

408. The Panel, therefore, makes no recommendation in respect of this claim unit.

4. Recommended award

409. The Panel's recommendations in respect of claim No. 5000464 are summarized in table 9.

Table 9. Recommended award for claim No. 5000464

<u>Claim unit</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
Low birth-weight infants and malnourished children	210,652,639	nil
Mental pain and suffering	674,129,191	nil
Claim preparation costs	1,700,000	-
<u>Total</u>	886,481,830	nil

D. Recommended awards for the claims of Jordan

410. The Panel's recommendations in respect of Jordan's claims are summarized in table 10.

Table 10. Summary of recommended awards for the claims of Jordan

<u>Claim</u>	<u>Subject</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
5000304	Loss of natural resources	4,330,635,352	161,926,734
5000464	Public health	886,481,830	nil
<u>Total</u>		5,217,117,182	161,926,734

VI. CLAIMS OF THE STATE OF KUWAIT

A. Overview

411. In the fifth "F4" instalment, the Panel reviewed four claims submitted by Kuwait for damage resulting from Iraq's invasion and occupation of Kuwait. Kuwait claims compensation for damage caused by pollutants from the oil well fires in Kuwait and from the oil spills on its territory and into the Persian Gulf; for injuries to residents of Kuwait from mines and ordnance; and for damage resulting from the exposure of many of its citizens to traumatic events and experiences during Iraq's invasion and occupation.

412. Claim No. 5000460 is for compensation for damage to or depletion of terrestrial, marine and groundwater resources, including the expenses of compensatory projects proposed to address the damage or depletion. Claim 5000468 is for expenses for remediation of damage to mudflats. Claim 5000183 is for expenses and other losses related to public health damage. Claim No. 5000453 is for the costs of studies undertaken by Kuwait University to assess the effects of Iraq's invasion and occupation on Kuwait's society.

B. Claim No. 5000460 – Loss of natural resources

413. Claim No. 5000460 comprises three claim units, with a total asserted value of USD 967,831,391, for loss of ecological and human services resulting from damage to or depletion of terrestrial, marine and groundwater resources. This amount represents an increase in the compensation claimed, reflecting amendments made by Kuwait based on information obtained from its monitoring and assessment activities.⁶⁸

414. The claim is for losses during the period between the occurrence of the damage and the time when the damage has been or will be fully remediated. The first claim unit is for damage to terrestrial resources; the second claim unit is for damage to Kuwait's marine and coastal resources; and the third claim unit is for the loss of groundwater resources.

1. First claim unit – Terrestrial resources

415. Kuwait seeks compensation in the amount of USD 194,133,683 for damage to large areas of its terrestrial environment caused by the oil well fires and military activities during Iraq's invasion and occupation.

416. Kuwait states that its environment was damaged by tarcrete, dry oil lakes, wet oil lakes, oil-contaminated piles and oil-filled trenches, spills, military fortifications, open burning/open detonation areas and wind-blown sand. Kuwait estimates that over 2,000 square kilometres of its desert areas were damaged. According to Kuwait, the damage resulted in disruption of ecological services (soil stabilization, soil micro-community, wildlife habitat and vegetative diversity) and human services (grazing of animals and desert camping).

417. Kuwait states that the programmes to remediate damaged terrestrial resources as proposed in its third and fourth "F4" instalment claims⁶⁹ do not cover all the damage that it has suffered as a result of Iraq's invasion and occupation. According to Kuwait, those remediation projects "are not intended to account for losses to natural resources flows during the time period between the injury to and the recovery of the resources to a baseline state, whether naturally or by virtue of the proposed remediation projects." Kuwait further states that, in quantifying its losses in ecological services, it has taken into account the impacts which remediation measures would have in mitigating the losses.

418. Kuwait proposes to establish nine nature preserves representing approximately 3,000 square kilometres of protected areas. These are to compensate for the loss of ecological services from the time of the damage until full restoration of the services as a result of remediation. The proposed preserves would have several facilities including visitors' centres, lodging facilities for personnel, access roads, support equipment and fencing.

419. As noted in paragraph 417 above, Kuwait submitted claims in the third and fourth "F4" instalments for expenses of remediation of damage to its terrestrial resources. In addition to evidence provided to support its third and fourth "F4" instalment terrestrial claims, Kuwait submitted further details of its quantification of losses to its terrestrial resources. These include estimates of vegetation

cover and loss of ecological services in damaged areas, based on GIS and remote sensing analysis and information obtained from the results of studies on restricted land use and vegetation recently undertaken by the Kuwait Institute for Scientific Research.

420. Kuwait uses habitat equivalency analysis (“HEA”) to estimate the size of the terrestrial nature preserves that would provide natural resource services equivalent to those that were lost as a result of the environmental damage to its terrestrial resources. Kuwait describes the steps taken in its application of HEA as follows: quantification of the losses of the environmental damage to terrestrial resources; determination of the size of the compensatory projects; quantification of the gains from the compensatory projects; and calculation of the cost of the compensatory projects.

421. According to Kuwait, the scaling of the nine terrestrial preserves does not completely offset the damage caused, and it states that it “is actually entitled to a somewhat larger award than has been requested”.

422. Iraq accepts that there is evidence of persistent impacts caused by oil lakes, oil-contaminated piles and tarcrete. However, it states that remediation programmes proposed in claim No. 5000454 and for which compensation was awarded in the fourth “F4” instalment “will address these impacts and return affected areas to baseline conditions within a twelve-year timeframe”. Regarding the effect of tarcrete in fenced areas, Iraq states that remediation awarded in the third “F4” instalment for claim No. 5000450 will return conditions in tarcrete-affected areas to baseline within three to five years. Iraq asserts that the effects of increased sand movement caused by military fortifications will be prevented by the gravel spreading remediation awarded in claim No. 5000450. Iraq further states that the revegetation islands to be established with the award for claim No. 5000450 will offset any increased sand movement due to other factors. According to Iraq, if Kuwait’s rangelands are managed in a sustainable manner, the proposed remediation projects under claim No. 5000450 “have the potential to improve the overall condition of the Kuwaiti desert above baseline levels”.

423. Iraq further states that the proposed terrestrial preserves will probably provide benefits to Kuwait in general. It argues that they will not constitute the appropriate compensation to offset the losses claimed by Kuwait since the services provided by the preserves will not be exactly the same as the services that Kuwait claims to have lost. Iraq also states that, while there is clear evidence of damage to certain parts of the Kuwaiti desert, the claim needs to be evaluated against the relevant baseline conditions, ongoing grazing impacts and impediments to vegetation recovery and service provision brought about by a lack of sustainable rangeland management.

