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This summary was written by David Jernigan on behalf of authors of the book.

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Executive Summary

The current situation

- In general adults in developing countries are more likely to abstain from drinking than adults in the developed countries. In much of the world, drinking by adult women has been relatively uncommon, but in some places, this is changing.
- In a given group, the cultural framing and meaning of drinking may be resistant to change, but the frequency of drinking and of heavy drinking occasions can change.
- In many parts of the developing world, traditional drinking patterns dominated by sporadic episodes of intoxication continue, but involvement in the cash economy and industrialization of alcohol production and distribution have permitted the episodes to become more frequent, often in the form of weekend binge drinking.
- Given this pattern of drinking in many developing societies, problems associated with intoxication episodes typically predominate, including injuries and interpersonal violence causing harm to the drinker and to others, as well as adverse impacts on family and community life and functioning
- Development also makes regular heavy drinking more feasible, so that alcohol also makes an increasing contribution to chronic health problems, often in conjunction with endemic infections, poor and inadequate nutrition, and unsanitary conditions.
- In terms of total years of life lost to premature mortality and disability, alcohol's net effect is is negative everywhere. The burden of social problems from drinking is mostly unmeasured, but qualitative evidence suggests it is also large in many parts of the developing world.

In terms of total years of life lost to premature mortality and disability, alcohol's net effect is everywhere negative.

- Although alcohol's potential protective effect against cardiovascular disease (CVD) has drawn much attention, alcohol's net effect on heart disease is negative in the world, because of both patterns of drinking and nutrition and lifestyle. In developing countries it is negative also because the prevalence of CHD is low and the main causes of death are different.
- Drinking is a gender issue everywhere, in that men do more (in some places most or all) of the drinking, but women disproportionately suffer the consequences.
- The levels of alcohol-related problems in a given society tend to rise and fall, all else being equal, with changes in the level of per-capita alcohol consumption in the society.

Alcohol production and economic and social development

- In most developing societies, home and cottage production of indigenous or indigenized beverages exists alongside industrial production of European-style and indigenous beverages.

- Particularly in Africa, home and cottage production is a major source of employment for women, particularly single heads of household, and industrialization of production results in employment losses particularly for women.

- Industrially produced beverages, particularly lager beer, are gradually gaining ground against indigenous beverages, on the basis of prestige, promotion and other advantages, although they are typically more costly.

- There may be health benefits from replacing cottage-produced by industrially produced alcohol in terms of the purity of the product. However, these benefits should also be empirically verified, since they can easily be overstated.

- Industrialized beer or spirits production is not labour-intensive and not a major source of employment in itself; thus industrializing alcohol production diminishes employment in it.

- Industrialization makes some contribution to building transferable skills and technical expertise in a developing society, but this contribution will be limited in the case of the typical joint-venture lager brewery with a multinational corporation, using turnkey technology, expatriate technical staff, and imported agricultural inputs.

- Industrialization of alcoholic beverages may help foster transport and distribution networks in a developing country, particularly if the product is semi-perishable (e.g., commercial opaque beer).

- Most employment related to alcoholic beverages is in retail sales (including restaurants and bars) and likely to be relatively little affected by the industrialization of alcohol production.

- The primary way in which industrialization might affect retail employment would be if it causes alcoholic beverage consumption to rise. In this case, levels of problems from drinking are also likely to rise.

- Most alcoholic beverages are drunk relatively close to the point of production. Significant exports of alcoholic beverages are not a realistic prospect for most developing societies.

- From a government's point of view, the main benefit of industrialization of alcohol production is that it makes it much easier to control the market, and in particular to collect taxes on alcoholic beverages.

- The main adverse consequences of industrialization and centralization of alcohol production stem from the increased promotion and sales that may accompany this, resulting in increased rates of adverse health and social consequences of drinking.

The levels of alcohol-related problems in a given society tend to rise and fall with changes in the level of per-capita alcohol consumption in the society.

Responding to alcohol problems: lessons from research

- Prevention measures that affect the population level of alcohol consumption are among the most effective ways of preventing alcohol-related problems.
- Concerning the prevention of alcohol-related problems, the politically easiest strategies are often among the least effective.
- Well-designed alcohol education is an appropriate part of the school curriculum, but is unlikely by itself to do much to reduce rates of alcohol problems in a society.
- Likewise, a low-intensity public information and persuasion campaign may have the symbolic value of appearing to do something about alcohol problems, but will usually have little practical effect on them.
- Provision of specialized treatment is a worthy and humane initiative in a modern society, but its primary justification is in terms of the help given to drinkers and their families. In and of itself, it is unlikely to lead to a reduction in a society's rates of alcohol problems.
- Brief interventions, however, have shown to be cost-effective and lead to public health gains, although they have not been broadly disseminated or utilized in developing societies.
- Evaluation studies have demonstrated that measures that restrict and channel sales and consumption of alcohol can be effective in holding down or reducing rates of alcohol-related problems, including harm to those around the drinker.

Effective measures include taxation, licensing and limits on the number of outlets, minimum age limits, and measures to counter drinking-driving.

- The most effective measures include taxation to limit consumption levels, specific licensing of alcohol outlets, limits on the number of outlets and on the times and conditions of alcoholic beverage sales or service, minimum-age limits, and drinking-driving countermeasures.
- Government monopolies of all or part of the retail or wholesale market have often been effective mechanisms for implementing alcohol control measures, while ensuring equitable availability.
- Limits on advertising and promotion, and requirements for warning labels or signs, are also of importance, though it is often difficult to demonstrate their short-term effectiveness in changing drinking behaviour.

Building an integrated societal alcohol policy

- Building an integrated societal alcohol policy requires both horizontal integration, of the various departments within a level of government, and vertical integration, of the functions of the various geographic levels of government.

- The research evidence clearly indicates that governments possess the powers and policy levers to create comprehensive and successful alcohol policies.

- Governments are interested in the contribution of the alcohol trade to building the economy; in taxes on alcohol and the alcohol trade; in the productivity of labour, which drinking can undermine in various ways; and in public health and order, also negatively affected by alcohol.

- Coordinating governments' diverse interests in alcohol requires a mechanism with the power to ensure that departments adhere to the national policy once adopted, even where this would go against the department's usual inclination and core constituency.

The need for global leadership

- Alcohol problems are of global scale and can be reduced and prevented in developing societies. Amidst rapid globalization and societal change, drinking patterns and attendant problems are worsening, often in settings with the fewest resources to combat them. Global leadership is needed for a global problem.

