



February 2016

# Brief: Tackling the Social Determinants of Health equity in Tete Province, Mozambique

## Key messages

Health has improved in Tete province in the past decade. However there are still challenges in reproductive and maternal health, chronic undernutrition, prevalent communicable diseases and rising levels of non-communicable diseases. This is especially so for women, children, poor households and those with lower levels of education, with new health risks for those working in or living near mines.

Health has been affected by population growth and movements, poor living environments, food storage and processing and environmental risks from mines. It is also affected by low levels of literacy and primary school completion and lower than national coverage levels for many key health services. Underlying this are land pressures, poverty, income and gender inequality, inequities in social budget allocations relative to need and still weak links between new economic projects and the social benefits from these projects for households.

Investing in preventing and managing these social determinants of health (SDH) is important to prevent ill-health and its costs to households and the economy. This calls for action to improve working, living and community environments; to widen nutrition gains from agriculture and food markets; to enhance equity in access to key health services and to strengthen corporate and community involvement in health.

Tete province, under the leadership of the Governor, has begun to plan for and act on these SDH, through multisectoral strategies for nutrition and cholera prevention and in eight key areas of action on SDH.

## Opportunities for improved health in Tete

Tete province has abundant natural resources and one in every ten Mozambicans lives in the province. Tete's life expectancy at birth is, however, three years lower than the national average. While infant and child survival levels have improved, they fall below the national average.

### Mozambique and Tete province



Republic of Mozambique, Provincial Government of Tete, Provincial Health Directorate, with Embassy of Denmark and Training and Research Support Centre



The social determinants of health (SDH) - the conditions in which people live and work, their economic, and community conditions, culture, traditions and social relations - all affect health. Beyond providing quality health care, the Mozambique National Health Sector Strategic Plan (PESS) 2014-2019 aims to promote health and prevent ill health, including through collaboration with other sectors.

Tete's rapidly growing economy from recent investments in energy, mining and agriculture present new opportunities for improving the SDH. These investments also raise new health challenges and high levels of in-migration raise new demands on infrastructures and services.

Recognising this, in 2014 the Tete Provincial Health Directorate (DPS) with TARSC and the Danish Embassy implemented a situation assessment of SDH and health equity in the province, to inform health planning. The assessment used published evidence and surveys and interviews with key informants from different sectors and stakeholders. The full report cited later gives the complete set of references used.

This brief presents the key findings of the situation assessment in Tete, its recommendations and the follow up actions taken in the province.

## What is the current situation in Tete province?

Table 1 indicates how Tete province performs on selected key areas of health and SDH, compared with Mozambique national levels and with targets set in the Millennium Development Goals (MDGs) for 2015.

**Health** in Tete has improved in the past decade in some areas, with slow improvements in child survival and a declining HIV epidemic. There are also continuing challenges to health, with:

- High levels of fertility, adolescent pregnancy and maternal mortality;
- Chronic undernutrition in children, adolescent females and lactating women and in poorest, food insecure households;

- Low access to safe water and sanitation;
- Prevalent communicable diseases, especially malaria, tuberculosis, diarrhoea and respiratory conditions, and reproductive health burdens; and
- Rising levels of non-communicable diseases (NCDs), including transport accidents, circulatory problems, cancers, harmful alcohol use and occupational disease and injury.

Women, children, poor households and those with lower levels of education are more at risk of these health problems. Many of these conditions are associated with **poverty**.

At the same time those **working in or living near mines** face risks of injury and exposure to chemicals and pollution, increasing the risk of poisoning, injury, cancers, liver and kidney disease and birth defects.

**Population growth and movements**, in part due to economic developments, urbanisation and climate change are raising new challenges.



