accepted in 2004, with effective implementation being expected in 2005.

➢ To reduce vaccine wastage rates by 2013 by:

- 25% for the reconstituted vaccines
- 10% for non-reconstituted vaccines (depending on the choice of presentation)
Table n°9: Annual wastage rate targets for the period 2004-2013

<table>
<thead>
<tr>
<th>ANTIGEN</th>
<th>WASTAGE RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG*</td>
<td>30</td>
</tr>
<tr>
<td>DTP</td>
<td>20</td>
</tr>
<tr>
<td>DTP-HepB-Hib</td>
<td></td>
</tr>
<tr>
<td>MEASLES</td>
<td>40</td>
</tr>
<tr>
<td>OPV</td>
<td>20</td>
</tr>
<tr>
<td>TT</td>
<td>20</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>20</td>
</tr>
</tbody>
</table>

*the projections on wastage rates for the BCG take into account the results of the study carried out in 1999.

➢ To reduce the drop-out rate for DTP1 / DTP3 to 3% by 2013

Table n°10: Annual drop-out rate targets for the period 2004-2013

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DTP1/DTP3</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>DROP-OUT RATE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III.3.1.3. Specific targets for the supplementary immunisation activities

➢ Specific targets for the supplementary immunisation campaigns against poliomyelitis: to administer two drops of the vaccine to every child aged between 0 and 59 months

➢ To organise two (2) supplementary immunisation campaigns against polio in 2004 and 2005;

➢ To organise mop-up campaigns in the regions where the wild polio virus has been detected.

➢ Specific targets for the supplementary immunisation campaigns against measles:

The strategic plan for the control of measles provides for a first mass immunisation campaign to be conducted in 2003-2004 and a follow-up campaign three years later.

➢ To immunise at least 95% of children aged between 9 months and 15 years across the whole country during the follow-up mass campaign in 2007

➢ Specific targets for the supplementary immunisation campaigns against maternal and neo-natal tetanus:

➢ To immunise at least 80% of women of child-bearing age in the areas at high-risk and those with difficult access.
III.3.1.4. Specific targets for injection safety

- To ensure a regular and sufficient supply of AD syringes and safety boxes for all the health units from 2004 to 2010
- To ensure proper collection and disposal of waste (through the construction of incinerators) in all the health units by the end of 2010.

III.4. Reasons for failure to achieve targets

In 2001, the relaunch of routine EPI activities enjoyed strong support from the government and the partners. As a result, the DTP coverage rate achieved in 2002, namely 83% far exceeded the target set at 70%. This situation led to a revision of the immunisation coverage rates initially laid down in the strategic plan for 2000-2006. However, the pressure on the immunisation units could not be sustained in 2003, with the result that immunisation coverage rates for that year fell below those achieved in 2002 (71% in 2003 as against 83% in 2002). Hence the need to concentrate efforts on sustainable strategies.

The supplementary immunisation activities organised in 2004 concerned, on the one hand, those relating to the control of measles, which were conducted in batches from the month of March to June and, on the other, the activities relating to the eradication of poliomyelitis, which were conducted in two rounds, one in October and the second in November. Such activities will have repercussions on the performance of the routine EPI, as the planned activities of the programme experienced serious disruption connected with the organisation of the mass campaigns, the latter mobilising personnel and transport from the micro-planning phases to the phases of implementation and assessment.

There was a lack of monitoring of the activities on the field, due to the difficulties in implementing the supervision plan at the central as well as the regional level.

The low rate of utilisation of the health services makes it necessary to strengthen immunisation strategies intended primarily for the populations in geographically remote areas.

These various factors could jeopardize the targets set unless appropriate measures are taken to incorporate the routine immunisation activities of the health posts and health centres into the timetable for mass campaign activities during the micro-planning workshops, with a view to ensuring a continued and sustainable performance for the routine EPI.

III.5. Strategies

To achieve the targets specified above, it will be necessary to adopt various strategies over the coming seven years in order to:

III.5.1 increase immunisation coverage in a continued and sustainable manner

The following strategies have been adopted:

♦ Strengthening routine immunisation through the fixed and advanced strategy and relaunching the mobile strategy

The two immunisation strategies currently in use will be strengthened as follows:

- the fixed strategy, which is applied for populations living within less than 5 kilometres of a health unit
- the advanced strategy, which is intended for populations resident at 5 kilometres and over from a health unit

- the mobile strategy, which is intended for populations situated at more than 15 kilometres from a health unit, was gradually abandoned due to the budget reductions on the part of the main partners. It is to be relaunched where it is deemed to be relevant, particularly since Mauritania is characterised by a low density, widely dispersed and mainly nomadic population (2.5 inhabitants per square kilometre).