424. With regard to the estimation of areas affected and compensation that may be awarded, the Panel considers that, although the HEA and remote sensing analyses provided by Kuwait to support its estimate are appropriate, many of Kuwait’s assumptions regarding the lost services and expected recovery periods are either inappropriate or unreasonable.

425. In particular, the Panel finds that Kuwait overstates service levels prior to the commencement of the project, and thus inappropriately reduces the potential improvements that can reasonably be expected from the remediation measures for which awards were made in the third and fourth “F4”

instalments. In addition, the Panel considers that the model used by Kuwait for estimating post-remediation service improvements is based on information from too few sites and fails to take account of the initial vegetation cover. Furthermore, Kuwait's assumptions about baseline service levels inappropriately include consequences that follow from the decision, taken by Kuwait after the invasion and occupation, to fence its oil fields.

426. The Panel also considers that it is not reasonable for Kuwait to assume that there will be no further natural recovery between 2002 and the start of remediation measures to be funded by the third and fourth "F4" instalment awards. In addition, the Panel considers that Kuwait has overstated remediation periods and post-remediation recovery times in the affected areas. In the view of the Panel, appropriate remediation activities should be commenced as soon as possible following approval by the Governing Council of any awards for remediation. This will not only accelerate recovery of the damaged areas but it is also in line with the duty of Kuwait to mitigate the damage and minimize losses resulting from the damage.

427. Taking these factors into consideration, the Panel finds that the loss of terrestrial natural resources claimed by Kuwait is overstated. In the view of the Panel, there are no compensable losses beyond those addressed by the remediation measures for which awards were made in the third and fourth "F4" instalments.

428. Accordingly, the Panel recommends no compensation for this claim unit.

2. Second claim unit – Marine and coastal resources

429. The second claim unit is for compensation for damage to marine and coastal resources. The total amount of compensation sought is USD 613,814,608, comprising USD 574,200,000 for damage to aquatic biota, USD 16,599,464 for damage to shoreline resources and USD 23,015,144 for lost recreational opportunities.

430. Kuwait states that Iraq's invasion and occupation of Kuwait heavily impacted its marine and coastal resources. According to Kuwait, approximately eleven million barrels of oil were released into Kuwaiti territorial waters, and habitat and shoreline surveys performed in the months following the invasion and occupation revealed shorelines covered in a thick coating of oil with the potential for widespread injury to marine life, shoreline habitat, and fisheries.

431. In the first and fourth "F4" reports, the Panel found that Kuwait's marine and coastal areas had been damaged by oil released as a result of Iraq's invasion and occupation of Kuwait.⁷⁰

432. The Panel notes that Kuwait has restructured this claim unit since it was originally filed. Claims for damage to aquatic biota, damage to shoreline resources and lost coastal and marine recreational opportunities ("lost recreational opportunities") were originally included in the claim for a coastal research centre and marine preserve. The original claim also included a claim for decreased shrimp landings from 1994-2000 that was to be addressed by a "raise and release" programme for shrimps. In subsequent amendments based on monitoring and assessment results, Kuwait separated the

compensation requested for damage to aquatic biota from damage to shoreline resources. Kuwait proposes first, to undertake an enhanced “raise and release” programme for shrimp in order to deal with the damage to aquatic resources as a whole, including decreased shrimp landings, and second, to create a shoreline preserve to address the damage to shoreline resources. As part of its claim for damage to shoreline resources, Kuwait also seeks monetary compensation for lost recreational opportunities.

(a) Aquatic biota

433. Kuwait states that its claim for loss of aquatic biota includes loss of ecological services provided by the subtidal areas. These services include food production and provision of habitats for aquatic invertebrates, fish, benthic infauna and plants. Kuwait seeks an amount of USD 574,200,000 to establish a shrimp “raise and release” programme as compensation for the loss of aquatic biota.

434. Kuwait uses an integrated set of computer models to estimate oil contamination in marine areas from the oil spills and to calculate the associated losses of biomass. The models used are a Model for the Assessment and Remediation of Sediment (“MARS”)⁷¹ and an Oil Spill Contingency and Response Model (“OSCAR”).⁷²

435. Using these models, Kuwait estimates the lost biomass in commercially valuable species, including finfish and shrimp, and categorizes each species into one of three trophic levels (primary, secondary and tertiary consumers). By applying trophic scaling to convert the lost biomass of secondary and tertiary consumers into an estimated loss in units of primary consumer biomass, Kuwait estimates that its loss of aquatic biota amounts to 70,000 tonnes of shrimp biomass.

436. Kuwait states that the “abundance data” used in the OSCAR model are from unpublished field survey sampling data compiled by the Kuwait Institute for Scientific Research during 1980-89, and the life history parameters come from an online database (FishBase) and from a number of publications.

437. Iraq states that this part of the claim unit is one for commercial resource losses and argues that it is unfounded as commercial fisheries recovered quickly by 1992. Iraq also claims that fishing restrictions arising as a consequence of the conflict would have had a beneficial environmental effect.

438. According to Iraq, Kuwait’s estimate of the magnitude of the loss is based on theoretical models and is not supported by any evidence of widespread marine organism deaths attributable to the oil spills. Iraq further states that the predicted estimates, using the OSCAR model, did not correspond to observed information of oil slick trajectories. Iraq’s general contention is that the model predictions of subtidal sediment contamination used by Kuwait to estimate biomass losses are not reliable.

439. The Panel finds that Kuwait’s use of computer models is an acceptable approach to estimate damage to aquatic resources that probably occurred as a direct result of Iraq’s invasion and occupation of Kuwait. However, the Panel considers that there are substantial and unquantifiable uncertainties in Kuwait’s estimate of lost biomass using these models. For example, the Panel is unable to verify Kuwait’s input values for the computer model used to estimate lost biomass, particularly data on

quantities of aquatic resources. In addition, there is lack of validation of the estimates of the lost resources, even by means of anecdotal descriptions of fish kills at the time of the alleged damage. Furthermore, the estimate of loss does not take account of possible confounding factors, such as the decrease in fishing activity during the period of the invasion and occupation and some time subsequently.