Poor environmental hygiene, Tete City © DPS Tete 2015

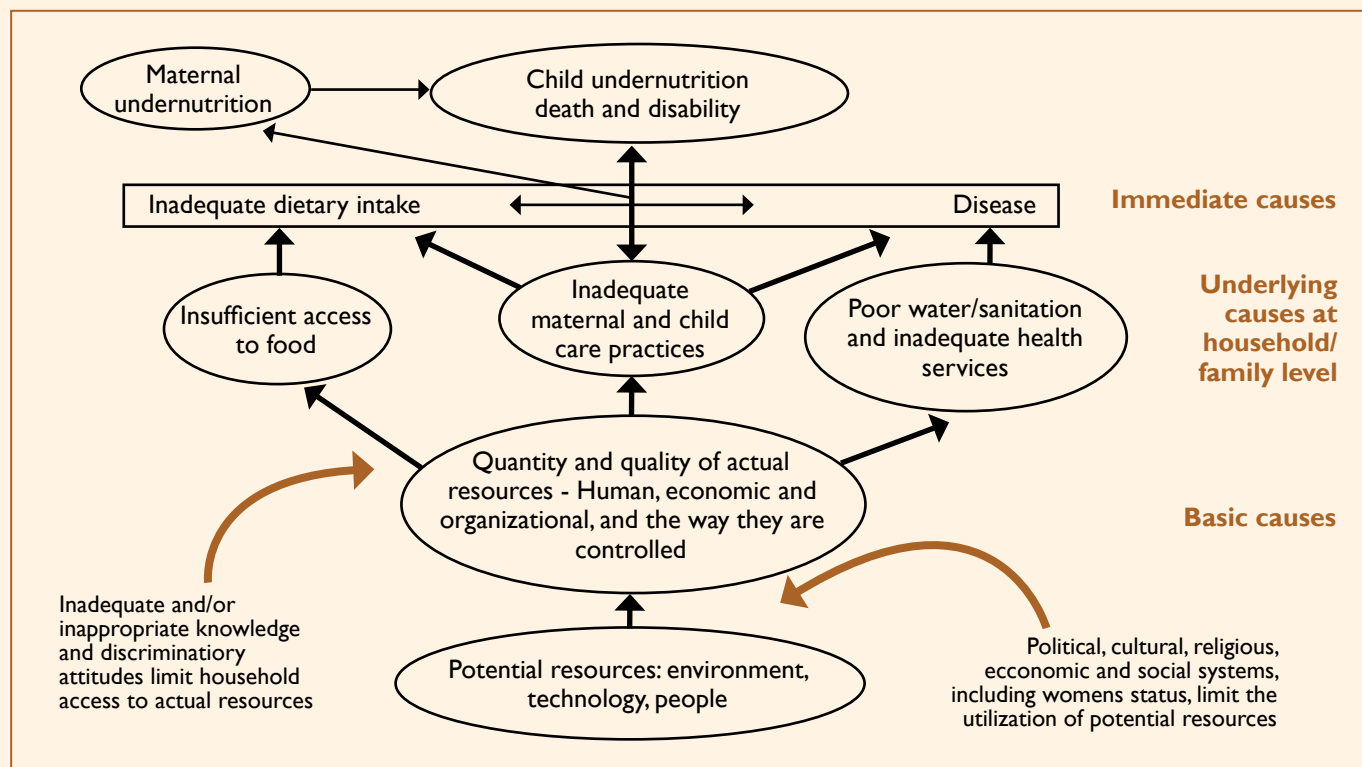
Tete has lower household access to improved water than the national average. Nearly two thirds of households still do not have improved water and less than one in five of the poorest households access **safe water**, especially in Chifunde, Moatize and Zumbo. While access to **improved sanitation** has improved, it remains at very low levels (22% in 2011), with less than 4% access in Chiuta, Maravia, Magoe and Changara.