♦ Strengthening of the Reach Every District (RED) strategy

The RED strategy has as yet to be implemented. With effect from 2005, it should make it possible to relaunch immunisation activities in all the moughataas where performance has been poor. The strategy will consist, among other things, in the organisation of regular immunisation sessions while ensuring social mobilisation, effectively free immunisation, the search for the drop-outs, community-based immunisation and systematic checking of the immunization status of all the children and women of child bearing age using the health services.

♦ Improving planning and management quality at all levels

This strategy involves improving the quality of strategic and operational planning (district and health centre microplans) through the involvement of the partners and the community, as well as the updating of the health areas in the health units. It will also involve:

- drawing up a maintenance plan
- associating the partners in the mobilisation of resources and involving the community in the financing of activities.

♦ Improving immunisation quality

For this strategy, it is necessary to strengthen the competences of the health workers and to provide them with appropriate equipment for the immunisation activities. This essentially involves the following:

♦ implementing the training plan
♦ improving the capacities for monitoring and assessment at all levels
♦ reducing the drop-out rates by encouraging the search for drop-outs through the involvement of the community, the adoption/improvement of the time-limit system or immunisation book
♦ reducing missed opportunities through the dissemination of the directives (side effects of immunisation, open vial policy, systematic check of the immunisation status)

- providing the health units with appropriate logistics equipment
- ensuring vaccine supply (regular allocation of traditional and new vaccines)
- drawing up and implementing a national plan for the management of APIRs.

♦ organising supplementary immunisation

The supplementary immunisation concerns the vaccines against measles, poliomyelitis and MNT.
III.5.2 improve vaccine management

To this end, it is necessary:

♦ to monitor the procedures for vaccine and technical equipment ordering and delivery
♦ to comply with the procurement plan of the wilayyas, moughataas and health centres
♦ to strengthen the capacities of the staff responsible for the EPI at the regional health directorates in estimating needs and in managing vaccine and technical equipment stocks through training in the use of the vaccine management software package
♦ to reduce wastage rates through:
   - the implementation of the open vial policy
   - the reorganisation of immunisation activities into fixed centre, advanced and mobile strategies
   - compliance with the immunisation timetable
   - the strengthening of dialogue with the communities.

III.5.3 introduce new vaccines

The Hepatitis B vaccine will be introduced in 2005. To this end, it will be necessary to:

♦ train the health workers
♦ adjust the management tools
♦ improve storage capacities where necessary.

III.5.4 ensure safe immunisation

Injection safety requires the following:

♦ the ongoing provision of the immunisation centres with injection supplies (ADSs) and safety boxes
♦ proper collection and disposal of wastes in all the health units (by providing safety boxes on a permanent basis and building appropriate incinerators).

III.5.5 improve communication for development / social mobilisation

For an appropriate and efficient approach to communication for development / social mobilisation, it is necessary:

♦ to draw up a social mobilisation and communication plan at the level of the moughataas, which takes into account a community-based approach as well as the use of multimedia (community radio, traditional and religious leaders, etc.)
♦ to implement the national communication / social mobilisation plan to encourage all the EPI actors to become involved in achieving the targets.

The information concerning the costs and financing of the EPI during the years under consideration were collected and processed in accordance with the guidelines recommended by GAVI for drawing up financial sustainability plans.

Thanks to this approach, it was possible to calculate the total cost of the national immunisation programme for each of the three years, broken down by item heading. It was also possible to determine financing, broken down by partner and by activity (routine and supplementary immunisation activities).

With regard to methodology, a data collection sheet was drawn up and made available to the various partners of the EPI. The sheets served to identify the costs and financing of the programme for the years 2001, 2002 and 2003.

With regard to salaries, account was taken of the time devoted to immunisation activities as follows:

♦ 100% for personnel at the central EPI
♦ 25% for the DRPSS personnel, 100% for the regional focal points and 25% for the driver
♦ for personnel at the level of the moughataas (districts): 35% for the chief medical officer of the moughataa and 55% for the registered nurse acting as senior officer of the health centre
♦ at the level of the health posts: 100% for the nurse in charge at the health post and 55% for the medico-social nurse.

III.1 Cost and financing of the EPI in 2001

Graphs 1, 2 and 3 below show the cost figures and structure by category and by partner.