440. The Panel, therefore, concludes that Kuwait has not provided sufficient evidence to enable the Panel to quantify the magnitude of any lost biomass. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

441. Accordingly, the Panel recommends no compensation for this part of the claim unit.

(b) Shoreline resources

442. Kuwait states that the damage to its shoreline resources resulted in a reduction in the quantity and quality of services provided by different shoreline habitats. According to Kuwait, each shoreline habitat provides services to a unique set of organisms to varying degrees. These services include habitats for invertebrates, birds, reptiles, mammals, and plants, nesting and roosting for birds; food services; and marine mammal/reptile haul-out. Kuwait seeks an amount of USD 16,599,464 to establish a shoreline preserve as compensation for the loss of these services.

443. In order to assess the oil contamination on its shoreline resulting from invasion-related oil spills, Kuwait applies the models that it uses in its assessment of lost aquatic biota as described in paragraph 434 above. According to Kuwait, the output from the models indicates oil contamination to 4.7 square kilometres of shoreline habitat, at varying degrees of severity. Kuwait estimates the recovery time for each habitat and assigns percentage service losses due to different degrees of contamination (e.g., an initial 90-per cent service loss for heavily contaminated sandy shoreline areas), with service loss diminishing over time as natural recovery occurs. The value of loss is calculated using a "service hectare year" metric, representing the level of ecological service provided by one hectare in a year. On that basis, Kuwait states that the net present value of damage to its shoreline resources amounts to 1,402.6 discounted service hectare years ("DSHY").

444. Kuwait bases its estimate of recovery times for different shoreline areas on information regarding recovery rates of other oil-contaminated shoreline areas, particularly in the United States, but with some adjustments.

445. Iraq accepts that a small area of Kuwait's coastline was affected by the 1991 oil releases. However, Iraq argues that Kuwait has based its calculation of damage to the shoreline resources on computer models and natural resource damage assessment ("NRDA") data from the United States with "limited adjustments for the Kuwait situation". Iraq also states that Kuwait has not used information from the results of its monitoring and assessment studies to estimate recovery times for the affected areas, and has disregarded contemporaneous reports regarding the extent of damage to Kuwait's shoreline as a result of the oil spills. Iraq further states that, although the chosen metric is theoretically valid, Kuwait has made many assumptions without sufficient justification in applying it.

446. The Panel finds that there was damage to Kuwait's shoreline resources as a direct result of Iraq's invasion and occupation. The Panel also finds that the primary restoration envisaged by the award in the fourth "F4" instalment will not fully compensate for the loss resulting from this damage.⁷³ Accordingly, the Panel considers that compensatory restoration is appropriate in this case.

447. The Panel notes that Kuwait's estimate of the damage to the shoreline resources using computer models is broadly consistent with available information, such as satellite images, survey reports, photographs and witness statements. In the view of the Panel, the estimated magnitude of oil contamination (4.7 square kilometres) is also consistent with current observations of invasion-related shoreline contamination (0.8 square kilometres) identified in Kuwait's monitoring and assessment studies, taking into account likely reductions in the extent of contamination during the intervening years.⁷⁴

448. In assessing the appropriate compensatory restoration project for damage to shoreline resources, Kuwait considered six alternatives. Kuwait chose the creation of a shoreline preserve as its preferred option because, in its view, such a preserve would "provide services of a similar type and quality as those that were lost due to Iraq's invasion and occupation of Kuwait, more specifically, the oil releases".

449. Kuwait then selected the site, area and duration for the proposed preserve based on the services required to compensate for the estimated loss of 1402.6 DSHY. The service estimations rely on assigning ecological benefit (or "uplift") values to sites depending on their level of current development and the possibility of future development. On that basis, Kuwait estimates that a 140-hectare preserve on Bubiyan Island over 50 years would generate the necessary benefits to offset the damage to shoreline resources. Kuwait however seeks the cost of operating and managing the preserve for a 20-year period, and calculates an amount of USD 16,692,699 for this purpose.

450. Iraq states that although, in theory, a shoreline preserve may be an appropriate form of compensatory restoration, Kuwait has not provided sufficient information either to justify the geographical extent of the proposed shoreline preserve or to demonstrate how such a preserve would compensate for the claimed loss of services.

451. The Panel finds that a coastal preserve would provide appropriate compensation for the loss of shoreline resources resulting from Iraq's invasion and occupation of Kuwait. A preserve sited in shoreline habitats similar to those that have been damaged would provide ecological services similar in kind to those that were lost. In the view of the Panel, such a preserve is feasible, cost-effective and poses a low risk of adverse impacts.

452. However, the Panel considers that a number of modifications to the compensatory project proposed by Kuwait are necessary. In particular, the Panel considers that it would be more appropriate to provide for the operation and maintenance of a 140-hectare preserve on Bubiyan Island, or another suitable area, for 30 years. Details of the modifications are indicated in Annex II to this report.

453. The expenses of the compensatory project have been adjusted to take account of the modifications in Annex II as well as further adjustments including:

- (a) A 30-year duration for the operation and maintenance of the proposed preserve, instead of 20 years as proposed;
- (b) Reduction in the size of the facility and a decrease in the staff required to operate the preserve;
- (c) Adjustments to unit costs and contingency estimates; and
- (d) Additional allowances for items not budgeted, such as fencing and a pier/ramp.

454. The modifications and adjustments reduce the expenses of the coastal preserve to USD 7,943,030.

455. The Panel finds that this amount constitutes appropriate compensation for damage to or depletion of Kuwait's natural resources resulting from Iraq's invasion and occupation, in accordance with paragraph 35(e) of Governing Council decision 7.

456. Accordingly, the Panel recommends compensation in the amount of USD 7,943,030 for this part of the claim unit.

(c) Lost recreational opportunities

457. Kuwait states that its claim for lost recreational opportunities represents the "[e]conomic value of the welfare loss associated with lost opportunities for performing recreational activities at beaches and at sea during and after Iraq's invasion and occupation of Kuwait". Kuwait seeks compensation in the amount of USD 23,015,144 for this loss.

458. Kuwait conducted four surveys in 2003 to estimate lost activity days and the monetary value of each activity. The surveys were conducted among beach users, boat users, boat owners and chalet owners. The total number of lost days for each recreational activity was calculated by multiplying the number of days lost in each year by the number of years during which opportunities for the activity were not available as a result of Iraq's invasion and occupation of Kuwait. The monetary value of the loss was valued using "contingent valuation", a survey-based valuation technique.