**Table 1: Tete and Mozambique Health system indicators Tete districts, 2005-2013**

Indicator	MDG target	Year	Tete	Mozambique	Tete gap (i)
Percent below the poverty line	40	2008	54.7	42.0	+14.7
% children <5 years underweight	17	2011	17.0	14.9	0
Primary school completion rate	100	2011	5.3	15.3	+94.7
Ratio of girls to boys in school grades 1-5	1:1	2008	0.95	0.89	+0.05
<5 year mortality rate	108	2011	129	97	+21
Infant mortality rate	67	2011	86	64	+19
% 1 year olds vaccinated against measles	95	2011	75.8	81.5	+19.2
Maternal mortality rate	250	2011	271 (*)	490	+21 (*)
% deliveries by skilled health worker	66	2011	51.7	54.3	+14.3
Adult HIV prevalence	NA	2011	7.0	11.1	NA
% access to improved water source	70	2011	43.5	51.0	+26.5
% access to improved sanitation	Rural 50; Urban 80	2011	22.3	26.1	+27.7

Source: ROM 2010, INE et al 2013 NA= not available (i) percent points variance between Mozambique and Tete (\*) wide variance so level not reliable

**Figure 1: Causes of chronic undernutrition in Tete Province**



Source: RoM 2010:18

People displaced by large projects, and those living in dense, urban and peri-urban settlements experience pollution, flooding and unsafe environments, raising the risk of epidemic outbreaks. Tete's 2015 cholera epidemic, with 3 592 cases and 22 deaths, raised more urgent attention to this priority.

Many of the SDH underlying these health problems are linked. The provincial intersectoral committee on nutrition in the province has, for example, identified that **persistent chronic undernutrition** in Tete arises from a mix of inadequate nutrient intake, prevalent infections and early pregnancy; poor intake of nutritious food and deficits in access to health care, safe water and sanitation.

Underlying this are problems of **poor food storage and processing**; land pressures and a loss of biodiversity affecting food variety, and low adult literacy, high poverty and gender inequality (Figure 1).

**Education** has been called a 'social vaccine' as it has a strong positive effect on health. Adult literacy in Tete is, however, lower than national averages, as is enrolment, attendance in and completion of primary school, especially for girls. Only 5% of children complete primary school at

the recommended age, and only 2.8% of girls. Despite this, Tete was allocated a lower per capita budget for education than many other provinces. Improving school attendance is important for health in many ways: to expand health literacy, school gardens, vaccination, de-worming and micronutrient supplements, to provide counselling for reproductive health (SRH), to reduce adolescent pregnancy and early marriages; and to widen economic capabilities.

**Health services** play a necessary, but not sufficient, role in addressing these SDH and in improving health equity, particularly through preventive services and health promotion and by ensuring accessible and acceptable services, especially for marginalised groups. Tete has a tenfold lower clinic and hospital density per 1 000 people than the national average, and a rising population density per health facility, especially in Angonia and Tsangano. The province would need at least a further 46 doctors, 175 nurses and 118 maternal and child health personnel to address deficits against national standards. Medicine availability is also below desired levels. The higher level of clinic uptake and lower level of hospital uptake may be a positive trend, as long as primary care services provide effective care for major health problems.

**Table 2: Health systems data Mozambique and Tete, 1996-2013**

Indicator	Year	Tete	Mozambique	% Variance Tete vs Mozambique
Inhabitants / facility	2013	21 704	16 862	+29
Beds / 1 000 inhabitants	2013	0.66	1.37	-52
% change in inhabitants / unit 2009-2013	2013	31	9	+244
Service utilisation per person	2013	2.49	3.32	-25
% people who consulted a health centre	2013	70.6	50.0	+41
% people who consulted a hospital	2013	9.0	12.7	-29

Sources: DPS Tete 2013; INE et al. 2013; UNICEF 2013; MISAU 2014, 2014b; WHO 2015

There has been progress in rising levels of contraceptive prevalence, attendance at antenatal care and in assisted deliveries. However, Tete has lower coverage than national levels for many key indicators of service performance and slower improvements in maternal and child health contacts. Improved equity in health care depends on **distributing resources to meet health needs**, and effective use of resources.

In 2014, Zambesia and Tete province had higher health needs (infant mortality, paediatric malaria mortality and child undernutrition), but also the lowest per capita health budget allocation in Mozambique. The per capita health budget also varies widely across districts within the province. Angonia, Changara, Chifunde, Macanga, Moatize, Mutarara and Tsangano had greatest deficits on health service budgets and health service resources vs poverty levels (Figure 2).