Analysis of the figures highlighted the following points:

- The total cost of the programme amounted to approximately USD 3,252,547, 47% being borne by the government, 29% by UNICEF and 24% by the WHO.
- Recurrent costs (vaccines, injection supplies, salaries, etc) represented 62% of the total cost of the programme in 2001, the share of vaccines amounting to 5.1%. The recurrent costs were borne in their entirety by the government.
- The costs of routine immunisation accounted for 85% of the total. They are broken down as follows: 73% for recurrent costs, 26% for shared costs and 1% for capital costs.
- The average cost per immunised child (DTP3) irrespective of the strategy adopted and including recurrent, shared and capital costs amounted to USD 42.53.
- The mass immunisation campaigns represented 15% of the total costs and were primarily financed by UNICEF (58%) and the WHO (34%). The average cost per child immunised during the NID against polio amounted to USD 0.49, net of the shared cost of the buildings.
In 2001, financing by the government was essentially for vaccines, injection supplies and staff salaries. For their part, the partners financed the immunisation campaigns, the advanced and mobile activities and the systematic epidemiological surveillance of the EPI target diseases.

**Structure of EPI costs in 2001**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>62%</td>
<td>Recurrent costs</td>
</tr>
<tr>
<td>15%</td>
<td>Capital costs</td>
</tr>
<tr>
<td>1%</td>
<td>Campaign costs</td>
</tr>
<tr>
<td>22%</td>
<td>Shared costs</td>
</tr>
</tbody>
</table>

**Figure 1**

*Graph n°1: Breakdown by heading of the EPI costs in 2001*
Structure of EPI financing costs in 2001

<table>
<thead>
<tr>
<th>Partner</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>29%</td>
</tr>
<tr>
<td>WHO</td>
<td>47%</td>
</tr>
<tr>
<td>UNICEF</td>
<td>24%</td>
</tr>
</tbody>
</table>

Graph n°2: Breakdown of financing by EPI partner in 2001
### III.2. Cost and financing of the EPI programme in 2002

Analysis of the EPI costs and financing in 2002 revealed the following:

- The total cost of the programme amounted to approximately USD 3,413,572, 55% of which was borne by the government, 24% by UNICEF, 20% by the WHO and 1% by the FED/ARIVA project.

- As in 2001, recurrent costs (vaccines, immunisation supplies, staff salaries, etc) accounted for 62% of total costs in 2002. However, the share of the vaccines increased by 7.3% as compared with 2001 and were financed entirely by the government.

- Routine immunisation activities accounted for 86% of the total programme costs for 2002 and consisted of the following: 72% in recurrent costs, 27% in shared costs and 1% in capital costs.

- The average cost per DTP3 immunised child irrespective of strategy and including recurrent, shared and capital costs amounted to USD 32.24.

- Mass immunisation campaigns represented 14% of the total programme costs. They were financed by UNICEF (61%) and the WHO (39%). The average cost per child immunised against poliomyelitis during NIDs amounted to USD 0.49, excluding the shared costs for the buildings.

In 2002, the share of the government increased from 47% to 55%. This increase was connected with the relaunch of the routine EPI which required the purchase of vehicles and the financing of the advanced and mobile immunisation strategies. The same applied for the portion allocated to vaccines and immunisation supplies, which increased from USD 141,176 to USD 188,680, in order to meet the challenge of increasing DTP3 coverage from 61% to at least 70%. With regard to the partners, they provided financing primarily for the mass immunisation campaigns and contributed to the epidemiological surveillance of the EPI target diseases.
Graph n°3: Breakdown the EPI costs per heading in 2002

Structure of EPI financing costs in 2002

Graph n°4: Breakdown of EPI financing per partner in 2002
III.3 Cost and financing of the EPI in 2003

Analysis of the EPI costs and financing for 2003 revealed the following:

- Total programme costs amounted to around USD 2,914,776, 50% of which was financed by the government, 35% by UNICEF, 8% by the WHO, 5% by GAVI and 2% by the FED/ARIVA Project.

- Recurrent costs (vaccines, immunisation supplies, staff salaries, etc.) represented 66% of the total, with the vaccines accounting for 5.7%. The recurrent costs were entirely financed by the government.

- As no supplementary immunisation activities were conducted in 2003, all the costs were accounted for by the routine immunisation activities, with recurrent costs representing 66% of the total, shared costs 29% and capital costs 5%.

- The average cost per DTP3 immunised child irrespective of strategy and including recurrent, shared and capital costs amounted to USD 36.52.

The year 2003 was characterised by the absence of mass immunisation costs. As in the previous two years, the government financed the vaccines, immunisation supplies and staff salaries. The partners focused their efforts on providing technical and financial support to the immunisation services (advanced and mobile strategies, injection safety, training of personnel, overhaul / maintenance of the cold chain and the systematic epidemiological surveillance of EPI target diseases).