459. Kuwait provides as evidence of damage to recreational resources, photographs of mines and barbed wire used as part of the coastal defences as well as photographs of damaged yacht club facilities. Kuwait also submitted witness statements asserting that recreational facilities on the coast could not be used during and after the invasion and occupation as a result of, *inter alia*, the presence of Iraqi troops, military fortifications and munitions.

460. Iraq states that "the contingent valuation survey cannot be considered sufficient evidence to support this claim". Iraq also states that Kuwait has not indicated how it proposes to utilize the

monetary compensation requested in this regard. Iraq adds that, on the assumption that any compensation awarded for this part of the claim unit will be used on the proposed shoreline preserve, Kuwait has failed to specify whether recreational opportunities will be provided within the preserve to replace those that are alleged to have been lost.

461. Iraq further states that this part of the claim unit might duplicate some of the compensation claimed for the shoreline preserve. Iraq notes that the estimated costs of the shoreline preserve were based on the original estimate for a combined shoreline preserve and marine reserve that was also intended to replace lost recreational opportunities.

462. In the view of the Panel, it is likely that some people in Kuwait were deprived of opportunities for recreational activities at beaches and at sea during and after Iraq's invasion and occupation of Kuwait, and that this was a direct result of the invasion and occupation.

463. However, there are serious technical problems with Kuwait's quantification and valuation of the loss of recreational opportunities. In particular, it is doubtful that the persons questioned in Kuwait's survey could recall accurately, after more than 10 years, detailed information on their use of recreational facilities in the past. Further, the contingent valuation data submitted by Kuwait do not provide a sufficiently reliable basis for estimating the value of any lost recreational opportunities.

464. In the view of the Panel, the information submitted does not provide a sufficient basis for determining the nature and extent of loss of recreational opportunities to people in Kuwait. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

465. Accordingly, the Panel recommends no compensation for this part of the claim unit.

3. Third claim unit – Groundwater resources

466. Kuwait seeks compensation in the amount of USD 159,883,100 for the loss of use of groundwater resources during the period when these resources could not be used because of contamination resulting from Iraq's invasion and occupation. Specifically, Kuwait seeks compensation for the loss of the sustainable yield in the southern Raudhatain and Umm Al-Aish aquifers in the period beginning from the original contamination in 1992 and ending in 2051, when Kuwait states that remediation of the damage will be completed.⁷⁵

467. Iraq questions Kuwait's claimed loss of use of water resources as a result of the invasion and occupation. According to Iraq, the baseline situation was one in which the aquifers were only being used to a limited extent and not at their sustainable yields. It also states that extraction from the aquifers had already almost ceased at the time of the invasion.

468. Iraq also states that, in any case, the net freshwater storage in the two aquifers has already increased by natural recharge; and it asserts that there is no evidence of fresh groundwater loss because pumping rates at both of the aquifers have, in fact, increased since the invasion and occupation.

469. Iraq further contends that Kuwait has contributed to damage to the aquifers because it failed to take timely and appropriate steps to remove the adjacent oil lakes and oil recovery pits that are alleged to have caused the groundwater contamination.

470. The Panel notes that the presence of mines and other ordnance initially prevented the removal of nearby oil contamination, and reconstruction operations in the oil fields further delayed remediation efforts. Furthermore, for some time there was a lack of monitoring data identifying the location, nature and extent of the contamination in the aquifers. The Panel, therefore, does not consider that Kuwait's delay in removing the oil lakes and recovery pits was unreasonable in the circumstances.⁷⁶

471. However, the Panel notes that the evidence shows that groundwater pumping in Kuwait recommenced at levels similar to the pre-war levels soon after the end of Iraq's occupation of Kuwait. The evidence further shows that the pumping was from different wells where contamination had not affected the groundwater and there is no evidence that the use of different wells to pump the groundwater resulted in increased costs.

472. In any case, the Panel notes that, compared with the overall production of fresh water in Kuwait, groundwater production at the Raudhatain and Umm Al-Aish aquifers was minimal, both before and after Iraq's invasion and occupation.

473. The Panel, therefore, concludes that Kuwait has not provided sufficient evidence to establish loss of groundwater production at Raudhatain and Umm Al-Aish. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

474. Accordingly, the Panel recommends no compensation for this claim unit.

4. Recommended award

475. The Panel's recommendations in respect of claim No. 5000460 are summarized in table 11.

Table 11. Recommended award for claim No. 5000460

<u>Claim unit</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
Terrestrial resources	194,133,683	nil
Marine and coastal resources	613,814,608	7,943,030
Groundwater resources	159,883,100	nil
<u>Total</u>	967,831,391	7,943,030

C. Claim No. 5000468 – Coastal mudflats

476. Claim 5000468 is for compensation in the amount of USD 267,710,202 for expenses of future measures to remediate damage to Kuwait's coastal mudflats resulting from Iraq's invasion and occupation and for future monitoring activities. This amount represents a decrease in the

compensation claimed, reflecting amendments made by Kuwait based on information obtained from its monitoring and assessment activities.⁷⁷

477. By Procedural Order No. 6 of the fourth "F4" instalment dated 30 April 2004, the Panel deferred the portion of claim No. 5000259 of Kuwait relating to remediation of coastal mudflats to the fifth "F4" instalment. The deferral was made at the request of both Kuwait and Iraq. This claim is the deferred portion of claim No. 5000259 relating to remediation of coastal mudflats.

478. Kuwait states that its coastal environment was damaged by millions of barrels of oil deliberately released into the Persian Gulf by Iraqi forces. According to Kuwait, the oil released as a result of Iraq's invasion and occupation of Kuwait dwarfed all other inputs of oil into the Persian Gulf from spills, refinery operations, natural seeps, exploration and production activities, operational discharges from vessels, urban run-off and similar sources.

479. Kuwait provided several reports, satellite images and witness accounts of oil spillage in and around the mudflats area as a result of Iraq's invasion and occupation.