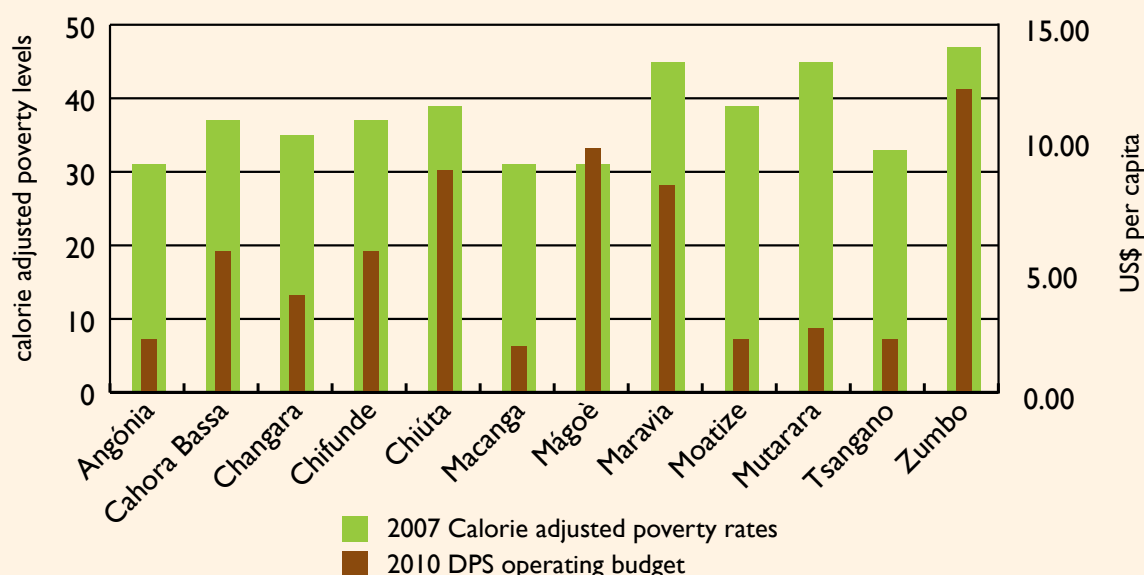
Hence, while the economic growth in the province could lead to significant improvements in the SDH, there are signs that more needs to be done for this to happen. For example, Cahora Bassa, a district with significant new power projects, has poorer health status outcomes than other districts that

have had less investment. Moatize, where the mines are concentrated, has lower health service coverage than other districts, while Tete City, a hub of economic activity, has environmental health challenges.

Despite being lower than national levels and closer to the MDG target (Table 1), poverty in Tete is still high and **income inequality** has risen more rapidly in the province after 2008 than for the country as a whole. More needs to be done to strengthen the links between the economic growth from the large projects and the social benefits this brings to households in the province. The mining companies represent a significant potential consumer of foods produced in the province, for example, but local procurement has increased slowly, partly due to capacity gaps in local suppliers.

The draft Tete Strategic Development Plan 2012-2021 aims to address these deficits by **improving linkages**, diversifying and spreading investments and adding value in local producers. The plan also aims to improve the **fiscal contributions** to and the quality of public spending on social services and human development.

**Figure 2: Per capita DPS operating budget US\$ 2010 vs. calorie adjusted poverty levels**



Source: Authors from DPS Tete 2014, UNDP et al. 2008

## What are the likely future trends?

It is likely that new social capacities, increased literacy and education, raised economic activity and incomes, and a continued decline in HIV, malaria and TB will improve health and survival in Tete. However, population growth, urbanisation, rising NCDs, commercial food markets, climate change and environmental emissions and shocks will also raise health risks and demands on the health sector.