---

**Graph n°5 : Breakdown of EPI costs by item heading for 2002**

<table>
<thead>
<tr>
<th>Structure of EPI costs in 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>recurrent costs</td>
</tr>
</tbody>
</table>

January 2005
Graph n°6: Breakdown of financing by EPI partner in 2003

<table>
<thead>
<tr>
<th>Government</th>
<th>WHO</th>
<th>UNICEF</th>
<th>CATR</th>
<th>GAVI</th>
</tr>
</thead>
</table>

January 2005
SECTION IV : RESOURCE AND FINANCING REQUIREMENTS FOR THE PROGRAMME/ANALYSIS OF FUNDING GAPS.

This section deals with the projections for the resources necessary for the operation of the EPI and the expected financing to cover requirements. An estimate of the gap between the requirements and funding should make it possible to determine whether additional resources will need to be mobilised or new strategies developed in order to ensure sustainable financing.

From a methodological point of view, the resources have been determined mainly on the basis of the EPI strategic plan for 2002-2006 and on the GAVI submission files, taking into account the revised targets in the light of the recent performance results of the EPI.

In estimating resources, the following have been taken into account:

♦ the target population, calculated on the basis of the general population and housing census of 2002, with a rate of increase of 2.4%, as well as the immunisation coverage forecast targets

♦ the introduction of new vaccines, namely Hepatitis B in 2005 and DTP-HepB-Hib in 2006

♦ the improvement in injection safety with the construction of incinerators

♦ the organisation of immunisation campaigns within the framework of the eradication of poliomyelitis, the control of measles and the elimination of maternal and neo-natal tetanus

♦ the renewal of the cold chain and the transport fleet.

With regard to the financing estimate, this was made on the basis of the commitments by the government and the data provided by the partners for the period 2004-2013.

The financing of new vaccines will be provided by GAVI for a period of 5 years, so as to permit the government to include it in its budget line for the purchase of vaccines and immunisation supplies within the framework of the vaccine independence initiative.

Government financing was considered to be secured over the whole period. For financing by the partners, this was estimated on the basis of their cooperation programmes with Mauritania, namely secured financing up to 2008 and probable financing for the rest of the period under consideration.

The exchange rate used is USD 1 = MRO 264.

IV.1- RESOURCE REQUIREMENT FORECASTS

The amount of the resources necessary for the period 2004-2013 was estimated at USD 58 926 199, of which USD 54 731 474 exclusive of the supplementary immunisation activities. The average annual amount was estimated at USD 5 892 620.
### Table no.11: Resource requirements for the period 2004 to 2013 (in USD)

<table>
<thead>
<tr>
<th>Years/resources</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource requirements</td>
<td>6 288 849</td>
<td>5 788 706</td>
<td>6 277 516</td>
<td>6 782 440</td>
<td>5 075 972</td>
<td>5 222 882</td>
<td>5 340 554</td>
<td>5 620 600</td>
<td>5 620 977</td>
<td>6 907 703</td>
<td>58 926 199</td>
</tr>
<tr>
<td>Resource requirements excluding the supplementary activities</td>
<td>4 828 501</td>
<td>4 876 743</td>
<td>6 277 516</td>
<td>4 960 031</td>
<td>5 075 972</td>
<td>5 222 882</td>
<td>5 340 554</td>
<td>5 620 600</td>
<td>5 620 977</td>
<td>6 907 703</td>
<td>54 731 479</td>
</tr>
</tbody>
</table>
Graph n°7: Breakdown of necessary requirements by heading for the period 2004-2013

- 56.1% coûts récurrents
- 29.3% coûts en capital
- 7.1% campagnes de vaccinations
- 7.5% coûts partagés
It can be seen from the cost structure that the recurrent costs represent 56.1% of the total. The significant share allocated to these costs is due to the introduction of new vaccines and, more importantly, to the more expensive combined forms of the vaccines. In 2003 (i.e. before the introduction of new vaccines), the EPI costs amounted to USD 2 914 776. Thus, the vaccines account for 9% of the total costs, as against 5.7% in 2003. The shared costs, the capital costs and the costs of the immunisation campaigns represent 29.3%, 7.5% and 7.1% respectively.

IV.2- FUTURE FINANCING FORECASTS

The government, UNICEF, the WHO, the FED/ARIVA Project and GAVI are the main sources of financing for the programme.

The amount of secure funding for the period 2004-2013 is estimated at USD 14 667 551, i.e. an average of USD 1 466 755, covering 25% of needs.

The amount of secure and probable financing for the same period is estimated at USD 17 401 398, giving an average of USD 1 740 140 and covering 30% of needs.

As this situation puts the financial sustainability of the programme at risk, it is necessary to identify and develop relevant and appropriate strategies to reduce needs or increase financing.