480. In order to determine the oil contamination remaining in the mudflats, Kuwait conducted a comprehensive shoreline survey. Kuwait also conducted a rapid shoreline assessment ("RSA") to determine the diversity of biota ("species richness") in different parts of the mudflats, and conducted chemical analysis of samples taken from the RSA sample areas.⁷⁸

481. According to Kuwait, remediation is required in four areas of mudflats located along the north shore of Kuwait Bay. Kuwait determines the areas requiring remediation by identifying areas of high levels of oil contamination (TPH "at or above 100mg/kg") that correspond to low levels of RSA species richness (three or less in areas which, according to Kuwait, normally contain a richness of 10 to 14). The total area identified as requiring remediation is approximately 53.4 square kilometres along the full width of the intertidal zone.

482. Kuwait also states that the impact of oil contamination on the remaining areas of mudflats is uncertain and that the mudflats are a fragile but critically important biological area. Hence, although no active remediation measures are proposed for these remaining areas, Kuwait proposes a five-year monitoring activity in those areas, and it seeks compensation for the expenses of the monitoring activity.

483. Iraq accepts that data presented by Kuwait indicate possible remaining oil contamination in certain locations in the upper intertidal zone of Northern Kuwait Bay that could be a result of the 1991 conflict. However, Iraq estimates that the total area that may require remediation is no more than 0.4 square kilometres.

484. Iraq also agrees that the coastal oil trench and oil deposit areas in Kuwait Bay are possible sources of oil impacting these locations. However, Iraq states that there is insufficient evidence regarding "ongoing stresses and how these may affect the interpretation of the M&A data". Iraq, therefore, concludes that the relative contribution of the conflict has not been determined.

485. With regard to expenses of monitoring areas where remediation is not proposed, Iraq states that this is a new claim and, as such, inadmissible. Iraq also argues that the claim is unjustified in substance as the Panel has already awarded substantial funding for monitoring activities and any new data would not serve any useful purpose in the UNCC process.

486. The Panel notes that the mudflats are characterized by low levels of oil contamination, and the evidence provided is not sufficient to demonstrate that the contamination is causing environmental damage. Further, the evidence provided is insufficient to enable the Panel to determine the proportion of the oil contamination remaining in the coastal mudflats that is attributable to Iraq's invasion and occupation of Kuwait, or to assess the importance of other factors, such as natural variability, that may affect the diversity of biota in the area.

487. The Panel, therefore, finds that Kuwait has not provided sufficient evidence to show that there is remaining damage in the mudflats attributable to Iraq's invasion and occupation. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

488. The Panel also finds that insufficient evidence has been provided by Kuwait to justify further monitoring activity in any areas of the mudflats.

489. Accordingly, the Panel recommends no compensation for this claim.

490. The Panel's recommendation in respect of claim No. 5000468 is summarized in table 12.

Table 12. Recommended award for claim No. 5000468

<u>Claim</u>	<u>Subject</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
5000468	Coastal mudflats	267,710,202	nil
<u>Total</u>		267,710,202	nil

D. Claim No. 5000183 – Public health

491. Claim No. 5000183 comprises four claim units, with a total asserted value of USD 1,476,336,427, for losses resulting from damage or risk of damage to public health. This amount represents an increase in the compensation claimed, reflecting amendments made by Kuwait based on information obtained from its monitoring and assessment activities.⁷⁹

492. Kuwait states that Iraq's invasion and occupation caused wide-ranging health impacts as a result of the release of pollutants from the oil well fires, the release of oil into coastal waters and the traumatic impacts of hostilities and various acts of violence on the population. Kuwait also states that the looting of medical and public health facilities by Iraqi forces resulted in severe damage to its public health system.

493. The first claim unit is for medical treatment costs for persons injured by mines and ordnance explosions. The second claim unit is for medical treatment costs and other losses to persons suffering

from post-traumatic stress disorder as a result of exposure to hostilities and various acts of violence by Iraqi forces during the invasion and occupation. The third claim unit is for losses due to increased mortality resulting from the effects of the oil well fires in Kuwait. The fourth claim unit is for the costs of a long-term epidemiological study and a medical screening programme to evaluate the impact of Iraq's invasion and occupation on public health in Kuwait. Kuwait also claims interest on any amount awarded.

1. First claim unit – Treatment of injuries from mines and ordnance

494. Kuwait seeks compensation in the amount of USD 2,385,617 for expenses incurred to treat individuals injured by explosions of mines and ordnance. Kuwait states that during Iraq's invasion and occupation, massive quantities of unexploded mines and ordnance were left in its territory. According to Kuwait, Iraq created large minefields, planted over a million mines around the country, and left many remnants of war that were often camouflaged and booby-trapped. Kuwait states that, as a result of Iraq's actions, many of its residents sustained injuries from mine and ordnance explosions, and were treated within its public healthcare system.

495. Kuwait seeks compensation for the following expenses incurred for the treatment of 143 persons who sustained injuries from mines and ordnance explosions:

- (a) Expenses incurred in the past for initial hospital care, amputation surgery, follow-up care and prosthetic devices for 36 nationals of Kuwait, and for future costs of replacement of prosthetic devices (USD 1,340,393);
- (b) Expenses incurred in the past for initial hospital care and amputation surgery for 40 non-nationals of Kuwait (USD 811,586); and
- (c) Expenses incurred in the past for initial hospital care for 67 nationals of Kuwait who were injured by mines and ordnance explosions but did not require amputation surgery (USD 233,638).

496. Kuwait relies on victims' records in the databases of the Public Authority for Assessment of Compensation for Damages Resulting from Iraqi Aggression and the Ministry of Health's Artificial Limb Centre to calculate the number of victims of mines and ordnance explosions, and to assess the extent of their injuries.

497. Iraq accepts that the dispersal of mines and ordnance as a result of the invasion and occupation caused injuries to residents of Kuwait. However, Iraq argues that it should not be held liable for the damage caused by cluster bombs which were used only by the Allied Coalition forces. According to Iraq, this type of ordnance was the principal source of the injuries that are the subject of Kuwait's claim.

498. In the second "F4" report, the Panel noted that, pursuant to paragraph 34(a) of Governing Council decision 7, "direct loss, damage, or injury" includes any loss suffered as a result of "military operations by either side during the period 2 August 1990 and 2 March 1991". Accordingly, the Panel

found that losses or expenses incurred in connection with mines and ordnance were compensable regardless of whether they resulted from military operations by Iraq or the Allied Coalition Forces.⁸⁰ In the present claim, the Panel finds that expenses incurred by Kuwait as a result of injuries from mines and ordnance are direct losses within the meaning of paragraph 16 of Security Council resolution 687 (1991), irrespective of who was responsible for their presence in Kuwait.