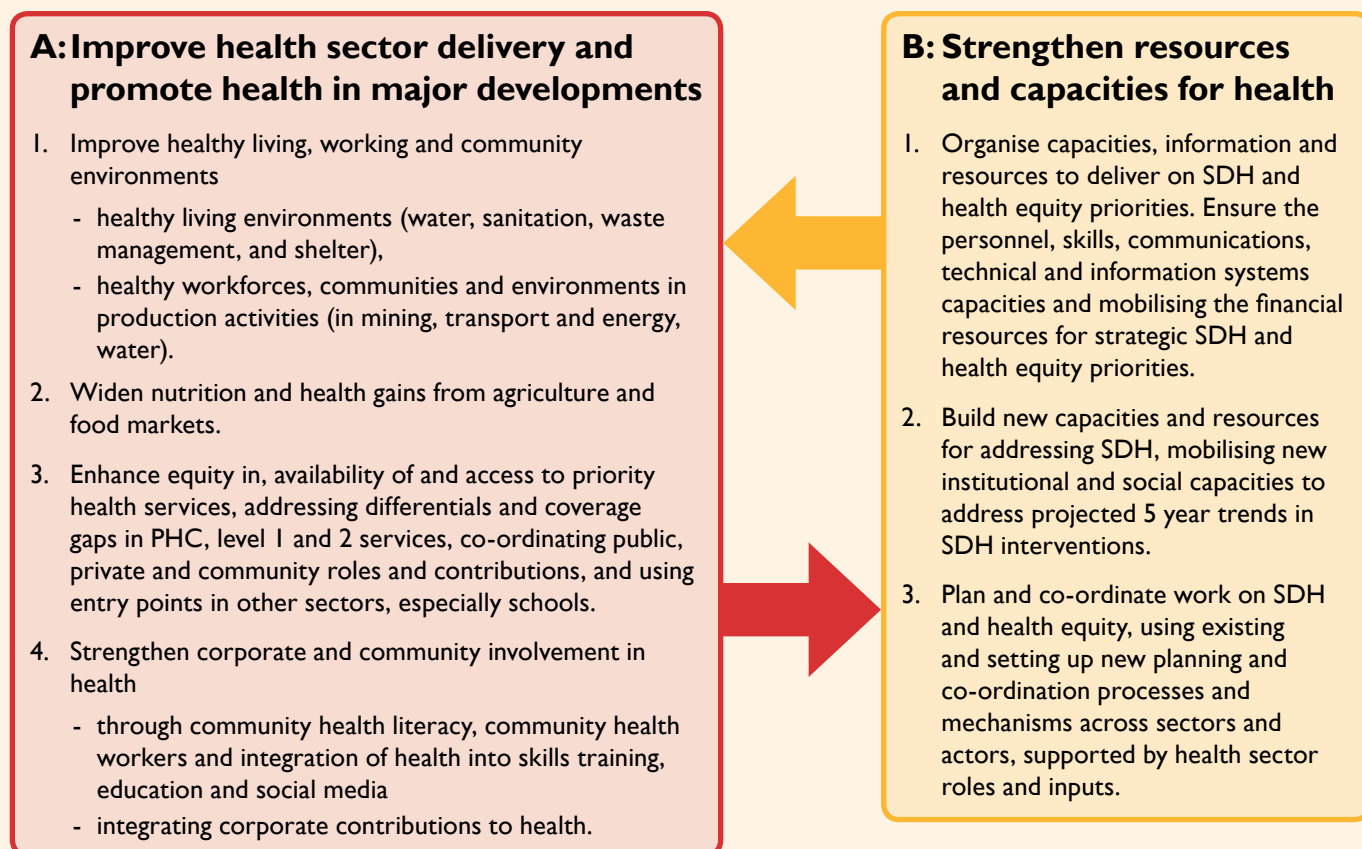
While it is difficult to predict the full nature and health impact of these changes, many are amenable to action. For example, Tete will certainly face a growing double burden of communicable disease and NCDs in the next five years. Measures implemented today to manage these conditions will avoid future health and economic costs for both communities and services.

## What actions do we recommend to improve health?

The priorities in the national 2014-2019 PESS to improve maternal and child survival, reduce fertility, chronic malnutrition, endemic and chronic diseases are very relevant for Tete.

However, the current situation and projected trends indicate that the province needs further to improve living and working environments, nutrition, equity in access to services and to strengthen community and corporate involvement in health, as shown in Figure 3.