Analysis of the sources of financing for the period 2004-2013 shows the following:

- With regard to secured financing, the various contributions are as follows:
  - Government : 50%
  - UNICEF : 31%
  - GAVI : 12%
  - WHO : 7%
  - ARIVA/EU : 0.3%

- With regard to secure and probable financing, the contributions are as follows:
  - Government : 42%
  - UNICEF : 32%
  - GAVI : 15%
  - WHO : 10%
  - ARIVA/EU : 1%

For the period 2004-2008, the needs covered by the secure financing as well as the secure and probable financing remain constant. With effect from 2009, the percentage of needs covered by secure financing and secure / probable financing is set to fall drastically due, on the one hand, to the fact that, as a rule, the partners do not commit themselves to periods of over three years and, on the other, to the withdrawal of GAVI/VF support.
Table n°12 : Secure and probable financing for the period 2004-2013 (USD)

<table>
<thead>
<tr>
<th>Years/Financing</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure financing</td>
<td>2 718 268</td>
<td>2 268 364</td>
<td>1 726 522</td>
<td>2 558 283</td>
<td>1 440 022</td>
<td>946 418</td>
<td>752 418</td>
<td>752 418</td>
<td>752 418</td>
<td>752 418</td>
<td>14 667 551</td>
</tr>
<tr>
<td>Secure and probable</td>
<td>2 718 268</td>
<td>2 268 364</td>
<td>1 751 508</td>
<td>2 583 269</td>
<td>1 465 008</td>
<td>1 465 008</td>
<td>1 465 008</td>
<td>1 109 978</td>
<td>1 109 978</td>
<td>17 401 398</td>
<td>financing</td>
</tr>
</tbody>
</table>
IV.3- ANALYSIS OF THE FUNDING GAP

The funding gap takes into account secure financing as well as secure and probable financing.

Table n° 13 : Funding gap for the period 2004-2013 (USD)

<table>
<thead>
<tr>
<th>Years/Gap</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine EPI costs</td>
<td>4,828,501</td>
<td>4,876,743</td>
<td>6,277,516</td>
<td>4,960,031</td>
<td>5,075,972</td>
<td>5,222,882</td>
<td>5,340,554</td>
<td>5,620,600</td>
<td>5,620,977</td>
<td>6,907,703</td>
<td>54,731,479</td>
</tr>
<tr>
<td>Secure financing</td>
<td>1,083,151</td>
<td>1,520,508</td>
<td>1,495,522</td>
<td>1,440,022</td>
<td>1,440,022</td>
<td>946,418</td>
<td>752,418</td>
<td>752,418</td>
<td>752,418</td>
<td>752,418</td>
<td>10,935,317</td>
</tr>
<tr>
<td>Cost of routine activities + campaigns</td>
<td>6,288,849</td>
<td>5,788,706</td>
<td>6,277,516</td>
<td>6,782,440</td>
<td>5,075,972</td>
<td>5,222,882</td>
<td>5,340,554</td>
<td>5,620,600</td>
<td>5,620,977</td>
<td>6,907,703</td>
<td>58,926,199</td>
</tr>
<tr>
<td>Secure financing</td>
<td>2,718,268</td>
<td>2,268,364</td>
<td>1,726,522</td>
<td>2,558,283</td>
<td>1,440,022</td>
<td>946,418</td>
<td>752,418</td>
<td>752,418</td>
<td>752,418</td>
<td>752,418</td>
<td>14,667,551</td>
</tr>
<tr>
<td>Routine EPI costs</td>
<td>4,828,501</td>
<td>4,876,743</td>
<td>6,277,516</td>
<td>4,960,031</td>
<td>5,075,972</td>
<td>5,222,882</td>
<td>5,340,554</td>
<td>5,620,600</td>
<td>5,620,977</td>
<td>6,907,703</td>
<td>54,731,479</td>
</tr>
<tr>
<td>Secure and probable financing</td>
<td>2,718,268</td>
<td>2,268,364</td>
<td>1,751,508</td>
<td>2,583,269</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,109,978</td>
<td>1,109,978</td>
<td>17,401,398</td>
</tr>
<tr>
<td>Funding gap</td>
<td>-2,110,233</td>
<td>-2,608,379</td>
<td>-4,526,008</td>
<td>-2,376,762</td>
<td>-3,610,964</td>
<td>-3,757,874</td>
<td>-3,875,546</td>
<td>-4,155,592</td>
<td>-4,510,999</td>
<td>-5,797,725</td>
<td>-37,330,081</td>
</tr>
<tr>
<td>Cost of routine activities + campaigns</td>
<td>6,288,849</td>
<td>5,788,706</td>
<td>6,277,516</td>
<td>6,782,440</td>
<td>5,075,972</td>
<td>5,222,882</td>
<td>5,340,554</td>
<td>5,620,600</td>
<td>5,620,977</td>
<td>6,907,703</td>
<td>58,926,199</td>
</tr>
<tr>
<td>Secure and probable financing</td>
<td>2,718,268</td>
<td>2,268,364</td>
<td>1,751,508</td>
<td>2,583,269</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,465,008</td>
<td>1,109,978</td>
<td>1,109,978</td>
<td>17,401,398</td>
</tr>
<tr>
<td>Funding gap</td>
<td>-3,570,581</td>
<td>-3,520,342</td>
<td>-4,526,008</td>
<td>-4,199,171</td>
<td>-3,610,964</td>
<td>-3,757,874</td>
<td>-3,875,546</td>
<td>-4,155,592</td>
<td>-4,510,999</td>
<td>-5,797,725</td>
<td>-41,524,801</td>
</tr>
</tbody>
</table>
A funding gap can be seen for all the years under consideration. The gap remains fairly stable for the years 2004-2008 and then increases gradually up to 2013.