499. The Panel directed the secretariat to undertake cross-claim and cross-category checks to ascertain whether there is a risk of duplication of this claim unit with other claims submitted to the Commission, and in particular, whether the claim could duplicate claims submitted by individual claimants that were reviewed in the “B”, “C” and “D” claims categories.⁸¹ The secretariat was further instructed to request Kuwait to provide information on the steps that it had taken to ensure that this claim did not duplicate, wholly or in part, any other claim that Kuwait had filed with the Commission. Having reviewed the results of the checks by the secretariat and the response received from Kuwait, the Panel is satisfied that, although there may be a theoretical risk of duplication of parts of this claim with some claims for which awards have been made by the Commission, the risk is marginal and does not warrant an adjustment.

500. The Panel considers that the costs claimed for providing replacement prosthetic devices to 36 Kuwaiti amputees are reasonable. The Panel also considers that the costs claimed for providing treatment to Kuwaitis with other injuries are reasonable. The Panel further considers that, with the exception of surgery costs, the initial treatment costs claimed for both Kuwaiti and non-Kuwaiti amputees are reasonable.

501. With regard to the costs of amputation surgery, the Panel considers that Kuwait’s estimate is not reasonable since it is based on the average cost of surgery at the Mubarak Al Kabeer Hospital, which is higher than the average cost at the Al-Razi Hospital, where the surgery was actually performed. The Panel has, therefore, made an adjustment to take account of the difference. This adjustment reduces the expenses for the treatment of Kuwaiti amputees to USD 1,330,422 and the expenses for the treatment of non-Kuwaiti amputees to USD 790,843.

502. Accordingly, the Panel recommends compensation in the amount of USD 2,354,903 for this claim unit.

2. Second claim unit – Post-traumatic stress disorder cases

503. Kuwait seeks compensation in the amount of USD 1,181,450,810 for expenses and losses arising from the increased number of cases of post-traumatic stress disorder (“PTSD”) as a result of the exposure of its residents to hostilities and various acts of violence by Iraqi forces during Iraq’s invasion and occupation. Of the amount requested, USD 51,613,310 is for expenses incurred in providing medical treatment to persons in Kuwait who suffered from PTSD and USD 1,129,837,500 is for the loss of well-being by members of its population who suffered from PTSD.

(a) Treatment for PTSD

504. Kuwait calculates the number of persons who suffered from PTSD as a result of Iraq's invasion and occupation by subtracting the cases of PTSD that would be expected to occur without the invasion and occupation from the number of cases of PTSD in Kuwait in 1993. Kuwait calculates the number of PTSD cases in 1993 on the basis of the results of an epidemiological study conducted in 1993 by researchers with the Al-Riggae Specialized Centre for Treatment of War Victims in Kuwait. Kuwait's calculation of the number of cases of PTSD that would have occurred in 1993 but for Iraq's invasion and occupation is based on a review of the scientific literature on the prevalence of PTSD. Kuwait also relies on the results of a follow-up study which was conducted in 1998 to reassess the mental health status of the population that was the subject of the 1993 Al-Riggae epidemiological study.

505. According to Kuwait, 90,387 Kuwaiti citizens developed PTSD due to exposure to the events of the invasion and occupation. Kuwait calculates that 6.5 per cent of these persons made an average of 4.65 treatment visits per year for five years, resulting in a total of 136,597 treatment visits. Kuwait states that the average cost per visit is approximately USD 378.⁸²

506. Iraq states that, although there may be a causal link between the invasion and occupation and some occurrence of PTSD in Kuwait, Kuwait's evidence does not establish a valid estimate of the number of persons in Kuwait who suffered from PTSD as a direct result of the invasion and occupation. In particular, Iraq asserts that the background prevalence rate of PTSD used by Kuwait is too low. It also states that Kuwait does not take account of variations in the duration of treatment for different patients. Further, Iraq argues that the average treatment costs claimed by Kuwait are too high.

507. The Panel finds that the data submitted by Kuwait demonstrate that, during Iraq's invasion and occupation, a substantial proportion of the Kuwait population was exposed to events of the type that can cause PTSD, and that exposure to these events resulted in an increase in the number of cases of PTSD in Kuwait. The Panel, therefore, finds that expenses incurred by Kuwait in treating such PTSD cases constitute direct losses resulting from Iraq's invasion and occupation of Kuwait, within the meaning of paragraph 16 of Security Council resolution 687 (1991). Accordingly, these expenses qualify for compensation in accordance with Governing Council decision 7.

508. The Panel finds, however, that there are limitations in Kuwait's calculation of the number of cases of PTSD and the costs of treatment. In particular, the Panel considers that Kuwait overstates the actual number of cases of PTSD attributable to Iraq's invasion and occupation by underestimating the background prevalence rate of PTSD in Kuwait prior to the invasion and occupation. On the basis of the available information, the Panel considers that it is reasonable to apply a background prevalence rate that is higher than the 2 per cent rate used by Kuwait. The Panel concludes that a reasonable estimate of the number of cases of PTSD attributable to Iraq's invasion and occupation of Kuwait is approximately 41,700.

509. Furthermore, the Panel notes that the intensity and duration of treatment required for PTSD varies considerably between cases. In the Panel's view, Kuwait's estimate, based on a duration of

treatment of five years for each case, is overstated. The Panel has, therefore, adjusted the recommended amount to take into account variations in the times required for treatment of different cases. The adjustment reduces the total number of treatment visits for PTSD patients to 29,615.

510. The Panel also notes that only 12,000 visits occurred at the Al-Riggae Centre, and that the Al-Riggae Centre costs are higher than the costs for psychological treatment at other facilities in Kuwait. As a result, the Panel has adjusted the cost-per-visit rate for treatment received in facilities other than the Al-Riggae Centre to USD 78 per visit.

511. These adjustments reduce the compensable expenses for the treatment of PTSD cases to USD 5,909,343.

512. Accordingly, the Panel recommends compensation in the amount of USD 5,909,343 for this part of the claim unit.

(b) Loss of well-being

513. Kuwait also seeks compensation for loss of well-being (i.e., reduced quality of life) of persons suffering from PTSD. Kuwait states that for each year an individual suffers from PTSD, there is a loss measurable in health-adjusted life years. Kuwait estimates the loss of well-being by multiplying the period during which a person suffered from PTSD symptoms by a disability weight representing the loss of well-being as a result of living with these symptoms. The specific disability weights used by Kuwait were derived from a study involving a person trade-off survey in which clinicians were asked to assume the role of a policy maker and to make judgements about the relative values of sick people as compared to healthy people. Kuwait claims that each individual with PTSD suffered a decrease in well-being equivalent to the loss of one-fourth of a life year. Accordingly, based on a value of USD 50,000 per life year, Kuwait claims USD 12,500 for each case of PTSD resulting from the invasion and occupation.