- The considerable national expertise in designing and implementing effective taxation systems for alcohol and in constructing and operating effective systems of control of the alcohol market needs to be diffused. Developing a clearinghouse or other forum for experience to be exchanged internationally is a natural venue for cooperation between WHO and international financial agencies such as the World Bank.

- There is no continuing centre of expertise on drinking-driving countermeasures attuned to developing countries, on which interested groups and policymakers in such countries can draw. Engineering and policing expertise needs to be drawn together internationally with public health expertise.

- There is still a serious lack of the basic information that is needed for effective alcohol policymaking in developing societies. Attention needs to be paid to building up alcohol research, monitoring and evaluation in developing societies, including assistance in developing indicators of social and health consequences of drinking appropriate to developing societies, and implementing these indicators.

- Research, demonstration and evaluation projects on alcohol are needed in developing societies. Besides their local contributions, such projects would build the knowledge base for other localities and societies similarly situated. These projects will require substantial support from both international agencies and developed-country governments.

The research evidence clearly indicates that governments possess the powers and policy levers to reduce and prevent alcohol problems.

Chapter 1
Introduction

This book addresses the question: what can be said in the context of the developing world about rates, patterns and trends in drinking and in alcohol-related problems, and about evidence on the effects of different alcohol policies and prevention programs?

For the purposes of this book, "developing world" includes all of Africa, the Americas south of the United States, Asia except Japan and Russia, and Oceania excluding New Zealand. Also included is the "fourth world", as it is sometimes called -- the partially autonomous societies of aboriginal peoples located within developed countries.

Alcoholic beverages have been known and used in human societies for thousands of years. Societies have found a variety of uses for them, including foods, medicines, mood-changers and intoxicants, as well as social lubricants and emblems of social status. Some societies have also imbued them with religious or cultural significance.

The adverse effects of alcohol use were also well known as far back as written records exist. Many societies, both ancient and modern, have used a variety of strategies to limit or eliminate these adverse effects. Among these have been punishing the individual excessive drinker, restricting and controlling alcohol availability, and prohibiting the use of alcohol altogether.

What can be said about rates, patterns and trends in drinking and in alcohol-related problems, and the effects of different policies and prevention programs?

The significance of alcohol's role in health and social well being in today's world may be assessed in two ways. First, efforts by the World Health Organization to estimate the global burden of disease (expressed in years of life lost due to death and disability, or "DALYs") have demonstrated that alcohol causes morbidity and mortality on a level with measles and malaria and at a higher rate than tobacco. Table 1 below shows the toll from alcohol by region of the world in 1990. Estimates for 2000 are to be published in the forthcoming *World Health Report 2002.*

Studies of what happens when the supply of alcohol is interrupted have provided another avenue for estimating alcohol's impact. Recently such "natural experiments" in locales and populations as diverse as Greenland, Micronesia, and among Aboriginal people in Australia have yielded dramatic effects on mortality, injuries and crime when alcohol became more or less available in a society.

Drinking customs and patterns are rapidly changing in today's world. Traditional social constraints on the timing or duration of intoxication, for example, have in many instances fallen away in the wake of urbanization and industrialization.

In the light of the evidence of alcohol's importance as a source of health and social problems in developing societies, this book aims to set out what is known about the epidemiology of alcohol-related problems in developing societies, and to consider the strategies governments can adopt to reduce alcohol-related harm, along with the evidence on their effectiveness. Consideration of these topics is set in the context of descriptions of the

economic, social and cultural contexts of drinking; global trends in alcohol production and consumption; the changing nature of alcohol as a commodity; and changes in drinking cultures, customs and patterns in developing societies.

Alcohol causes morbidity and mortality on a level with measles and malaria and at a higher rate than tobacco.

Table 1

Global burden of disease and disability attributable to beverage alcohol, by World Bank Region, 1990. (*Source: Murray & Lopez 1996)*

Region (World Bank)	Deaths (1000s)	As % of total deaths	Years of life lost (YLLs) (1000s)	As % of total YLLs	Years of life disabled (YLDs) (1000s)	As % of total YLDs	Disability -adjusted life years (DALYs) (1000s)	As % of total DALYs
Established market economies	83.8	1.2	2 537	5.1	7 667	15.6	10 204	10.3
Former socialist economies	53.0	1.4	2 063	5.7	3 130	11.9	5 193	8.3
India	112.9	1.2	2 723	1.4	1 974	2.3	4 697	1.6
China	114.1	1.3	2 118	1.8	2 737	3.0	4 856	2.3
Other Asia and islands	97.4	1.8	1 862	1.6	3 191	5.1	5 053	2.8
Sub-Saharan Africa	170.7	2.1	4 435	2.0	3 169	4.6	7 603	2.6
Latin America & the Caribbean	136.1	4.5	3 319	5.9	6 201	14.7	9 520	9.7
Middle Eastern crescent	5.6	0.1	229	0.2	437	1.0	666	0.4
World	**773.6**	**1.5**	**19 287**	**2.1**	**28 400**	**6.0**	**47 687**	**3.5**

Chapter 2
Drinking in Developing Societies: The Economic, Social and Cultural Context

Wine, beer, cider, mead and other fermented beverages have been present in nearly all human societies for thousands of years. These were consumed soon and locally, and rarely traded in markets. Measures to control and restrict alcohol availability were common, dating from earliest surviving legal documents of human societies.

Distilled spirits production diffused to Europe by 1100, but was used mainly in medicines until the 16th century, when spirits drinks came into common use and were rapidly commercialized. Because spirits, or wine fortified with distilled spirits, kept better than wine or beer, they were better suited to becoming commodities in international trade.

The 500-year history of European colonial expansion brought new alcoholic beverages to many parts of the world, and often introduced commercialization and taxation of alcoholic beverages. In the late 19th century, new technology made it possible to introduce the brewing of European-style beer in the developing world. A counter-impulse, to cut off the access of indigenous peoples to some or all alcoholic beverages, became part of colonial systems in the wake of the growth of European and North American temperance movements in the late 19th century. Manipulation of alcohol availability proved effective not only in controlling drinking, but also local workforces.

These various strands of the colonial past still influence the alcohol situation in many places today. Present-day drinking patterns and beverage preferences throughout the developing world derive historically from a combination of the beverage preferences and drinking practices of the particular colonial power involved, mixed with whatever pre-colonial beverages and drinking practices may have existed.