When comparing the costs of the programme for the period 2004-2013 and the secure financing, it can be seen that the funding gap stands at USD 43,796,162. However, when both secure and probable financing are taken into account, the gap is reduced by approximately 15%.

By splitting the periods, we find that the funding gap up to the end of the GAVI-VF support remains stable. However, this gap should not affect expenditure for vaccines, given the government’s commitment to fund the purchase of traditional vaccines within the framework of the VII and the commitments given within the framework of the GAVI initiative for the purchase of the new vaccines after the withdrawal of the latter.

The positive prospects for the country’s economy, following the discovery of significant oil reserves, which are expected to come on stream in 2006, should result in a substantial increase in the budget allocated to health and, in consequence, should make it possible to fill the substantial gap identified.

SECTION V: STRATEGIC PLAN AND FINANCIAL SUSTAINABILITY INDICATORS.

V.1- THE COUNTRY’S STRENGTHS FOR FINANCIAL SUSTAINABILITY

Mauritania possesses real strengths to ensure the financial sustainability of the EPI. In particular,

- There is a strong will and total commitment on the part of the country’s highest authorities in favour of immunisation.
- The national strategy for the reduction of poverty places immunisation at the forefront of the national priorities. Moreover, the Medium Term Budgetary Framework places immunisation among the three public health priorities.
- Public revenues are expected to grow by 18% with effect from 2005 (consolidated financial operations table – Mauritanian authorities and the IMF);
- The imminent exploitation of the country’s oil reserves should generate significant additional revenues.
- An immunisation culture has emerged, thanks to the efforts exerted by the government and its partners over recent years within the framework of the EPI.
- Good geographical access to the health centres. The health coverage rate within a 5 km radius of a health centre amounted to 67% and 75% within a 10 km radius. These figures are set to improve further with the construction of new health posts annually within the framework of the health infrastructure development plan.
- The international partners are committed to supporting the efforts for disease eradication, elimination and control in the various countries of the sub-region;
V.2- STRATEGIES AND MEASURES TO MOBILISE ADEQUATE RESOURCES

V.2.1 Mobilisation of internal resources

The Mauritanian government has placed immunisation at the centre of its priorities within the framework of reducing maternal and infant mortality. To this end, government financing will be maintained or even increased in the following domains:

- The increase in the funds allocated to the purchase of vaccines and consumables will make it possible to finance traditional as well as new vaccines.
- The human resources development plan provides for the training of additional health workers each year in order to meet the needs of the population and to improve ratios (number of doctors/SFs/registered nurses/ per x inhabitants). To this end, a public health college is to be built to supplement the other training structures.
- The health infrastructure development plan (regional hospitals, health centres and health posts) will serve to improve access to and use of the health services.
- Maintenance and overhaul of the cold chain.
- Strengthening of logistics (vehicles).
- Decentralisation of the state budget spending which is due to begin in 2005 will certainly facilitate financial implementation procedures.
- The government’s contribution to the organisation of supplementary immunisation activities: NIDs against poliomyelitis, campaigns against measles, etc.
- Private sector participation in immunisation activities which began in Nouakchott in 2004 should be continued and extended to the country’s other wilayas.

V.2.2 Mobilisation of external resources

The cooperation programmes with the multilateral institutions involved in the financing of the EPI operate on short cycles. The government must pursue the strengthening of cooperation agreements with the traditional partners of the EPI (UNICEF, WHO, WB, ARIVA/EU) in order to mobilise more external resources for the EPI.