514. Iraq argues that governments can only submit claims before the Commission for losses that they have sustained directly, and that they may not seek compensation for losses suffered by individuals. Iraq states that Kuwait's claim for loss of individual well-being is inadmissible because it relates to losses suffered directly by individuals who could have submitted such claims to the Commission. Since the Government of Kuwait has not suffered any direct loss, Iraq states that this part of the claim unit should be dismissed. Iraq further states that the claim for loss of well-being is merely theoretical.

515. As indicated in paragraphs 69-70 above, the Panel considers that there is nothing either in Security Council resolution 687 (1991) and Governing Council decision 7 or in general international law that prevents Kuwait from claiming for death or other injury to its nationals as a result of the unlawful actions of Iraq. However, in the present case, the Panel does not consider that the evidence provided by Kuwait is sufficient to establish the nature and extent of the damage for which it seeks compensation. In particular, the Panel notes that, in calculating its losses, Kuwait uses disability weights that are normally intended for making decisions on the cost-effectiveness of alternative

investments in health policies and programmes rather than for compensating individuals with mental illness.

516. The Panel further finds that Kuwait does not provide a reasonable justification for using USD 50,000 per life year to value its loss. Although Kuwait states that this value is at the low end of the range of values that economists use to evaluate the cost-effectiveness of alternative medical interventions in the United States, there is no evidence that the range used by Kuwait is appropriate for the population of Kuwait. In the view of the Panel, there are major cultural, demographic and economic differences between Kuwait and the United States which make it very doubtful that the range of values used by Kuwait is suitable in this context.

517. The Panel, therefore, concludes that the information provided by Kuwait is not sufficient to enable it to determine the nature and circumstances of the loss for which compensation is claimed. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

518. Accordingly, the Panel recommends no compensation for this part of the claim unit.

3. Third claim unit – Increased mortality

519. Kuwait seeks compensation in the amount of USD 192,500,000 for increased mortality in Kuwait due to increased pollution resulting from the oil well fires in Kuwait. In particular, Kuwait seeks compensation for loss of economic value resulting from 35 premature deaths that it estimates occurred due to the exposure of its population to airborne particulate matter from the oil well fires. Kuwait calculates the compensation requested on the basis of USD 5,500,000 per life lost.

520. Kuwait relies on the results of its monitoring and assessment enumeration study⁸³ to estimate the ground-level concentrations of airborne particulate matter to which its citizens were exposed during the period when the oil well fires were burning. Based on the results of an air dispersion model, Kuwait estimates daily concentrations of particulate matter and calculates population-weighted exposure estimates. According to Kuwait, the results of its monitoring and assessment study demonstrate that the emissions from the oil well fires resulted in increased concentrations of particulate matter in populated regions of Kuwait in quantities sufficient to cause premature deaths.

521. In order to estimate the number of these premature deaths, Kuwait relies on the results of a monitoring and assessment study on human health risks.⁸⁴ In the risk assessment study, Kuwait generated a statistical estimate of the expected increase in mortality in Kuwait based on estimates of concentrations of particulate matter to which the population was exposed as derived from the monitoring and assessment enumeration study. According to Kuwait, the results of the risk assessment show that the number of deaths due to exposure to particulate matter from the oil well fires range between 0 and 116. Kuwait seeks compensation for 35 deaths, which is their “central estimate”.⁸⁵

522. Kuwait acknowledges that the 35 additional deaths do not represent identifiable individuals. It states that it would not be possible to identify specific individuals because the adverse effects from the Kuwait oil well fires cannot be distinguished at the individual level from similar effects that may be due to other causes.

523. Iraq asserts that this claim unit should be rejected as a claim filed after the expiry of the applicable deadline. Further, Iraq states that the claim should be rejected because it quantifies the loss by using a modelling approach and not by using concrete evidence. According to Iraq, a model that only predicts damage or injury is not sufficient to discharge the burden of proof required for compensation from the Commission. Iraq notes that the claimed loss is not based on treatment costs actually incurred, but rather on theoretical evaluations of the economic value of human life.

524. The Panel notes that there is sufficient evidence to show that the oil well fires in Kuwait resulted in increased ground-level concentrations of airborne particulate matter in populated areas of Kuwait between February 1991 and October 1991, and that these concentrations could have been sufficient to cause increased mortality in Kuwait. However, the evidence submitted by Kuwait is not sufficient to demonstrate either that 35 premature deaths actually occurred or that any such premature deaths were the direct result of the invasion and occupation. In particular, Kuwait provides no information on the specific circumstances of actual deaths that would enable the Panel to determine whether such premature deaths could reasonably be attributed, wholly or partially, to factors resulting from Iraq's invasion and occupation. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

525. Accordingly, the Panel recommends no compensation for this claim unit.

4. Fourth claim unit – Long-term epidemiological study and medical screening programme

526. Kuwait seeks compensation in the amount of USD 100,000,000 for the cost of a long-term epidemiological study and a medical screening programme to identify health effects caused by Iraq's invasion and occupation.

527. For the long-term epidemiological study, Kuwait proposes to continue the epidemiological study that it is currently conducting with funds from the first "F4" instalment award.⁸⁶ In particular, Kuwait proposes to follow up the 25,000 subjects of the current study at five-year intervals for twenty years. Kuwait proposes to add a clinical epidemiological component that would involve the physical examination of 5 to 10 per cent of the subjects at five-year intervals. According to Kuwait, the aim of the epidemiological study will primarily be to test the hypothesis that trauma-induced stress has both psychological and physical consequences.

528. For the medical screening programme, Kuwait proposes to identify and, where required, treat, individuals who are at an increased risk of acquiring certain diseases as a result of Iraq's invasion and occupation. Kuwait states that the programme will focus on individuals with cardiovascular disease, asthma, ulcers, colitis, and psychological disorders. Kuwait states that the epidemiological study and medical screening programme will be tightly linked and that information about the relationship

between exposure to conflict-related trauma, pollution and disease developed in the epidemiological study will be used in the design of the medical screening programme so that affected subgroups of the population may be effectively targeted.