In a global perspective, the years from about 1945 to 1973, during which the European colonial empires were largely dismantled, were a period of uniquely fast economic growth, accompanied by far-reaching social and cultural change. The period 1974-2000, in contrast, was marked by recurring economic and political crises, in which Africa and some other parts of the developing world lost ground economically, and in which there was often an increasing gap between the rich and the poor.

This diversity of experience has rendered concepts such as “Third World” less meaningful. Rapid development in Asia excluding Japan (even with the temporary setbacks of the late 1990s) contrasts with stagnation or sliding backward (albeit from a relatively high level) in the Americas, and the collapse of industrial and agricultural production in much of Africa, exacerbated by the rapid spread of HIV. Castells (1996) argues that these gaps and divergences will be accentuated by the advent of a new global economic and political system, based on information technology.

Present-day drinking combines practices of the particular colonial power and pre-colonial beverages and drinking practices.

At the same time, there is more inequality in the world than a generation ago, and the number of people living on less than $1 a day has increased. Urban areas have grown at the expense of agricultural ones, and rural patterns of sporadic heavy drinking have, in the context of plentiful urban distribution networks, led to patterns of frequent heavy drinking in the cities.

The move from the countryside to the city is often a move into the cash economy, and to a situation where alcohol is readily available. Fiesta-style heavy drinking becomes a possibility every payday, not just once or twice a year. Urbanization also brings changes to the countryside, as urban ways diffuse back to it.

Women’s roles have changed as well, including their age-old function as guardians of men’s drinking. Many women have suffered doubly, losing their traditional role as alcohol producers and sellers, and becoming the

victims of heavier drinking among men. Youth has emerged as a meaningful category the world over, and youth cultures spread rapidly from developed to developing countries, bringing new drinking patterns with them.

Rapidly changing identities – national, gender, age, racial, ethnic and so on – reflect the loss of traditional communities and values. Contemporary life in developing societies could perhaps be characterized in terms of a mixture, in variable proportions and ways, of Western consumption patterns and traditional customs and ways of life. The elite and the middle class adopt new consumption items as status symbols, while poor segments of the population use anything that is available to provide their basic means of existence.

In this context, alcohol, in its many forms, easily serves a symbolic purpose. The choice to drink, of how much to drink, and of which beverage, and the choice of whom to drink with, in what situation, all become means for claiming and living out an identity which is increasingly shaped by global rather than local actors and trends.

The choice to drink, of how much and of what, with whom and in what situation, all become means for claiming and living out an identity, shaped increasingly by global actors and trends.

Chapter 3
Global Patterns and Trends in Alcohol Production and Consumption

Alcohol consumption patterns change over time. Long-term changes in alcohol consumption are affected by changes in affluence, amount of leisure time, social misery, industrialization, and urbanization. But they bear no simple or uniform relationship to them.

Estimates of per capita alcohol consumption may be derived from production, trade and/or sales figures. Although ideally adjustments would be made as well for smuggling, and for tourist and out-of-country consumption, figures for these are rarely available even in developed countries. Particularly in developing countries, the role of unrecorded alcohol – often the result of home, cottage or illegal production – is large, and complicates estimation.

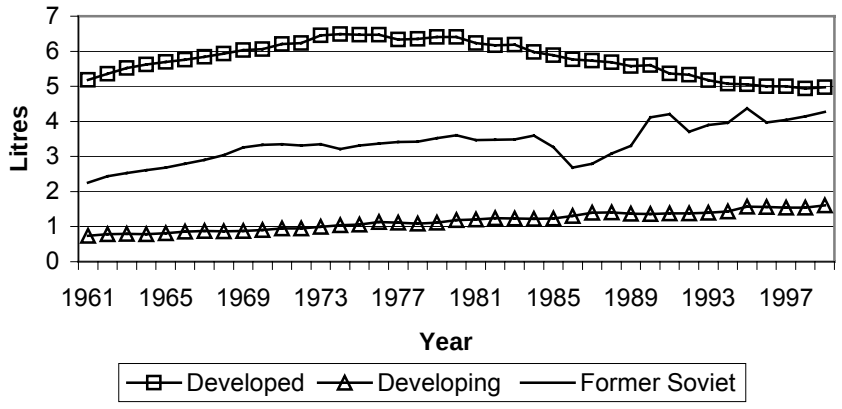
Unrecorded alcohol production is a particularly important component of overall alcohol consumption in much of Africa. Detailed studies estimating the size of unregistered consumption in East Africa yield estimates that for Tanzania about 90% and for Kenya about 85% of the total consumption is unrecorded.

Alcohol consumption should also be understood in the context of how it is drunk, that is, the patterns of drinking. Across sub-regions of the world, there is an almost 40-fold range in recorded per-adult consumption. When unrecorded production is added to the equation, the range falls to 23-fold. Taking into account the numbers of adults who abstain from drinking, the resulting range in consumption per drinker is less than three-fold. Abstention is particularly common among women: in none of the world's developing country sub-regions do more than 60 per cent of women drink.

Patterns of drinking vary a great deal between societies. In much of the developing world, the predominant pattern is of infrequent heavy drinking, particularly by men. Many of the developing subregions are characterized by hazardous drinking patterns.

With these caveats in mind, efforts have been made to estimate current levels of alcohol consumption for 191 countries. In general, recorded per-capita consumption is lower in developing than developed subregions of the world, and tends to be particularly low in Islamic subregions and on the Indian subcontinent. The addition of estimated unrecorded consumption brings per-adult consumption closer to developed-country levels in Latin America and Africa, with somewhat lower levels of consumption in much of Asia and particularly low levels in the Middle East.

Figure 1. Adult (15+) Per Capita Alcohol Consumption by Development Status



In Asia (except Japan), Latin America and Africa, consumption grew until the mid-1970s, then kept rising in Asia, but fell in Africa and Latin America.

Since about 1980, the developed world, mainly consisting of Western Europe and North America, has shown stable or decreasing alcohol consumption levels. In the post-war period, the differences in average consumption levels among developed countries have narrowed and there has been some convergence in drink preferences.