V.2.3 Strategies and measures to improve management

V.2.3.1 Measures and strategies which should increase the reliability of resources

These consist in the following:

- The budget and execution procedures with the decentralisation of budget spending, permitting the direct allocation of funds to the moughataas (health districts).
- The current budget procedures, both national and those of the development partners, make fund disbursement difficult. They should be simplified so as to ensure greater reliability for the utilisation of resources.
- Better understanding of the partners’ technical and financial procedures should make it possible to improve performances in connection with the utilisation of the allocated funds. The same applies to the timely transmission of the supporting documentation by the beneficiary structures.
The strengthening of human resources in terms of quantity as well as quality so as to ensure better monitoring of EPI activities and financing.

V.2.3.2 Strategies and measures to improve efficiency of utilisation of resources

To improve the efficiency of utilisation of resources, the following strategies and measures are envisaged:

- reducing wastage rates, which are currently at a high level. The target for 2013 is wastage rates of around 15% for the reconstituted vaccines and 8% for the non-reconstituted form.
- ensuring the implementation of the open-vial policy through training, supervision and monitoring so as to reduce wastage rates and thereby reduce the costs incurred for the purchase of additional vaccines.
- ensuring cold chain maintenance and training health workers in its management so as to improve vaccine conservation and reduce waste.
- reducing drop-out rates gradually to 3% by 2013. To this end, the following actions will be undertaken:
  - conducting intensive communication / social mobilisation activities
  - ensuring appropriate implementation of the fixed, advanced and mobile strategies, as well as the RED strategies
  - reducing missed opportunities
  - improving stock management
- ensuring the monitoring of activities through the country’s competent bodies and the ICC.
Summary table of the measures and strategies to be implemented

### 1. Mobilisation of internal resources

<table>
<thead>
<tr>
<th>Activities</th>
<th>Period</th>
<th>Responsibility</th>
<th>Monitoring indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing routine EPI vaccines and consumables</td>
<td>2005-2013</td>
<td>MF MSAS</td>
<td>Availability of vaccines and consumables for the programme</td>
</tr>
<tr>
<td>Training additional health workers</td>
<td>2005-2013</td>
<td>MFP MSAS</td>
<td>Number of health workers trained</td>
</tr>
<tr>
<td>Developing new health infrastructures</td>
<td>2005-2013</td>
<td>MSAS</td>
<td>Number of hospitals, health centres, health posts and training colleges built</td>
</tr>
<tr>
<td>Ensuring that the cold chain is equipped and maintained</td>
<td>2005-2013</td>
<td>MSAS PARTNERS</td>
<td>Health structures equipped and operational equipment</td>
</tr>
<tr>
<td>Strengthening transport logistics</td>
<td>2005-2013</td>
<td>MSAS PARTNERS</td>
<td>Number of vehicles, motorbikes available</td>
</tr>
<tr>
<td>Decentralising budget spending</td>
<td>2005-2013</td>
<td>MF MSAS</td>
<td>Availability of the budget at all levels of the health pyramid</td>
</tr>
<tr>
<td>Contributing to the organisation of supplementary immunisation activities</td>
<td>2005-2013</td>
<td>MSAS PARTNERS</td>
<td>Availability of funds allocated to supplementary activities</td>
</tr>
<tr>
<td>Ensuring private health sector participation in the immunisation activities</td>
<td>2005-2013</td>
<td>MSAS</td>
<td>Percentage of targets covered</td>
</tr>
</tbody>
</table>

### 2. Mobilisation of external resources

<table>
<thead>
<tr>
<th>Activities</th>
<th>Period</th>
<th>Responsibility</th>
<th>Monitoring indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocacy with partners in favour of the mobilisation of resources for the EPI</td>
<td>2005-2013</td>
<td></td>
<td>Volume of financing mobilised in favour of the EPI</td>
</tr>
<tr>
<td>GAVI financing for the introduction of new vaccines</td>
<td>2005-2008</td>
<td>GAVI</td>
<td>Availability of the new vaccines</td>
</tr>
</tbody>
</table>

### 3. Measures and strategies to improve reliability of resources

<table>
<thead>
<tr>
<th>Activities</th>
<th>Period</th>
<th>Responsibility</th>
<th>Monitoring indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make the budget procedures more flexible and improve understanding of the government and the partners' procedures</td>
<td>2005-2013</td>
<td></td>
<td>Availability of funds at all times and at all levels of the health pyramid, quality supporting documentation transmitted in time and satisfactory absorption rates</td>
</tr>
</tbody>
</table>
4. Measures and strategies to improve efficiency of resource utilisation