529. Iraq asserts that Kuwait's preliminary public health study results, cited as justification for the proposed epidemiological study, are unreliable. Iraq refers in particular to potential errors resulting from the use of large numbers of proxy respondents; possible confounding factors due to differences in pre-war health status between the exposed and control groups; and potential errors in the diagnoses of diseases by doctors.

530. In the view of the Panel, Kuwait's proposal to identify additional health effects resulting from Iraq's invasion and occupation could have scientific merit, and would constitute reasonable monitoring of public health under paragraph 35(d) of Governing Council decision 7. However, Kuwait provided only a brief description of the study and medical screening programme. Although Kuwait stated that it would provide further details on the scope of the study, including the basis on which the expenses claimed were calculated, the information that Kuwait provided was insufficient for a full evaluation of the proposed study. The Panel is, therefore, unable to evaluate the technical merits of the study and medical screening programme or to assess whether the claimed costs are reasonable. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

531. Accordingly, the Panel recommends no compensation for this claim unit.

5. Recommended award

532. The Panel's recommendations in respect of claim No. 5000183 are summarized in table 13.

Table 13. Recommended award for claim No. 5000183

<u>Claim unit</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
Treatment of injuries from mines and ordnance	2,385,617	2,354,903
Post-traumatic stress disorder cases	1,181,450,810	5,909,343
Increased mortality	192,500,000	nil
Long-term epidemiological study and medical screening programme	100,000,000	nil
<u>Total</u>	1,476,336,427	8,264,246

E. Claim No. 5000453 – Kuwait University studies

533. Kuwait seeks compensation in the amount of USD 4,056,202 for expenses of 50 research studies conducted by Kuwait University to study the effects of Iraq's invasion and occupation on Kuwaiti society. The amount sought consists of USD 3,499,993 for the costs of the studies and USD 556,209 for interest.

534. This claim was originally part of category "F3" claim No. 5000194. On 20 August 2001, the secretariat severed the parts of claim No. 5000194 relating to these studies and assigned them to claim No. 5000453. On 10 January 2003, the Executive Secretary approved the allocation of claim No. 5000453 to the fifth "F4" instalment.

535. Kuwait states that, following Iraq's invasion and occupation, a special research department was established at Kuwait University to conduct these studies, which covered many academic disciplines, including environmental sciences, human health and psychology, political science, journalism, law, economics, education, engineering and finance.

536. Iraq argues that only 11 of the studies covered by this claim could possibly qualify as compensable monitoring and assessment studies. Further, Iraq contends that there is a substantial chance of overlap between this claim and the 22 monitoring and assessment studies submitted by Kuwait in the first "F4" instalment.

537. Iraq also argues that the majority of the studies are of a purely theoretical nature, and it refers to the Panel's finding in the first "F4" instalment that "compensation should not be awarded for monitoring and assessment activities that are purely theoretical or speculative, or which have only a tenuous link with damage resulting from Iraq's invasion and occupation of Kuwait".⁸⁷

538. Iraq further states that it is not clear from the information provided whether Kuwait used these studies to prepare other claims, in which case it argues that the claim could constitute a claim for preparation costs. In addition, Iraq states that, although the claim contains evidence of the results of the studies, the costs incurred are not well documented.

539. Furthermore, Iraq states that the evidence available suggests that there was a conscious choice by Kuwait University to divert funds into research on these particular topics. According to Iraq, the salaries of the persons engaged in the studies would have been paid even if the conflict had not occurred and, accordingly, Kuwait University has suffered no loss. In the view of Iraq, the claim is unjustified because of the insufficient evidence provided and the absence of proof that any loss was incurred by Kuwait.

540. The Panel notes that, although Kuwait states that it established a special research department to carry out research related to the effects of Iraq's invasion and occupation, it has not submitted evidence that the expenses claimed for the studies were incurred over and above the normal expenses that would have been incurred by Kuwait University without the invasion and occupation. The Panel also notes that Kuwait has not submitted evidence to show that any research personnel were specially recruited to carry out the studies.

541. The Panel further finds that Kuwait has not submitted appropriate evidence, such as invoices or statements of accounts, to show that the expenses were, in fact, incurred in connection with the studies.

542. The Panel, therefore, finds that Kuwait has not provided sufficient evidence to demonstrate the circumstances and amount of the compensation claimed. Consequently, Kuwait has failed to meet the evidentiary requirements for compensation as specified in article 35(3) of the Rules.

543. Accordingly, the Panel recommends no compensation for this claim.

Table 14. Recommended award for claim No. 5000453

<u>Claim</u>	<u>Subject</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
5000453	Kuwait University studies	4,056,202	nil
<u>Total</u>		4,056,202	nil

F. Recommended awards for the claims of Kuwait

544. The Panel's recommendations in respect of Kuwait's claims are summarized in table 15.

Table 15. Summary of recommended awards for the claims of Kuwait

<u>Claim</u>	<u>Subject</u>	<u>Amount claimed (USD)</u>	<u>Amount recommended (USD)</u>
5000460	Loss of natural resources	967,831,391	7,943,030
5000468	Coastal mudflats	267,710,202	nil
5000183	Public health	1,476,336,427	8,264,246
5000453	Kuwait University studies	4,056,202	nil
<u>Total</u>		2,715,934,222	16,207,276

VII. CLAIMS OF THE KINGDOM OF SAUDI ARABIA

A. Overview

545. In the fifth "F4" instalment, the Panel reviewed four claims submitted by Saudi Arabia for damage resulting from Iraq's invasion and occupation of Kuwait. Claim Nos. 5000309 and 4002545 relate to loss of agricultural resources. Claim No. 5000463 is for damage to or depletion of other resources; and Claim 5000219 relates to damage to public health.

B. Claim No. 5000309 – Agricultural resources

546. Claim No. 5000309 comprises two claim units, with a total asserted value of USD 481,442, for losses of livestock and crop resources in the Al-Hassa region of Saudi Arabia as a result of Iraq's invasion and occupation of Kuwait.

547. The elements of Claim No. 5000309 were originally part of claim 5000208 in the "F2" claims category. On 23 December 1998, the secretariat severed the elements relating to environmental damage from claim 5000208 and assigned these elements to claim No. 5000309 which was transferred to the "F4" claims category.