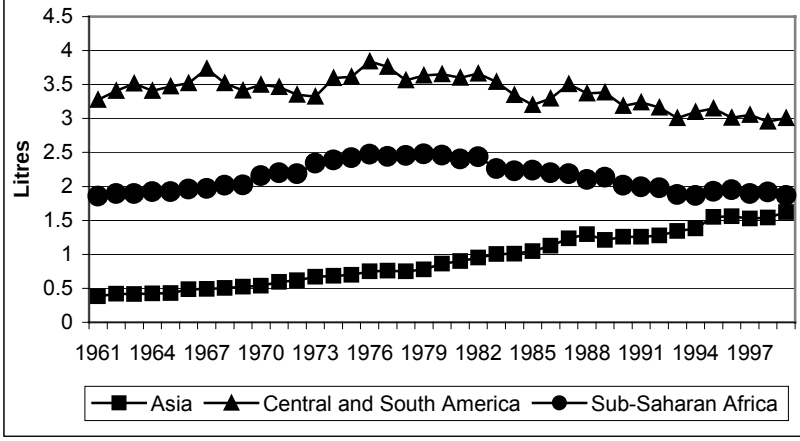
In contrast, in Asia (with the exception of Japan), Latin America and Africa, recorded per capita consumption grew from 1961 to the middle 1970s, but then kept increasing in Asia, but decreased somewhat in Latin America, and decreased somewhat more in Africa.

Within these broad regions, there are often considerable divergences between different countries. While Nigeria's experience – a rise followed by a fall – mirrors the pattern for the African region as a whole, in South Africa

consumption rose fairly steadily during the last quarter of the 20th century. Mexico shows the overall Latin American pattern of a generally rising level of consumption, but Chile, traditionally a "wine culture" like those of Southern Europe, shows a pattern like theirs in recent years: a net drop in overall consumption, due to a steeper drop in wine consumption.

As economic development occurs, alcohol consumption and resulting problems are likely to rise with increasing incomes.

Figure 2. Adult (15+) Per Capita Alcohol Consumption by Macro-Region



The general rule seems to be that alcoholic beverage consumption rises with improving economic circumstances, although cases like Chile illustrate that other factors are also important influences on levels of alcohol consumption. This suggests that as economic development occurs, alcohol consumption and resulting problems are likely to rise with increasing incomes.

Chapter 4
Alcohol as a Commodity in Developing Economies

The structures and processes of alcohol production are changing globally. After examining alcohol's changing role in developing economies, this chapter asks who are the winners and losers in the industrialization of alcoholic beverage production.

Four different chains of alcohol production and distribution may be identified. *Home or craft production of traditional beverages*, in small

batches, uses local recipes and raw materials. Distribution is usually limited to the household or village, and the beverages rarely enter formal markets.

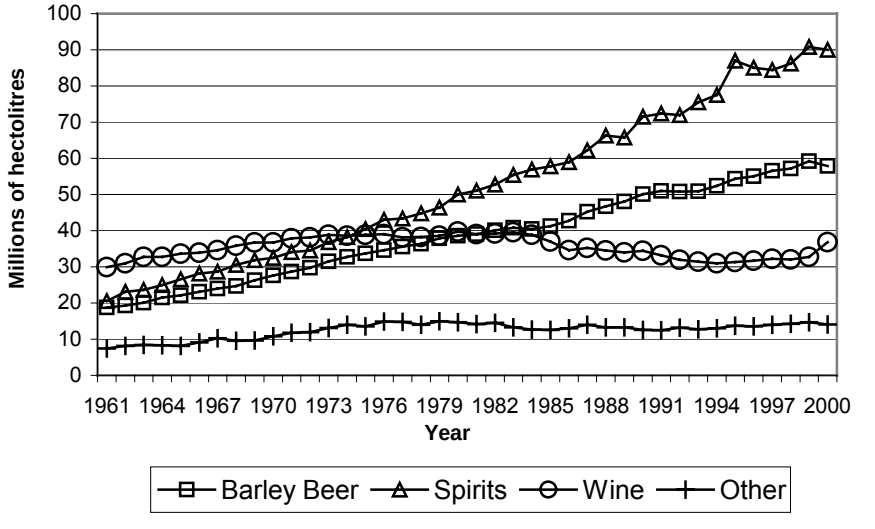
Traditional beverages produced industrially in many parts of the world are attuned to local tastes and made with local raw materials, in large batches and with a network of distribution that may extend for hundreds of kilometres. Low prices and consistent quality are the main selling points.

Local versions of European-style beverages are the product of *indigenized production of cosmopolitan beverages*. Again, such products rely on low prices to find their markets. While budgets for advertising and promotion are limited, the products often carry brands suggesting or appropriating cosmopolitan connections.

Cosmopolitan industrial beverages are the result of a marketing-driven commodity chain. These beverages are the leading edge of the global market. Produced and distributed primarily by multinational corporations, they drive the market for a particular brand of beverage with globally-coordinated advertising and other marketing.

Wine is still the least globalized beverage, and European-style beer the most, with distilled spirits beverages falling between. As Figure 4.1 shows, global production of the more globalized beverages is growing most quickly.

Figure 3. Global Supply of Pure Beverage Alcohol



Globalized industrial production of alcoholic beverages relies heavily on marketing as a dynamic driver of change in customs and amounts of drinking.

In the marketing-driven chain, the product becomes a symbolic object to which the multinational marketers attach a wide variety of significations, seeking to implant new or extend traditional drinking patterns and cultures, broadening the range of times, places and reasons for drinking the product.

The primary impact of globalization in the alcohol market of developing societies has thus been through the increasing role of multinational companies in the ownership, cross-licensing, and promotion of locally-produced alcoholic beverages, and particularly of marketing-driven

European-style beverages.

With the trend towards the marketing-driven commodity chain, control of the production of alcoholic beverages has tended to move away from the developing country. The top ten global spirits companies, eight of which are headquartered in developed countries, produce 58 per cent of the cosmopolitan spirits, or about one-quarter of the total recorded spirits production. The top ten beer producers, mostly headquartered in Europe or the U.S., account for 42 per cent of the world production of European-style beer.

The leading global producers extend their control of beer and spirits markets through licensing, production and joint-ownership agreements. Given favorable economic conditions, the marketing-driven commodity chain is a dynamic driver of change in customs and amounts of drinking.

Developing countries for the most part play little role in international trade in alcoholic beverages. Most alcoholic beverages are consumed in the country in which they are produced. The international trade that exists occurs mostly between developed countries. Mexico is the only developing country among the top 10 exporting countries, both for spirits and for beer. Chile and Argentina are the only developing countries among the top 10 wine exporters.

In this context, what role does alcohol play in the economies of developing societies? First, alcohol production and distribution in itself contributes to the gross national product. A far greater contribution to the economy, however, comes from the service sector -- the wages and mark-ups in restaurants, taverns, and retail shops.

Second, alcohol sales contribute to state revenue, through excise and other taxes. The contribution is often proportionally higher in developing than in developed societies. Industrialization and concentration of the industry tends to make the taxes easier to collect.