**Figure 3: Areas of focus on SDH and health for the provincial health strategy**

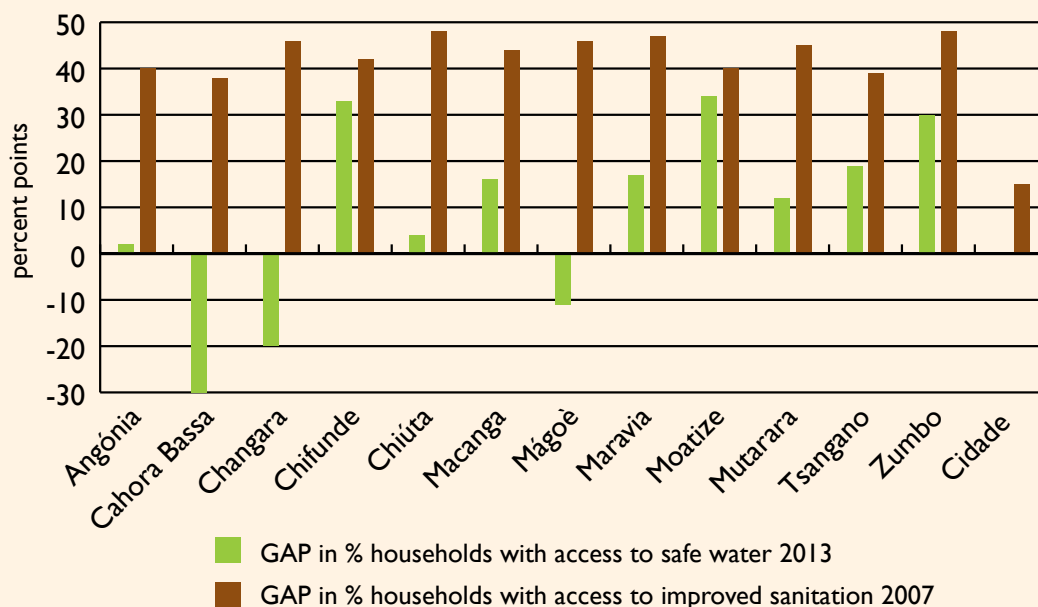


**Improving living conditions:** The coverage gaps in water and sanitation (shown in *Figure 4*) call for cross sectoral co-ordination and an investment plan to ‘close the gap in access to healthy living conditions’. This demands a levelling up strategy in the province, to reach over 5 years approximately 48 000 households for improved water (9 600 annually) and 225 000 households for improved sanitation (45 000 annually).

This includes connecting schools and health centres to electricity; promoting clean technologies for household

cooking; and earmarking levies from local businesses to improve infrastructure in rapidly growing settlements. It also implies raising health literacy in schools and communities; and incentivising communities to attain/sustain an ‘open defecation free’ status and maintain water supplies. The Directorates of Health and of Gender, Child and Social Action should be included on the committees that involve government and communities in consultations on company obligations for health and infrastructure when people are relocated by large projects.

**Figure 4: Coverage gaps in water and sanitation by district**



Source: Authors from INE 2013 DPOPH Tete 2014

**Promoting and protecting workers and community health in production activities:** Companies should have health and safety procedures, overseen by joint management and worker committees, with regular workplace inspection by district labour and health services. Communities also need protection from production related risks, and the legal standards for soil, water, air pollution and effluent emission need to be monitored. Beyond the current environment and impact assessments implemented, a district wide environmental, health and social assessment (ESIA) can indicate the combined health and social impacts from all initiatives and the measures needed to address them.



*Community involvement in nutrition through expert mother groups  
© DPS Tete 2014*

**Improving food security and nutrition:** The measures already set out in the multi-sectoral Nutrition Plan (PAMDRC) provide an important basis for action on food security and nutrition. The plan provides measures for community health and for disease prevention and control. It aims to promote local food procurement for therapeutic / supplementary feeding; to stimulate production of nutritious foods in school and community gardens and to strengthen referral to social protection assistance for those who need it. It also includes measures to improve technologies and practices to strengthen local food processing, storage and markets, to inspect food safety and to engage large companies to use healthy local foods. The multisectoral committee and plan provides an important vehicle to encourage action by all sectors and to review evidence on the impact of these efforts.