<table>
<thead>
<tr>
<th>Activities</th>
<th>Period</th>
<th>Responsibility</th>
<th>Monitoring indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing vaccine wastage rates</td>
<td>2005-2013</td>
<td>MSAS / EPI</td>
<td>Better use of lyophilised and non-lyophilised vaccines, with wastage rates consistent with projections</td>
</tr>
<tr>
<td>Reducing drop-out rates</td>
<td>2005-2013</td>
<td>MSAS / EPI</td>
<td>Knowledge of immunisation timetable by the communities and association of the communities with the planning of immunisation sessions</td>
</tr>
<tr>
<td>Monitoring EPI activities</td>
<td>2005-2013</td>
<td>MSAS / ICC</td>
<td>Number of minutes of ICC meetings</td>
</tr>
</tbody>
</table>

**CONCLUSION**

In the same way as other developing countries, the Islamic Republic of Mauritania continues to suffer badly from transmissible diseases, the majority of which are vaccine preventable. Convinced that immunisation is the best public health strategy in cost/benefit terms, the government has included immunisation, particularly for children and pregnant women, as one of the key priorities of the country’s health development national plan. This challenge can only be met within a framework of reliable and appropriate financing prospects over the medium and long term, as recommended in the financial sustainability plan.

The main challenge facing the FSP remains effective implementation. In other words, the actions envisaged to mobilise resources must bear fruit.

To this end, there is reason to be optimistic, given the manifest political will at national level and the fact that the government attaches major importance to the action of national, multilateral and bilateral partners.
SECTION VI: COMMENTS AND SIGNATURES OF THE PARTNERS

UNICEF

Date 15 February 2005

Ref. Health / Nutrition / IC / AO / amk / 2004-065

To Mr Mohamed Lemine Ould Abdi Ould Jiyed
Secretary General of the Ministry of Health and Social Affairs (MSAS)
Nouakchott

Re Comments of UNICEF on the Financial Sustainability Plan
of the EPI for the period 2004-2013

Dear Secretary General,

We acknowledge receipt of your letter ref. 169 of 13 February 2005, informing us that you have sent the Financial Sustainability Plan of the EPI for the period 2004-2013, drawn up by your department with the technical support of the development partners in this domain.

This plan covers the needs required to strengthen and maintain the achievements of the EPI identified by the Ministry of Health and Social Affairs and is fully consistent with the priorities of our programme of cooperation for the period 2003-2008.

I should like to assure you of the commitment of UNICEF to contribute to the execution of the plan and to develop the partnership for the mobilisation of additional resources with a view to strengthening the immunisation services.

Please accept, Mr Secretary General, the expression of our sincere intention to cooperate with you.

(signature and seal)

Dr Souleymane DIALLO
Representative

Ministry of Health
Arrived: 16.2.2005
No. 541
Sent: 86 MSAS

January 2005
Date 23 February 2005
Ref. MAUR 95 23.02.2005
To Secretary General of the Ministry of Health and Social Affairs
Nouakchott
Re Financial Sustainability Plan
of the Expanded Programme of Immunisation (EPI)

Dear Secretary General

I acknowledge receipt of your letter ref. 170 dated 13 February 2003 concerning the above-mentioned subject, for which I am grateful.

The World Health Organisation supports the reinforcement of the management capacity of the EPI staff, of which financial sustainability constitutes an integral part, and I present my compliments to the technical team entrusted with drawing up the plan.

The plan provides an exhaustive presentation of the expanded programme of immunisation, including particularly the potential for mobilisation and allocation of resources to achieve the target immunisation rates.

Our institution has no special comments but notes that the document would benefit formally by a renumbering of the text from page 20 II.3 Programme Targets and Strategies and in substance by including some of the indicators used to monitor the financial sustainability plan, specifying the base and current values of each indicator.

The WHO undertakes to support the activities defined within the framework of the plan in conformity with the domains laid down in the GVT/WHO Cooperation Programme.

I should like to thank you for your cooperation and to accept, Mr Director General, the expression of my best wishes.

(signature and seal)

Pr. M. Pathé DIALLO
WHO Representative in Mauritania
Dear Secretary General,

I should like to thank you for inviting me to comment on the Mauritanian Financial Sustainability Plan prepared by the team of the Expanded Programme of Immunisation with, in particular, the technical and financial support of the Regional Technical Support Unit (CATR) of the Regional Project for support in the strengthening of vaccine independence (FED-ARIVA).

Having taken note of this document, which takes into consideration all the improvements proposed on the occasion of the recent mission of the CATR, the Delegation of the European Commission hereby gives its approval for the submission of the document.

I ask you to accept, Mr Secretary General, the expression of my highest consideration,

(signature and seal)

Jean-Eric Paquel
Ambassador
SIGNATURES OF THE GOVERNMENT

Signed by:

The Minister of Health and Social Affairs
Mohamed Lemine Ould Selmane
[signature]

Minister of Finance
Mohamed Sidiya Ould Mohamed Khaled
[signature and seal]

Nouakchott, on  January 2005