Third, alcoholic beverages account for a few percent of household budget expenditures, although the percentage can be much higher in families of heavy drinkers.

Fourth, the production and sale of alcoholic beverages contributes to employment. Where home or craft production is still an important factor in alcohol production, as in much of Africa, the employment in production is often quite substantial. Industrialization drastically reduces employment in production, while employment in alcohol-related retail services is probably little affected by the mode of production.

On the other side of the ledger, heavy alcohol use can contribute to a loss of productivity, as well as other detriments to public health and social order.

The net effect of industrialization of alcohol production on economic development is thus mixed. The industrialized product is usually more uniform and less likely to be contaminated. Taxes are more easily collected. Industrial production can replace imports in a developing society, although it is unlikely to lead to substantial exports, and often crucial raw materials are still imported.

But industrialization results in a loss of employment in production. Under the proprietary control of the multinationals, there is often little knowledge transfer

To the extent that a shift to industrial production of alcohol results in increased consumption, there are likely to be adverse effects on health and order.

about production processes to indigenous workers. To the extent that industrialization results in increased alcohol consumption, there are likely to be adverse effects on health and order. Accordingly, the World Bank Group recently recognized that international investments in alcohol production are "highly sensitive".

In international trade agreements, however, alcohol is usually treated as just another commodity. The result has been that national or subnational controls on the alcohol market have often been weakened by decisions in trade disputes. Alcohol's special status as a commodity causing health and social harm needs greater recognition in global and regional trade agreements.

Chapter 5
Drinking Patterns in Developing Societies

Although per capita consumption figures can show levels and trends in alcohol use, understanding alcohol's changing role in developing societies requires an understanding of how drinking patterns are changing. Evidence of how people actually use alcohol in their daily lives is crucial to an understanding of alcohol's role in public health in developing societies.

These patterns of daily use are affected by the general place of drinking in the culture, the drinking customs prevalent among different groups and in different settings, and the norms regarding drinking behaviours by individuals.

Looking first at the level of the overall culture, a number of studies have attempted to analyse and classify drinking cultures. Many of these efforts are based on ethnographies of preliterate and village societies, and their applicability to today's rapidly urbanizing and multicultural developing societies is limited.

Alcohol's special status needs greater recognition in global trade agreements.

Most important from a public health perspective is knowing the cultural norms regarding how often people drink, and how intoxicated they become. These may vary greatly within a society, with age, gender, religion and ethnicity serving as significant axes of differentiation.

Drinking customs can also shape individual patterns of drinking. In drinking groups, customs of reciprocity may encourage heavy drinking. Drinking has often been central to periodic communal celebrations such as fiestas and carnivals. In taverns or other on-premise drinking places, often a site for

male camaraderie, sexual flirting, and other community functions, the drinker is likely to be under pressure to drink not only from his drinking group but also as a form of rent to the owner of the drinking place.

Population surveys provide evidence of drinking patterns at the individual level. Abstention is the first crucial variable to examine. If abstention is common, which is the case among men and women in many developing countries, then per capita consumption estimates will understate the average consumption per drinker.

Frequency of drinking occasions shows how regular drinking is in a society. In most of the 12 developing societies for which detailed survey data were available, drinking is not a part of daily life. However, in half of the societies, substantial proportions of male drinkers report drinking at least once a week.

Measures of high-quantity drinking can demonstrate how often people become intoxicated. Drinking a high quantity with some regularity was the norm among male drinkers in a majority of the societies studied, while in most societies, high-quantity drinking is uncommon among women.

In most developing societies, it appears that drinking is not part of everyday life, even for most drinkers. Only in a very few countries do substantial proportions of the populations drink daily or nearly every day.

The available evidence indicates, however, that in many societies, particularly in Africa, many of those who drink at all usually drink large amounts when they drink, especially at weekends.

As part of the Comparative Risk Analysis being carried out for the WHO Global Burden of Disease 2000 Study, Rehm and colleagues (2001a; 2001b) developed comparative estimates for the degree of hazard from intoxication (e.g., casualties, violence, social problems) associated with a given volume of drinking in different countries.

Using survey data and estimates from key informants from more than 50 countries, the group developed a scale for degree of hazard, ranging from 1 (least hazardous) to 4 (most hazardous).

A hazardous drinking pattern score was then constructed for each WHO subregion by a population-weighted averaging of the country scores for that subregion. The resulting score is shown in the last column of figures of Table 5.3.

These scores support the conclusion that, in most of the developing world, drinking patterns are conducive to a fairly high degree of hazard per litre of alcohol consumed.

Most important from a public health perspective is to know how often people drink, and how intoxicated they become.

Table 2. Estimated proportion of abstainers among men and women, and hazardous drinking pattern score for different WHO subregions (population weighted averages)

WHO Subregion	Males: per cent abstainers	Females: per cent abstainers	Total consumption	Consumption per drinker	Hazardous drinking pattern (1-4; 4=worst)
Afr D (e.g. Nigeria, Algeria)	53	73	3.6	9.7	2.3
Afr E (e.g. Ethiopia, South Africa)	44	70	7.1	16.7	3.2
Amr A (Canada, Cuba, US)	27	42	9.7	14.8	2.0
Amr B (e.g. Brazil, Mexico)	25	47	8.6	12.1	3.1
Amr D (e.g. Bolivia, Peru)	26	40	5.8	8.7	3.1
Emr B (e.g. Iran, Saudi Arabia)	82	96	1.1	10.0	2.0
Emr D (e.g. Afghanistan, Pakistan)	83	99	0.8	8.9	2.0
Eur A (e.g. Germany, France, UK)	10	19	13.0	15.2	1.3
Eur B1 (e.g. Bulgaria, Poland, Turkey)	22	43	9.7	14.4	2.9
Eur B2 (e.g. Armenia, Azerbajan, Tajikistan)	46	67	4.3	9.9	3.0
Eur C (e.g. Russian Federation, Ukraine)	11	19	14.8	17.4	3.6
Sear B (e.g. Indonesia,Thailand)	65	91	3.3	15.0	2.5
Sear D (e.g. Bangladesh, India)	74	96	2.0	12.5	3.0
Wpr A (e.g. Australia, Japan)	13	23	8.7	10.6	1.0
Wpr B (e.g. China, Philippines, Viet Nam)	16	75	4.9	8.6	2.1

Source: Rehm et al, 2001a.