**Improving equity in access to PHC:** The health sector is a key redistributive sector for inclusive development. Here too there is a need to 'level up', to close coverage gaps in health services, by

- a. Improving equity in the distribution of public sector resources, especially for PHC;
- b. Strengthening school and workplace programmes;
- c. Enhancing participation of the private sector in health promotion and health care, to provide more systematic and comprehensive support to public health, linked to provincial plans; and
- d. Enhancing community health literacy and participation in health services, including through Community Health Committees (CHCs) at all Level I services.

While the priority health problems raised earlier need particular attention, there is also need for community level surveys in areas where monitoring is currently weak, such as on NCDs. Community Health Workers (CHWs) provide a key interface between health services and communities. Expanding investment in CHWs to provide one CHW for every 200-500 people could improve service coverage by 20%. The Community Health Team (CHT) programme, piloted in Angonia and now being scaled up to all districts can also support outreach of key current and new programmes.

**Building capacities to implement strategies on SDH and health equity:** DPS and district health services would need resources and capacities to implement and support these strategies, including laboratory capacities, and evidence to plan and evaluate interventions. With limited resources, it will be important to ensure that public and partner funding is directed towards areas of highest need and to tap new sources of funding, including from private sector and earmarked taxes.

**Planning and co-ordinating across sectors:** Acting on these SDH calls for co-ordination between district and provincial level and for co-ordination of plans and activities across the relevant sectors.

The intersectoral committee working on nutrition is one example of successful multi-sectoral co-ordination in the province. Its effectiveness has been enhanced by high level support and leadership; shared goals, skills, resources and policy alignment across its members. It has involved civil society and private sector and has strong monitoring and evaluation systems with public reporting on results. The situation assessment indicates that such multisectoral co-ordination, including through cross department working groups, would be useful in:

- a. Improving living environments;
- b. Integrating health in ESIA's;
- c. Preventing NCDs;
- d. Organising the infrastructure and services in resettlement areas;
- e. School, youth health programmes; and workplace health in large companies and small/medium enterprises; and
- f. Networking community level workers, including to support access to social services.



*Multisectoral collaboration and community involvement in improving environments in Tete City © DPS Tete 2015*

## What actions are underway?

In addition to the multisectoral committee and Action Plan for the Reduction of Chronic Malnutrition (PAMRDC), a range of other multisectoral activities are now underway in the province.

In early 2015, in response to the cholera epidemic, a multisectoral action plan was developed under the leadership of the Governor for the prevention and control of cholera in the province. It addresses a number of the recommendations raised earlier on living environments.

In November 2015, the first provincial Public Health Conference was held in Songo, Tete. It involved representatives of sectors from provincial and district levels, the national Director of Public Health and institutional partners and was chaired by the Governor of Tete Province. The conference reviewed the findings of the situation analysis and, with inputs from other sectors, discussed priorities arising. *Table 3* below summarises the actions agreed by all sectors. It shows the lead sector, although in each case the actions involve other sectors, local government councils, civil society and private sector organisations.