In most of the developing world, drinking patterns are conducive to a fairly high degree of hazard per litre of alcohol consumed.

However, all of these surveys and summaries are describing a moving target. Looking both at the frequency of drinking occasions and at the quantities drunk on those occasions, drinking patterns are in flux.

Most pervasive is the replacement of traditionally and locally prepared beverages by industrial beverages, and particularly by lager beer. Some of the nutritional value of African opaque beers is lost when they are replaced by lager beer. Where distilled spirits are replacing traditional beverages, the added alcohol content may bring more disruption. At least in the short run, too, consumption of the new beverage is often simply added onto consumption of the old beverage, rather than replacing it.

Migration and diffusion of old customs into new contexts may cause drinking patterns that used to be weekly or reserved for special occasions to become more frequent. Changing gender roles may bring increased drinking by young women. In most countries, however, it is quite exceptional outside a small elite for women to drink at all or more than minimal amounts.

The breakdown of lines of authority and taboos related to age may lead to

increased drinking among young people. These drinkers may be at the vanguard of increasing emulation of drinking styles identified as “western.”

All these factors are causing changes in whether and how people drink alcohol in developing societies, placing themselves and those around them at higher risk as a result of how they use alcohol.

More people in developing societies are placing themselves and those around them at higher risk as a result of how they drink.

Chapter 6
Problems Related to Drinking

As the estimates given above in Chapter 1 indicate, alcohol's burden on health in the developing regions of the world, although lower than in established market economies, is of considerable magnitude, ranging up to 10 per cent of the burden of disability and death in Latin America.

These estimates of the health burden of alcohol raise the question of causality. For most health problems, drinking raises the odds of occurrence, rather than making it certain, and other factors are also involved. The result of this probabilistic and conditional connection is that there is much scope for cultural and individual play in interpretation: on the one hand, alcohol’s role can be inflated by regarding alcohol as causal whenever it is present; on the other hand, its role can be minimized by focusing on other factors also involved.

Alcohol can be linked to problems through many different mechanisms and aspects of drinking. Either or both of the drinking pattern over time and the drinking in the event may be involved in a health, casualty or social problem.

With respect to casualties, alcohol’s effect can be through affecting physical agility and coordination, through its effects on thinking and reasoning processes, through its effects on moods and emotions, and through modification of these effects by tolerance in a seasoned drinker.

With respect to intentional injuries – alcohol’s role in violence – culturally mediated expectations about alcohol’s effects also play a role. With respect to social problems from drinking, the responses of others are as important as the drinker’s behaviour.

Alcohol’s well-known role in liver cirrhosis is probably even more important in developing countries than in developed, because of the high prevalence of various forms of hepatitis and other infections that can interact with the drinking in affecting the gastro-intestinal system.

Heavy drinking also increases the risk of hypertension and stroke. On the other hand, the patterns of drinking discussed in Chapter 5, characterized

other hand, the patterns of drinking discussed in Chapter 5, characterized by relatively infrequent heavy drinking, are unlikely to provide much protection from heart disease. New evidence from societies with a pattern of sporadic intoxication suggests that such a pattern is, on balance, harmful to the heart.

Alcohol's role in cancers of the mouth, pharynx, oesophagus and liver seems as strong in developing societies as in developed. However, estimates of alcohol's role in cancers drawn from developed-country studies should not be automatically applied in developing societies, since locally high rates of cancers may well reflect other factors.

Deaths from an overdose of alcohol are probably more frequent in most societies than deaths from illicit drug overdoses, although they are often recorded under such rubrics as "alcohol dependence". Outbreaks of poisoning deaths from contaminants in alcoholic beverages are also a regular feature of some developing societies.

Data from Russia suggest that alcohol plays a larger role than had been recognized in infectious-disease mortality, particularly under difficult social conditions. In this regard the potential role of alcohol in HIV and AIDS is of obvious importance in developing societies in Africa and elsewhere.

A given dose of alcohol seems to have a greater effect on women's physical health than men's. Alcohol can also affect the developing foetus when the mother becomes intoxicated. Particularly high rates of foetal alcohol syndrome (FAS) have been found in communities in developing societies where there is much heavy drinking by younger women.

Drinking is involved in a wide range of mental disorders, including disorders of the nervous system, and depression and affective disorders, as well as suicide, though specific information is largely unavailable on appropriate attributable fractions for developing societies.

A number of studies have applied instruments developed in industrial societies to measure the alcohol dependence syndrome in developing societies. Rates measured in this way are often quite high, although there is reason to doubt the transferability of the instruments to different cultural circumstances.

The patterns of drinking prevalent in most developing societies are unlikely to protect and are probably harmful to the heart.

Studies of alcohol's involvement in traffic and other injuries have been carried out in a number of developing societies. In the context of developing-society traffic patterns, alcohol-related fatal and other injuries often occur as much to pedestrians as to those in automobiles.

Though the quantitative evidence is sparse, alcohol clearly plays an important role in assaults and homicides in many developing countries. Drinking is also a major source of social problems in many developing countries. These include the impact on the drinker's functioning in family roles, and on the family's finances. Particularly where drinking is entrenched in the workplace, it impairs job performance. Drinkers also find themselves having to deal with the adverse reactions of others to their drinking behaviour, frequently incurring a second-level problem -- e.g. an arrest or other legal penalties.

Problems from men's drinking often bear especially hard on the women in their families. On the other hand, if a woman herself gets a reputation as a heavy drinker, the social consequences and ostracism may be especially harsh.

The limited epidemiological data from developing countries on respondents' reports of social problems from their drinking show that these self-reported rates of problems are often quite high by international standards.

Although precise quantitative evidence on the role of alcohol in specific types of health and social problems is often lacking, based on the overall evidence at hand, we can make a number of generalizations about the relative significance of drinking with respect to a number of problems in developing societies as compared to industrialized societies.

Some of the well-known somatic effects of prolonged high intake are accentuated by the conditions of living in developing societies. For example, malnutrition resulting from poverty aggravates vulnerability to ill health among drinkers. Alcohol consumption may worsen the impact of the infectious diseases characteristic of developing societies. Damaging effects on the liver from forms of infectious hepatitis and from alcohol are likely to be synergistic.

Malaria and typhoid fever are examples of common infections that may aggravate the confusion and debility associated with delirium tremens. Because of a lack of treatment resources, some acute medical effects of heavy drinking are more prominent in developing societies (e.g., fatal delirium tremens, fatal alcohol poisoning).

Because of relatively low levels of aggregate consumption combined with occasional heavy drinking, intentional and unintentional injuries and other acute alcohol problems tend to be relatively more important in developing societies than the chronic physical and mental effects of alcohol.

The prevailing patterns of sporadic or regular binge drinking also explain the prominence of social problems for the drinker and of social disruption in many developing countries. Because of the general scarcity of resources, the impact of drinking on the family budget and the capacity of the individual drinker to fulfil family responsibilities is relatively more important in developing than in industrialized societies.

Whatever the particular pattern of drinking in a society, the experience in developed countries is that rates of the different kinds of alcohol problems tend to go up and down with changes in the overall level of alcohol consumption in the population. There is little reason to believe the pattern will be different in developing societies.

Thus, despite many gaps in the available data, the profile that emerges from this examination of alcohol's role in health and social well-being in developing countries suggests that alcohol's burden is at least as high as what has been estimated in the Global Burden of Disease study.

The importance of acute consequences, and the fact that alcohol tends to kill and disable more in the younger years of life in developing countries, points up the importance of taking measures to reduce alcohol's harmful effects if human capital is to be protected and development is to succeed.

The fact that alcohol tends to kill and disable at younger ages in developing countries points to the importance of taking measures to reduce alcohol's harm if development is to succeed.

Chapter 7
Targeting Individual Behavior Change to Reduce Alcohol-related Problems

This chapter and the following review the research evidence and case studies on efforts to prevent alcohol-related problems in developing societies. We begin with strategies targeting individual behaviour change. These are the most common, although not necessarily the most effective, approaches to the prevention of alcohol-related problems.

Education and persuasion are usually the first prevention strategies to come to mind. Most evaluations of educational approaches have been of school programs, in a narrow range of societies. Few substantial and lasting effects have been found.

Like educational programs, persuasional media campaigns can show effects on knowledge and awareness, but little effect on attitudes and behaviours. The most successful approaches concentrate not on trying to change the drinker's behaviour directly, but on influencing the community environment around the drinker, for instance, by building popular support for alcohol policy measures.

Deterrence through criminal law is a strategy common to all societies. The evaluation literature shows that enforced laws can be effective in deterring drinking driving, and thus reducing road casualties. The deterrence can be effective because drinking drivers usually have something to lose.

Evaluations have found few substantial and lasting effects on drinking behaviour as a result of alcohol education programs.

There is less evidence concerning effectiveness of laws against public drunkenness or against drinking in a public place, but such laws may be relatively ineffective with respect to those who have little to lose.

Here, as we will also see later in discussing alcohol control laws, the ability and willingness of the state to enforce the law are required if laws are to be effective. In practice, states may lack the capacity to police or the willingness to devote sufficient resources to render deterrent measures effective.

Also, turning to criminalization as a principal means of reducing alcohol-related problems assumes that there is a clear-cut distinction between normal and harmful drinking, and that harmful drinkers may thus be easily separated from the general population. Not only is this not always the case, but such an approach tends to deflect attention from general control measures, which may be more effective.

Specialized **treatment** for alcohol problems may be regarded as an obligation of a just and humane society. It may be moderately effective in reducing rates of problems among those who come to treatment.

Treatment can also occur in a variety of environments, including specialized treatment settings, general medical settings, workplaces, and mutual self-help and other voluntary organizations. These need to be tied together in a country as an integrated community-based treatment system.

Brief interventions for those at risk or with harmful alcohol use have proven to be cost-effective, are not complex or expensive and can lead to public health gains, along with other policy measures.

Evidence of brief interventions' effectiveness as a means of reducing alcohol problems in the population has been demonstrated.

Chapter 8
Targeting Environmental Change to Reduce Alcohol-Related Problems

Understanding alcohol-related problems as part of social and economic systems and of physical and cultural environments broadens the scope for and can increase the effectiveness of interventions.

Social alternatives to drinking. Providing social alternatives to drinking or to alcoholic beverages is an obvious approach with a long history in developed countries but little research support. Part of the problem is that the alternatives, whether activities or beverages, tend to mix so easily with alcohol use.

For example, efforts to introduce kava use as a replacement for drinking into Australia's Aboriginal groups led to health problems from kava when use of that substance was removed from the cultural controls in other Pacific islands, and combined with a culture of sporadic heavy substance use.

Insulating use from harm. Another category of approaches seeks to insulate drinking from harm. For example, adding thiamine and other dietary essentials to bread or beer may reduce some of the nutritional deficits found in long-term heavy drinkers.

Another such approach focuses on limiting the harm to those drinking in taverns and other public places, for example by requiring shattering glassware, which reduces its utility as a potential weapon in drunken fights. However, a recent study showed a need for better standards for such

glassware if net injuries are really to be reduced.

Some countries have mandated the service of low-strength beer at public events with substantial potential for violence. One state in Brazil limited the supply of alcohol in the driving environment by banning its sales in commercial facilities with access to state highways. Despite limited enforcement, an evaluation found significant reductions in crashes causing injuries.

Non-alcohol specific measures that reduce traffic and other casualties will often reduce alcohol-related casualties as well. Safer designs for roads and footpaths and required seat belts and air bags protect the intoxicated (and their potential victims) as well as the sober.

"Server training" programs, in which tavern staff are trained in denying service to the already intoxicated or under-age, and in preventing violence, appear to be effective only when backed up with enforcement by licensing authorities and the police.

Approaches in terms of modifying the driving behaviour of the drinker or of companions, such as "designated driver" programs, have had some popularity, but there is little evidence that they are effective.

Lastly, programs to modify the behaviour of potential victims or bystanders appear promising, but have been little evaluated. In general, harm reduction measures that affect the environment of drinking appear to have more effectiveness than purely persuasional efforts directed at the drinker or serving staff.

Regulating availability and conditions of use

The most effective approaches to reducing alcohol problems regulate alcohol's availability and the conditions of its use. Regulations may target the buyer or consumer, the conditions of sale, or the provider or seller. The most dramatic forms of such regulation are prohibition and government monopolies.

The most effective approaches to reducing alcohol problems regulate alcohol's availability and the conditions of its use.

Government alcohol monopolies. While state control of sales is most often exerted by licensing the seller, state monopolization of alcohol sales has also been fairly widely used in developed countries as well as such developing countries as Costa Rica and India.

A public monopoly system removes the private profit motive for increasing sales, and facilitates restrictions on numbers of sales outlets, on hours of sale, and on sales to minors.