**Table 3: Action matrix developed by the Public Health Conference, Tete Province 2015**

	Objective	Specific action	Lead	Progress marker
1	Integrate health promotion for workers and their communities	Create a multi-sectoral team of health promotion workers and their communities, meeting regularly to harmonise action	Labor, Employment and Social Security	Committee created and functional, with meeting minutes, and joint activity reports (in 6 mths)
2	Install laboratory capacities for occupational, public health, environment monitoring	Prepare the laboratory plan, with an inventory of the necessary capacities, organizational structure, and the operation flowchart	Health	Over 5 years: Project designed, installation contracted, land permit and project approved, funding awarded and laboratory built
3	Accelerate the implementation of the Multisectoral Plan for cholera prevention	Finalize goals and budgets of all sectors involved; plan approval by the Provincial Government; and urgent implementation by those involved	Health	Number of cases of cholera and other diarrheal diseases in 2015-2016 in the Province
4	Evaluate the combined social, environment and health impact of economic activity in Moatize	Prepare terms of reference for the assessment, launch a tender and award a consultancy for and implement the assessment	Lands, environment and rural development	Report of the assessment delivered to and reviewed by the provincial and district government, civil society and other stakeholders
5	Massively boost the involvement of children in schools in health promotion	Create active children groups to promote health in the community through drama, songs, posters, puppets and other creative means, train district trainers, teachers, and student groups	Education and human development	Over 50% of schools with functional health promotion activities involving children
6	Expand school gardens for food security and healthy diets	Create school gardens through training of district trainers, teachers, and students in the catchment areas of schools	Agriculture	Over 50% of schools with functional school gardens
7	Mobilize greater support from businesses and private actors in health promotion	Ensure compliance with laws and programs for health and safety in companies through campaigns, lectures, and reactivate the joint health and safety committees (involving workers, communities)	Labor, Employment and Social Security	Number and percent of companies with functional commissions Goal: 650 companies with involvement of > 25,000 workers
8	Strengthen monitoring of and health promotion in food producers	Strengthen and supervise the healthy storage, production, and sale of food products and drinks, through community education, dissemination of laws and standards and laws, 'green line' phone number for complaints	National Economic Activities Inspectorate	Trend in number of complaints and inspections (expect an initial increase in the number)

The action and collaboration across sectors is now underway, working together towards improved health in Tete province!



Participants at the provincial Public Health Conference, Songo, Tete November 2015 © DPS Tete 2015

## Resources and references

*The report of the situation assessment is:*

Loewenson R, Simpson S (2015). Situational analysis on health equity and social determinants of health, Tete Province, Mozambique, produced by Training and Research Support Centre in co-operation with DPS Tete and Embassy of Denmark, Mozambique. Available at <http://www.tarsc.org/publications/documents/Tete%20SitAn%20on%20SDHE%20Eng2015.pdf>

*Selected resources include:*

- DPS Tete (2013). Dados de rotina do Programa de Infraestruturas. DPS: Tete
- DPS Tete (2014) Budget data 2010, DPS: Tete
- Government of Mozambique (GoM). Tete Province (2014) Strategic Development Plan 2012-2021. Tete Province (PED 12-21),Tete.
- INE (2013). Anuário Estatístico 2012 - Moçambique (Statistical Yearbook 2012 Mozambique). INE: Maputo.
- Kabemba C (2012). Coal versus Communities in Mozambique: Exposing poor practices by VALE and Rio Tinto. Southern Africa Resources Watch, South Africa. <http://www.sarwatch.org/paper/mozambique/coal-versus-communities-mozambique-exposing-poor-practices-vale-and-rio-tinto>.
- MISAU (2014). Plano Estratégico do Sector da Saúde PESS 2014-2019, MISAU: Maputo.
- MISAU, TARSC/EQUINET (2010). Equity Watch: Assessing Progress towards Equity in Health in Mozambique. Maputo and Harare.
- Republic of Mozambique (RoM) (2010). Report On The Millennium Development Goals. Republic of Mozambique Maputo
- UNDP, INE, and SARDC (2008). Mozambique Human Development Report: The Role of Information Communication Technologies in Achieving the Millennium Development Goals. UNDP: Maputo.
- UNICEF (2013). Mozambique statistics at [www.unicef.org/infobycountry/mozambique\\_statistics.html](http://www.unicef.org/infobycountry/mozambique_statistics.html)
- Vale (2014). Sustainability Report 2013. Vale: Brazil. accessed 2 September 2014 at [www.vale.com/EN/aboutvale/sustainability/links/LinksDownloadsDocuments/2013-Sustainability-report.pdf](http://www.vale.com/EN/aboutvale/sustainability/links/LinksDownloadsDocuments/2013-Sustainability-report.pdf)
- WHO (2015). World Health statistics 2015, Global Health Observatory (GHO). WHO: Geneva.

*The full set of references is contained in the situation assessment.*