Evaluations suggest that, through such mechanisms, state alcohol monopolies do tend to hold down consumption and problem levels, and retail monopolies are potentially an effective way to hold down availability, underage drinking, and consumption and problem levels. However, because of the free-market ideology of international financial agencies, these monopolies are a threatened species in the developing world.

Prohibition regimes at a local level are widespread in the developing world, including on Native American reservations and other "fourth world" locales,

as well as in Islamic societies.

Except for Islamic societies, prohibitions are often initially successful in reducing violence and improving health, but bring with them the characteristic negative consequences of a flourishing illicit trade. In relatively isolated communities, a prohibition may provide a "breathing space" for a time, or may be continued because of perceived success in controlling problems.

Situational prohibitions on drinking, for instance when driving public transport or for those at a particular ceremony, are widespread. For example, São Paulo State in Brazil bans the sale, use and distribution of alcohol, fireworks, glasses and cans during soccer games in stadiums and their surroundings.

Age limits on drinking are widespread. At least 67 countries have minimum age limits on drinking, ranging in general from 16 to 21 and have been shown to reduce youthful problems from drinking in the U.S. But it is not clear how effective limits are where they are less widely enforced, as is common elsewhere.

Alcohol taxation is common, and there is evidence from a variety of developed societies that these taxes are effective in holding down alcohol consumption levels, including consumption by heavy drinkers, and in controlling levels of alcohol-related problems.

However, while the relative inelasticity of demand for alcohol means that raising taxes also usually gives much-needed revenue to a government, in developing societies there is often effective competition from illicit supplies to hold down taxation rates.

Efforts to liberalize developing economies and make them more attractive to tourists have resulted in alcohol tax decreases in some countries, and there is evidence that this has not benefited public health. Mauritius, for example, saw increases in drinking-driving arrests, alcohol dependence admissions and chronic liver disease and cirrhosis death rates after taxes were reduced as a result of pressure from the hotel and tourist industries.

Limiting the number of sales outlets and the hours and days of sale has been shown to be effective in limiting consumption and problems in a variety of cultural circumstances.

For example, a small community in Australia achieved long-term reductions in a wide range of alcohol-related problems when the local Aboriginal Council successfully advocated to limit sales of alcohol on Thursday paydays.

Rationing sales, with each adult assigned a monthly ration, was very effective in reducing violence, other crime and injury in Greenland and elsewhere. Where it is politically feasible, rationing is probably the most effective way of directly affecting the behaviour of those with heavy drinking patterns.

Advertising and promotion restrictions are widespread. Their potential effects are likely to be long term and thus difficult to measure, although evidence of their effectiveness is growing in developed country contexts.

Alcohol taxes are effective in holding down alcohol consumption levels, including among heavy drinkers, and rates of alcohol-related problems, if the illicit market can be controlled.

With the shift of promotion of lager beer and other marketing-driven alcoholic beverage commodities to promotional techniques other than traditional advertising (e.g., sponsorships, cultural and holiday tie-ins, etc.), new regulatory regimes are needed in the developed as well as the developing world.

Working with social and religious movements with a focus on alcohol problems has been among the most powerful catalysts in developing societies, as in the developed world, in reducing rates of alcohol-related problems.

Most commonly, such movements have arisen spontaneously. Attempts by governments in recent decades to stimulate or form alliances with such movements have shown only limited success. A perception of official cooptation or manipulation tends to undercut the strength of such movements.

Chapter 9
Building an Effective Response to Alcohol-Related Problems

Developing systems for regulating the alcohol market to reduce alcohol-related problems is an essential task for developing states.

To the best of our knowledge, in the absence of mitigating factors such as religion, and unless public health countermeasures are taken, alcohol-related problems tend to increase with development. Meanwhile, awareness of and a policy focus on alcohol problems as well as resources to alleviate them remain scarce in the developing world. Together, these create the conditions for an epidemic rise in alcohol problems in the course of economic and social development.

In this context, development of a comprehensive system for regulating the alcohol market to reduce rates of alcohol-related problems is an essential task for developing states.

Governments have diverse interests in alcohol, and responsibility for alcohol regulation is often dispersed. An effective response must give a consistent message across all levels, and be integrated vertically (throughout the levels of government and horizontally (across departments or ministries).

Programmes to achieve early detection and treatment of alcohol problems, to limit the conditions of sale of alcohol and the number and placement of alcohol outlets, and to collect data on licensees and on alcohol-related morbidity and mortality may best be implemented at the local level.

Implementation of licensing regulations, drinking-driving countermeasures, and routine data collection on alcohol production and sales will often be best achieved at the regional level in large states.

National governments usually set alcohol taxation levels, regulate alcohol advertising and promotion, and need to devote resources to alcohol research programmes that can monitor problems and lead to effective responses.

In a rapidly globalizing world, international level bodies and agreements play increasingly important roles. Market actors are globalized; advertising and supplies reach across political boundaries; trade agreements, such as the forthcoming General Agreement on Trade in Services (GATS), threaten the existence of national and local controls over the market. As presently formulated, such agreements are not in the interests of public health.

Trade agreements that threaten national and local controls over alcohol markets are not in the interests of public health.

The need for global leadership

Alcohol problems are of sufficient scale to be of global importance. A significant body of work exists from both developed and developing countries that demonstrates that there are effective policy tools that may be used to reduce alcohol-related problems in developing societies.

Amidst the rapid pace of globalization and societal change, drinking patterns and their attendant problems are worsening in their public health impact, often in the very settings where the fewest resources exist to combat them.

Global leadership is needed for a global problem and for the dissemination of technologies for taxing alcohol and controlling alcohol markets; of effective drinking-driving countermeasures and alcohol-specific prevention and treatment programmes; and research, demonstration and evaluation projects that will promote better monitoring and prevention of alcohol-related problems.

With the globalization of alcohol markets and policies, there is a need for a global intergovernmental focal point on alcohol and public health.

Conclusion

Alcohol is not an ordinary commodity. While it carries connotations of pleasure and sociability in the minds of many, harmful consequences of its use are diverse and widespread.

A global perspective on alcohol policy needs to acknowledge and take into account these characteristics and contradictions of alcoholic beverages, and yet to focus and act on the public health policy goal: to minimize the harm from drinking.

Reducing the level of social and health harms from alcohol requires preparation and planning. This book has contributed to the knowledge base for doing so in the context of developing societies, by documenting levels and trends in alcohol-related problems, showing how drinking levels and patterns contribute to these problems, and assessing and disseminating effective strategies. Whether and how these strategies are implemented lies in the hands of governments and citizens throughout the world.

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